

Appendix A

Reference Method Data and Results

Appendix A.1

Data and Results for Ontario Hydro Method Testing - Unit 2 Stack

RUN NUMBER

U2SO-MOH-R2

Date 12/01/99
 Start Time 08:35
 End Time 11:10
 Stack Diam. 267 inches
 Nozzle I.D. 0.190 inches
 Meter Box Gamma 1.0026
 Meter Box dH@ 1.7770
 Barometric 30.00 in.Hg
 Cp 0.8291
 Test Duration 120 minutes

METHOD 4 DATA

	INIT.	FINAL	NET
	(ml)	(ml)	(ml)
IMP.1	100.0	196.0	96.0
IMP.2	100.0	152.0	52.0
IMP.3	100.0	113.0	13.0
IMP.4	100.0	102.0	2.0
IMP.5	100.0	100.0	0.0
IMP.6	100.0	100.0	0.0
IMP.7	100.0	100.0	0.0
TOTAL	700.0	863.0	163.0
S.G.	200.0	212.0	12.0

METHOD 1-4 RESULTS

Metered Volume 58.840 dcf
 Volume @ Std.Cond. 60.846 dscf
 % Water 11.92 %
 % Isokinetics 104.0 %
 Velocity 51.74 ft/sec
 Actual Flow 1207137 acfm
 Std. Flow 1093777 scfm
 Dry Std. Flow 963345 dscfm

METHOD 3 DATA

%O2	6.7	Md	30.22
%CO2	12.2	Ms	28.76
%CO	0.0	Ps	29.93
%N2	81.1	Fo	1.164
O2+CO2	18.9	%EA	46

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP					VOLUME	INLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	123	-0.94	0.83	0.75	429.313	50	48
2	123	-0.96	0.80	0.72	459.031	52	49
3	123	-0.98	0.80	0.72		54	49
4	123	-0.93	0.81	0.73	459.355	55	49
5	123		0.72	0.65	488.477	55	49
6	123		0.58	0.52		56	50
7	123		0.88	0.79		54	50
8	123		0.92	0.83		56	51
9	123		0.90	0.81		57	51
10	123		0.94	0.85		57	51
11	123		0.86	0.77		57	51
12	123		0.75	0.68		58	52
13	122		0.82	0.74		56	52
14	123		0.80	0.72		58	53
15	123		0.82	0.74		57	53
16	122		0.81	0.73		58	53
17	123		0.79	0.71		59	53
18	123		0.65	0.59		59	54
19	123		0.83	0.75		56	53
20	123		0.79	0.71		57	54
21	123		0.76	0.68		58	54
22	123		0.77	0.69		56	53
23	123		0.72	0.65		57	54
24	123		0.60	0.54		59	54
AVG.	123	-0.95	0.79	0.71	58.840	54	

VIRGINIA POWER - CLOVER POWER STATION
 UNIT 2 STACK
 ONTARIO HYDRO METHOD DATA AND RESULTS

SAMPLING DATA:

Run Number: U2SO-MOH-R2
 Corr. Sample Volume: 60.85 dscf
 Corr. Flowrate: 963345 dscfm
 O2 Content: 6.7 %
 CO2 Content: 12.2 %
 Test Duration: 120 min

ONTARIO HYDRO METHOD ANALYTICAL DATA AND RESULTS:

COMPONENT	LABORATORY DATA						MERCURY EMISSIONS		
	Sample (µg)	Reagent Blank (µg)	Sample MDL (µg)	Aliquot Weight (g)	Total Weight (g)	Corr. Total (µg)	ACTUAL ug/dscm	CONCENTRATION @ 12% CO2 ug/dscm	MASS RATE lb/hr
Particle-Bound Mercury Filter	0.022	0.021	0.010	NA	NA	0.001			
Probe Rinse	0.064	-	0.040	-	-	0.064			
Total	0.086	0.021	-	-	-	0.065	0.038	0.037	0.00008
Oxidized Mercury	0.567	< 0.100	0.170	-	-	0.567	0.329	0.324	0.00069
Elemental Mercury	0.287	0.154	0.170	-	-	0.133			
Acidified Peroxide	0.430	< 0.010	0.170	-	-	0.430			
Acidified Permanganate	0.717	0.154	-	-	-	0.563	0.327	0.321	0.00068
Total Mercury	-	-	-	-	-	1.195	0.694	0.682	0.00145

BLANK CORRECTION PROCEDURES

Sample Minus Blank is Less Than Zero

The sample value is assumed non-detect and the detection limit is reported

Sample Minus Blank is Greater Than Zero

The blank value is subtracted from the sample.

PROCEDURES FOR ADDING MULTIPLE FRACTIONS

For All Fractions above MDL

Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).

For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL

Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions

(no "<" prefix designation).

For All Fractions below MDL

Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

RUN NUMBER

U2SO-MOH-R3

Date 12/01/99
 Start Time 12:25
 End Time 14:39
 Stack Diam. 267 inches
 Nozzle I.D. 0.190 inches
 Meter Box Gamma 1.0026
 Meter Box dH@ 1.7770
 Barometric 30.00 in.Hg
 Cp 0.8291
 Test Duration 120 minutes

METHOD 4 DATA

	INIT.	FINAL	NET
	(ml)	(ml)	(ml)
IMP.1	100.0	238.0	138.0
IMP.2	100.0	124.0	24.0
IMP.3	100.0	103.0	3.0
IMP.4	100.0	100.0	0.0
IMP.5	100.0	100.0	0.0
IMP.6	100.0	100.0	0.0
IMP.7	100.0	100.0	0.0
TOTAL	700.0	865.0	165.0
S.G.	200.0	217.0	17.0

METHOD 1-4 RESULTS

Metered Volume 59.524 dcf
 Volume @ Std.Cond. 61.139 dscf
 % Water 12.29 %
 % Isokinetics 103.6 %
 Velocity 52.34 ft/sec
 Actual Flow 1220961 acfm
 Std. Flow 1107990 scfm
 Dry Std. Flow 971801 dscfm

METHOD 3 DATA

%O2	6.5	Md	30.24
%CO2	12.4	Ms	28.74
%CO	0.0	Ps	29.93
%N2	81.1	Fo	1.161
O2+CO2	18.9	%EA	44

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP					VOLUME	INLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	122	-0.86	0.83	0.75	489.574	53	52
2	122	-0.87	0.80	0.72	518.494	53	52
3	122	-0.91	0.75	0.68		54	52
4	120	-0.90	0.73	0.66	518.623	55	52
5	122		0.71	0.64	549.227	56	52
6	122		0.61	0.55		57	52
7	122		0.88	0.79		56	52
8	122		0.83	0.75		57	52
9	122		0.79	0.71		58	53
10	122		0.79	0.71		58	53
11	122		0.77	0.69		59	53
12	122		0.72	0.65		59	54
13	122		0.92	0.83		59	55
14	122		0.88	0.79		61	55
15	122		0.93	0.84		62	56
16	122		0.90	0.81		63	57
17	122		0.89	0.80		63	57
18	122		0.79	0.71		63	58
19	122		0.86	0.77		62	59
20	123		0.83	0.75		64	60
21	123		0.84	0.76		64	60
22	123		0.80	0.72		65	60
23	123		0.80	0.72		65	61
24	123		0.73	0.66		65	61
AVG.	122	-0.89	0.81	0.73	59.524	57	

VIRGINIA POWER - CLOVER POWER STATION
 UNIT 2 STACK
 ONTARIO HYDRO METHOD DATA AND RESULTS

SAMPLING DATA:

Run Number: U2SO-MOH-R3
 Corr. Sample Volume: 61.14 dscf
 Corr. Flowrate: 971801 dscfm
 O2 Content: 6.5 %
 CO2 Content: 12.4 %
 Test Duration: 120 min

ONTARIO HYDRO METHOD ANALYTICAL DATA AND RESULTS:

COMPONENT	LABORATORY DATA						MERCURY EMISSIONS		
	Sample (µg)	Reagent Blank (µg)	Sample MDL (µg)	Aliquot Weight (g)	Total Weight (g)	Corr. Total (µg)	ACTUAL ug/dscm	CONCENTRATION @ 12% CO2 ug/dscm	MASS RATE lb/hr
Particle-Bound Mercury Filter	0.020	0.021	0.010	NA	NA	< 0.010			
Probe Rinse	0.038	-	0.038	-	-	< 0.038			
Total	0.020	0.021	-	-	-	< 0.048	0.028	0.027	0.00006
Oxidized Mercury	0.470	< 0.100	0.179	-	-	0.470	0.271	0.263	0.00057
Elemental Mercury	0.179	0.154	0.163	-	-	0.025			
Acidified Peroxide	0.213	< 0.010	0.149	-	-	0.213			
Acidified Permanganate	0.392	0.154	-	-	-	0.238	0.137	0.133	0.00029
Total Mercury	-	-	-	-	-	0.708	0.409	0.396	0.00086

BLANK CORRECTION PROCEDURES

Sample Minus Blank is Less Than Zero

The sample value is assumed non-detect and the detection limit is reported

Sample Minus Blank is Greater Than Zero

The blank value is subtracted from the sample.

PROCEDURES FOR ADDING MULTIPLE FRACTIONS

For All Fractions above MDL

Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).

For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL

Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions

(no "<" prefix designation).

For All Fractions below MDL

Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

RUN NUMBER

U2SO-MOH-R4

Date 12/01/99
 Start Time 15:46
 End Time 18:02
 Stack Diam. 267 inches
 Nozzle I.D. 0.190 inches
 Meter Box Gamma 1.0026
 Meter Box dH@ 1.7770
 Barometric 30.00 in.Hg
 Cp 0.8291
 Test Duration 120 minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	217.0	117.0
IMP.2	100.0	139.0	39.0
IMP.3	100.0	108.0	8.0
IMP.4	100.0	104.0	4.0
IMP.5	100.0	100.0	0.0
IMP.6	100.0	100.0	0.0
IMP.7	100.0	100.0	0.0
TOTAL	700.0	868.0	168.0
S.G.	200.0	211.0	11.0

METHOD 1-4 RESULTS

Metered Volume 60.308 dcf
 Volume @ Std.Cond. 61.228 dscf
 % Water 12.10 %
 % Isokinetics 103.2 %
 Velocity 52.49 ft/sec
 Actual Flow 1224525 acfm
 Std. Flow 1111439 scfm
 Dry Std. Flow 976982 dscfm

METHOD 3 DATA

%O2	6.4	Md	30.27
%CO2	12.6	Ms	28.79
%CO	0.0	Ps	29.94
%N2	81.0	Fo	1.151
O2+CO2	19.0	%EA	43

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP				VOLUME	INLET	OUTLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	122	-0.85	0.88	0.79	550.545	62	60
2	122	-0.89	0.85	0.77	581.187	63	60
3	122	-0.88	0.85	0.77		64	60
4	122	-0.84	0.84	0.76	581.407	65	60
5	122		0.76	0.68	611.073	66	60
6	122		0.66	0.59		66	60
7	122		0.94	0.85		65	61
8	122		0.92	0.83		67	62
9	122		0.89	0.80		67	62
10	122		0.92	0.83		67	62
11	122		0.90	0.72		68	62
12	122		0.73	0.66		67	62
13	122		0.89	0.80		65	62
14	122		0.86	0.77		66	62
15	122		0.84	0.76		66	62
16	122		0.83	0.75		66	62
17	122		0.80	0.72		66	62
18	122		0.69	0.62		66	62
19	122		0.86	0.77		64	62
20	122		0.77	0.69		65	62
21	122		0.74	0.67		66	62
22	122		0.76	0.68		66	62
23	123		0.71	0.64		66	62
24	122		0.65	0.59		66	62
AVG.	122	-0.87	0.81	0.73	60.308	64	

VIRGINIA POWER - CLOVER POWER STATION
 UNIT 2 STACK
 ONTARIO HYDRO METHOD DATA AND RESULTS

SAMPLING DATA:

Run Number: U2SO-MOH-R4
 Corr. Sample Volume: 61.23 dscf
 Corr. Flowrate: 976982 dscfm
 O2 Content: 6.4 %
 CO2 Content: 12.6 %
 Test Duration: 120 min

ONTARIO HYDRO METHOD ANALYTICAL DATA AND RESULTS:

COMPONENT	LABORATORY DATA						MERCURY EMISSIONS		
	Sample (µg)	Reagent Blank (µg)	Sample MDL (µg)	Aliquot Weight (g)	Total Weight (g)	Corr. Total (µg)	ACTUAL ug/dscm	CONCENTRATION @ 12% CO2 ug/dscm	MASS RATE lb/hr
Particle-Bound Mercury Filter	0.058	0.021	0.010	NA	NA	0.037			
Probe Rinse	0.047	-	0.036	-	-	0.047			
Total	0.105	0.021	-	-	-	0.084	0.048	0.046	0.00010
Oxidized Mercury	< 0.140	< 0.100	0.140	-	<	0.140	0.081	0.077	0.00017
Elemental Mercury	0.184	0.154	0.163	-	-	0.030			
Acidified Peroxide	0.159	< 0.010	0.129	-	-	0.159			
Acidified Permanganate	0.343	0.154	-	-	-	0.189	0.109	0.104	0.00023
Total Mercury	-	-	-	-	-	0.273	0.157	0.150	0.00033

BLANK CORRECTION PROCEDURES

Sample Minus Blank is Less Than Zero

The sample value is assumed non-detect and the detection limit is reported

Sample Minus Blank is Greater Than Zero

The blank value is subtracted from the sample.

PROCEDURES FOR ADDING MULTIPLE FRACTIONS

For All Fractions above MDL

Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).

For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL

Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions

(no "<" prefix designation).

For All Fractions below MDL

Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

Appendix A.2

Data and Results for Ontario Hydro Method Testing - A Scrubber Inlet

RUN NUMBER

U2SIA-MOH-R2

Date 12/01/99
 Start Time 08:35
 End Time 11:12
 Duct Height 168 inches
 Duct Width 168 inches
 Nozzle I.D. 0.186 inches
 Meter Box Gamma 1.0140
 Meter Box dH@ 1.6705
 Barometric 30.00 in.Hg
 Cp 0.847
 Test Duration 125 minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	167.0	67.0
IMP.2	100.0	102.0	2.0
IMP.3	100.0	100.0	0.0
IMP.4	100.0	100.0	0.0
IMP.5	100.0	100.0	0.0
IMP.6	100.0	100.0	0.0
IMP.7	100.0	100.0	0.0
TOTAL	700.0	769.0	69.0
S.G.	200.0	205.4	5.4

METHOD 1-4 RESULTS

Metered Volume 48.398 dcf
 Volume @ Std.Cond. 50.628 dscf
 % Water 6.47 %
 % Isokinetics 101.2 %
 Velocity 54.71 ft/sec
 Actual Flow 643432 acfm
 Std. Flow 444639 scfm
 Dry Std. Flow 415869 dscfm

METHOD 3 DATA

%O2	5.0	Md	30.46
%CO2	14.10	Ms	29.65
%CO	0.0	Ps	28.76
%N2	80.9	Fo	1.128
O2+CO2	19.1	%EA	31

POINT	STACK	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER	METER TEMPERATURE	
	TEMP (DegF)				VOLUME (dcf)	INLET (DegF)	OUTLET (DegF)
1	274	-17.00	0.70	0.53	564.782	39	36
2	274	-17.00	0.72	0.54	593.872	41	37
3	275	-17.00	0.53	0.40		43	38
4	274	-17.00	0.55	0.41	594.346	45	39
5	274	-16.00	0.57	0.43	613.654	46	41
6	274		0.70	0.53		49	47
7	275		0.60	0.45		52	48
8	275		0.68	0.51		54	50
9	275		0.68	0.51		56	52
10	274		0.65	0.49		57	52
11	275		0.78	0.59		56	55
12	275		0.80	0.60		58	55
13	274		0.73	0.55		58	57
14	274		0.73	0.55		59	57
15	274		0.66	0.50		60	58
16	275		0.73	0.55		58	60
17	275		0.75	0.56		59	60
18	276		0.72	0.54		60	60
19	275		0.66	0.50		60	60
20	275		0.55	0.41		60	59
21	274		0.85	0.64		58	58
22	275		0.84	0.63		59	58
23	275		0.58	0.44		60	58
24	274		0.45	0.34		60	59
25	274		0.47	0.35		60	59
AVG.	275	-16.80	0.67	0.50	48.398		54

VIRGINIA POWER - CLOVER POWER STATION
 A SCRUBBER INLET
 ONTARIO HYDRO METHOD DATA AND RESULTS

SAMPLING DATA:

Run Number: U2SIA-MOH-R2
 Corr. Sample Volume: 50.63 dscf
 Corr. Flowrate: 415869 dscfm
 O2 Content: 5.0 %
 CO2 Content: 14.1 %
 Test Duration: 125 min

ONTARIO HYDRO METHOD ANALYTICAL DATA AND RESULTS:

COMPONENT	LABORATORY DATA						MERCURY EMISSIONS		
	Sample (µg)	Reagent Blank (µg)	Sample MDL (µg)	Aliquot Weight (g)	Total Weight (g)	Corr. Total (µg)	ACTUAL ug/dscm	CONCENTRATION @ 12% CO2 ug/dscm	MASS RATE lb/hr
Particle-Bound Mercury Filter	0.074	< 0.010	0.010	NA	NA	0.074			
Probe Rinse	< 0.017	-	0.017	-	-	0.000			
Total	0.074	0.000	-	-	-	0.074	0.052	0.044	0.00006
Oxidized Mercury	1.240	< 0.100	0.220	-	-	1.240	0.865	0.736	0.00094
Elemental Mercury	0.147	0.154	0.085	-	-	0.000			
Acidified Peroxide	1.370	< 0.010	0.149	-	-	1.370			
Acidified Permanganate	1.517	0.154	-	-	-	1.370			
Total							0.956	0.813	0.00104
Total Mercury							1.872	1.593	0.00203

BLANK CORRECTION PROCEDURES

Sample Minus Blank is Less Than Zero

The sample value is assumed non-detect and the detection limit is reported

Sample Minus Blank is Greater Than Zero

The blank value is subtracted from the sample.

PROCEDURES FOR ADDING MULTIPLE FRACTIONS

For All Fractions above MDL

Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).

For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL

Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions

(no "<" prefix designation).

For All Fractions below MDL

Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

RUN NUMBER

U2SIA-MOH-R3

Date 12/01/99
 Start Time 12:25
 End Time 14:43
 Duct Height 168 inches
 Duct Width 168 inches
 Nozzle I.D. 0.186 inches
 Meter Box Gamma 1.014
 Meter Box dH@ 1.6705
 Barometric 30.00 in.Hg
 Cp 0.847
 Test Duration 125 minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	136.0	36.0
IMP.2	100.0	113.0	13.0
IMP.3	100.0	102.0	2.0
IMP.4	100.0	104.0	4.0
IMP.5	100.0	100.0	0.0
IMP.6	100.0	100.0	0.0
IMP.7	100.0	100.0	0.0
TOTAL	700.0	755.0	55.0
S.G.	200.0	215.0	15.0

METHOD 1-4 RESULTS

Metered Volume 47.296 dcf
 Volume @ Std.Cond. 48.507 dscf
 % Water 6.36 %
 % Isokinetics 99.9 %
 Velocity 53.12 ft/sec
 Actual Flow 624707 acfm
 Std. Flow 431141 scfm
 Dry Std. Flow 403708 dscfm

METHOD 3 DATA

%O2	5.2	Md	30.43
%CO2	13.90	Ms	29.64
%CO	0.0	Ps	28.74
%N2	80.9	Fo	1.129
O2+CO2	19.1	%EA	32

POINT	STACK	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER	METER	TEMPERATURE
	TEMP (DegF)				VOLUME (dcf)	INLET (DegF)	OUTLET (DegF)
1	274	-17.50	0.83	0.62	618.373	60	63
2	275	-17.50	0.77	0.58	646.622	61	63
3	275	-17.00	0.60	0.45		63	63
4	275	-17.00	0.57	0.43	646.678	65	63
5	274	-17.00	0.53	0.40	665.725	64	64
6	274		0.80	0.60		63	65
7	275		0.77	0.58		65	65
8	276		0.67	0.50		65	65
9	275		0.62	0.47		65	65
10	274		0.63	0.47		65	65
11	274		0.65	0.49		65	65
12	275		0.45	0.34		66	66
13	275		0.43	0.32		66	66
14	275		0.55	0.41		66	66
15	274		0.47	0.35		67	67
16	276		0.68	0.51		67	68
17	276		0.67	0.50		67	66
18	275		0.67	0.50		64	66
19	275		0.65	0.49		64	64
20	274		0.68	0.51		63	63
21	275		0.65	0.49		60	61
22	275		0.75	0.56		61	61
23	275		0.52	0.39		61	60
24	275		0.57	0.43		60	60
25	273		0.53	0.40		59	59
AVG.	275	-17.20	0.63	0.47	47.296	64	

VIRGINIA POWER - CLOVER POWER STATION
 A SCRUBBER INLET
 ONTARIO HYDRO METHOD DATA AND RESULTS

SAMPLING DATA:

Run Number: U2SIA-MOH-R3
 Corr. Sample Volume: 48.51 dscf
 Corr. Flowrate: 403708 dscfm
 O2 Content: 5.2 %
 CO2 Content: 13.9 %
 Test Duration: 125 min

ONTARIO HYDRO METHOD ANALYTICAL DATA AND RESULTS:

COMPONENT	LABORATORY DATA					MERCURY EMISSIONS			
	Sample (µg)	Reagent Blank (µg)	Sample MDL (µg)	Aliquot Weight (g)	Total Weight (g)	Corr. Total (µg)	ACTUAL ug/dscm	CONCENTRATION @ 12% CO2 ug/dscm	MASS RATE lb/hr
Particle-Bound Mercury Filter	0.038	< 0.010	0.010	NA	NA	0.038			
Probe Rinse	0.017	-	0.017	-	-	0.000			
Total	0.038	0.000	-	-	-	0.038	0.028	0.024	0.00003
Oxidized Mercury	1.290	< 0.100	0.196	-	-	1.290	0.939	0.811	0.00103
Elemental Mercury	1.920	0.154	0.153	-	-	1.766			
Acidified Peroxide	0.556	< 0.010	0.146	-	-	0.556			
Acidified Permanganate	2.476	0.154	-	-	-	2.322	1.690	1.459	0.00186
Total Mercury	-	-	-	-	-	3.650	2.657	2.294	0.00293

BLANK CORRECTION PROCEDURES

Sample Minus Blank is Less Than Zero
 The sample value is assumed non-detect and the detection limit is reported
Sample Minus Blank is Greater Than Zero
 The blank value is subtracted from the sample.

PROCEDURES FOR ADDING MULTIPLE FRACTIONS

For All Fractions above MDL
 Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).
For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL
 Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions (no "<" prefix designation).
For All Fractions below MDL
 Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

RUN NUMBER

U2SIA-MOH-R4

Date 12/01/99
 Start Time 15:46
 End Time 18:06
 Duct Height 168 inches
 Duct Width 168 inches
 Nozzle I.D. 0.186 inches
 Meter Box Gamma 1.014
 Meter Box dH@ 1.6705
 Barometric 30.00 in.Hg
 Cp 0.847
 Test Duration 125 minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	136.0	36.0
IMP.2	100.0	124.0	24.0
IMP.3	100.0	102.0	2.0
IMP.4	100.0	100.0	0.0
IMP.5	100.0	100.0	0.0
IMP.6	100.0	100.0	0.0
IMP.7	100.0	100.0	0.0
TOTAL	700.0	762.0	62.0
S.G.	200.0	214.0	14.0

METHOD 1-4 RESULTS

Metered Volume 49.523 dcf
 Volume @ Std.Cond. 51.722 dscf
 % Water 6.47 %
 % Isokinetics 102.8 %
 Velocity 55.08 ft/sec
 Actual Flow 647792 acfm
 Std. Flow 447414 scfm
 Dry Std. Flow 418462 dscfm

METHOD 3 DATA

%O2	5.0	Md	30.44
%CO2	14.00	Ms	29.64
%CO	0.0	Ps	28.74
%N2	81.0	Fo	1.136
O2+CO2	19.0	%EA	31

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP				VOLUME	INLET	OUTLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	274	-17.00	0.73	0.55	669.240	52	51
2	274	-17.50	0.66	0.50	698.860	54	52
3	274	-17.50	0.50	0.38		55	52
4	274	-17.00	0.52	0.39	698.972	55	52
5	274	-17.00	0.60	0.45	718.875	56	52
6	274		0.68	0.51		55	52
7	275		0.65	0.49		56	52
8	275		0.66	0.50		57	52
9	274		0.66	0.50		57	52
10	274		0.60	0.45		57	52
11	274		0.85	0.64		56	52
12	276		0.90	0.68		57	52
13	275		0.72	0.54		58	52
14	274		0.74	0.56		58	52
15	273		0.65	0.49		58	52
16	274		0.78	0.59		56	53
17	275		0.78	0.59		57	53
18	275		0.79	0.59		58	53
19	275		0.60	0.45		58	53
20	274		0.63	0.47		58	53
21	274		0.79	0.59		55	53
22	275		0.80	0.60		57	53
23	273		0.58	0.44		58	53
24	273		0.52	0.39		58	53
25	273		0.50	0.38		57	53
AVG.	274	-17.20	0.68	0.51	49.523	54	

VIRGINIA POWER - CLOVER POWER STATION
 A SCRUBBER INLET
 ONTARIO HYDRO METHOD DATA AND RESULTS

SAMPLING DATA:

Run Number: U2SIA-MOH-R4
 Corr. Sample Volume: 51.72 dscf
 Corr. Flowrate: 418462 dscfm
 O2 Content: 5.0 %
 CO2 Content: 14.0 %
 Test Duration: 125 min

ONTARIO HYDRO METHOD ANALYTICAL DATA AND RESULTS:

COMPONENT	LABORATORY DATA						MERCURY EMISSIONS			
	Sample (µg)	Reagent Blank (µg)	Sample MDL (µg)	Aliquot Weight (g)	Total Weight (g)	Corr. Total (µg)	ACTUAL ug/dscm	CONCENTRATION @ 12% CO2 ug/dscm	@7% O2 ug/dscm	MASS RATE lb/hr
Particle-Bound Mercury Filter	0.098	< 0.010	0.010	NA	NA	0.098				
Probe Rinse	0.043	-	0.043	-	-	0.000				
Total	0.098	0.000	-	-	-	0.098	0.067	0.057	0.058	0.00007
Oxidized Mercury	1.490	< 0.100	0.181	-	-	1.490	1.017	0.872	0.889	0.00109
Elemental Mercury	< 0.153	0.154	0.153	-	-	0.000				
Acidified Peroxide	0.795	< 0.010	0.151	-	-	0.795				
Acidified Permanganate	0.795	0.154	-	-	-	0.795	0.543	0.465	0.475	0.00058
Total Mercury	-	-	-	-	-	2.383	1.627	1.395	1.422	0.00174

BLANK CORRECTION PROCEDURES

Sample Minus Blank is Less Than Zero

The sample value is assumed non-detect and the detection limit is reported

Sample Minus Blank is Greater Than Zero

The blank value is subtracted from the sample.

PROCEDURES FOR ADDING MULTIPLE FRACTIONS

For All Fractions above MDL

Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).

For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL

Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions

(no "<" prefix designation).

For All Fractions below MDL

Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

Appendix A.3

Data and Results for EPA Methods 1-4 - B Scrubber Inlet

RUN NUMBER U2SIB-M1-4-R2

Date 12/01/99
 Start Time 08:35
 End Time 11:12
 Stack Height 168 inches
 Stack Width 168 inches
 Meter Box Gamma 0.9838
 Meter Box dH@ 1.6621
 Barometric 30.00 in.Hg
 Cp 0.8588
 Test Duration 125 minutes

METHOD 4 DATA

	INIT.	FINAL	NET
	(ml)	(ml)	(ml)
IMP.1	100.0	187.0	87.0
IMP.2	100.0	106.0	6.0
IMP.3	0.0	2.0	2.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	295.0	95.0
S.G.	784.6	799.5	14.9

METHOD 1-4 RESULTS

Metered Volume 86.088 dcf
 Volume @ Std.Cond. 88.067 dscf
 % Water 5.55 %
 Velocity 53.49 ft/sec
 Actual Flow 629038 acfm
 Std. Flow 425335 scfm
 Dry Std. Flow 401732 dscfm

METHOD 3 DATA

%O2	4.0	Md	30.53
%CO2	14.80	Ms	29.83
%CO	0.0	Ps	28.75
%N2	81.2	Fo	1.142
O2+CO2	18.8	%EA	23

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP				VOLUME	INLET	OUTLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	284	-16.70	0.36	1.66	155.821	33	32
2	291	-17.40	0.43	1.66	241.909	72	67
3	291		0.65				
4	291		0.56				
5	289		0.56				
6	289		0.49				
7	289		0.61				
8	292		0.61				
9	292		0.56				
10	291		0.75				
11	289		0.49				
12	292		0.65				
13	292		0.68				
14	292		0.65				
15	291		0.74				
16	288		0.62				
17	290		0.57				
18	291		0.59				
19	291		0.81				
20	289		0.74				
21	290		0.40				
22	291		0.79				
23	289		0.79				
24	290		0.67				
25	292		0.55				
AVG.	290	-17.05	0.61	1.66	86.088	51	

RUN NUMBER

U2SIB-M1-4-R3

Date 12/01/99
 Start Time 12:25
 End Time 14:43
 Stack Height 168 inches
 Stack Width 168 inches
 Meter Box Gamma 0.9838
 Meter Box dH@ 1.6621
 Barometric 30.00 in.Hg
 Cp 0.8588
 Test Duration 125 minutes

METHOD 4 DATA

	INIT.	FINAL	NET
	(ml)	(ml)	(ml)
IMP.1	100.0	204.0	104.0
IMP.2	100.0	104.0	4.0
IMP.3	0.0	0.0	0.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	308.0	108.0
S.G.	799.5	813.5	14.0

METHOD 1-4 RESULTS

Metered Volume 92.550 dcf
 Volume @ Std.Cond. 92.196 dscfm
 % Water 5.86 %
 Velocity 56.85 ft/sec
 Actual Flow 668526 acfm
 Std. Flow 452909 scfm
 Dry Std. Flow 426348 dscfm

METHOD 3 DATA

%O2	4.2	Md	30.49
%CO2	14.50	Ms	29.76
%CO	0.0	Ps	28.76
%N2	81.3	Fo	1.152
O2+CO2	18.7	%EA	24

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP				VOLUME	INLET	OUTLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	287	-16.30	0.53	1.66	242.782	62	65
2	291	-17.50	0.59	1.66	335.332	68	64
3	291		0.71				
4	291		0.64				
5	291		0.63				
6	285		0.41				
7	291		0.62				
8	292		0.62				
9	291		0.64				
10	291		0.55				
11	279		0.82				
12	291		0.89				
13	292		0.84				
14	291		0.79				
15	290		0.92				
16	285		0.94				
17	291		0.79				
18	291		0.63				
19	291		0.65				
20	290		0.79				
21	273		0.50				
22	290		0.77				
23	290		0.80				
24	291		0.67				
25	291		0.55				
AVG.	289	-16.90	0.69	1.66	92.550		65

RUN NUMBER U2SIB-M1-4-R4

Date 12/01/99
 Start Time 15:46
 End Time 18:06
 Stack Height 168 inches
 Stack Width 168 inches
 Meter Box Gamma 0.9838
 Meter Box dH@ 1.6621
 Barometric 30.00 in.Hg
 Cp 0.8588
 Test Duration 125 minutes

METHOD 4 DATA

	INIT.	FINAL	NET
	(ml)	(ml)	(ml)
IMP.1	100.0	198.0	98.0
IMP.2	100.0	106.0	6.0
IMP.3	0.0	2.0	2.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	306.0	106.0
S.G.	788.4	803.3	14.9

METHOD 1-4 RESULTS

Metered Volume 90.534 dcf
 Volume @ Std.Cond. 91.762 dscf
 % Water 5.84 %
 Velocity 53.61 ft/sec
 Actual Flow 630404 acfm
 Std. Flow 426577 scfm
 Dry Std. Flow 401663 dscfm

METHOD 3 DATA

%O2	4.5	Md	30.52
%CO2	14.60	Ms	29.78
%CO	0.0	Ps	28.75
%N2	80.9	Fo	1.123
O2+CO2	19.1	%EA	27

POINT	STACK	STATIC	DP	DH	METER	METER TEMPERATURE	
	TEMP				VOLUME	INLET	OUTLET
	(DegF)	(in.WC)	(in.WC)	(in.WC)	(dcf)	(DegF)	(DegF)
1	285	-16.60	0.29	1.66	335.505	52	52
2	290	-17.50	0.43	1.66	426.039	63	56
3	290		0.36				
4	290		0.45				
5	292		0.65				
6	288		0.77				
7	291		0.67				
8	291		0.69				
9	290		0.72				
10	290		0.65				
11	287		0.75				
12	291		0.71				
13	291		0.69				
14	291		0.72				
15	288		0.81				
16	287		0.57				
17	290		0.58				
18	291		0.54				
19	290		0.65				
20	288		0.78				
21	290		0.60				
22	290		0.61				
23	291		0.52				
24	290		0.59				
25	290		0.61				
AVG.	290	-17.05	0.62	1.66	426.039	56	56

B

Appendix B

Equations

EPA METHODS 2-4 CALCULATIONS

1. Metered Gas Sample Volume at Standard Conditions

$$V_{m(std)} = V_m \times Y \times \frac{528}{29.92} \times \left[\frac{P_B + \frac{\Delta H}{13.6}}{T_m + 460} \right]$$

2. Gas Volume of Water Vapor Collected in Impinger Liquid

$$V_{WC(std)} = (v_f - v_i) \times 0.04707$$

3. Gas Volume of Water Vapor Collected in Silica Gel

$$V_{wsg(std)} = (w_f - w_i) \times 0.04715$$

4. Moisture Volume Fraction in Flue Gas

$$B_{ws} = \frac{V_{wc(std)} + V_{wsg(std)}}{V_{wc(std)} + V_{wsg(std)} + V_{m(std)}}$$

5. Moisture Volume Percentage in Flue Gas

$$\%H_2O = B_{ws} \times 100$$

6. Absolute Pressure of Flue Gas

$$P_s = P_B + \frac{P_{static}}{13.6}$$

7. Nitrogen Content of Flue Gas

$$\%N_2 = 100 - (\%CO_2 + \%O_2 + \%CO)$$

8. Dry Molecular Weight of Flue Gas

$$M_d = 0.44 \times \%CO_2 + 0.32 \times \%O_2 + 0.28 \times (\%N_2 + \%CO)$$

9. Wet Molecular Weight of Flue Gas

$$M_s = M_d \times (1 - B_{ws}) + 18 \times B_{ws}$$

EPA METHODS 2-4 CALCULATIONS - continued

10. Fuel Factor Based on Flue Gas Composition

$$F_o = \frac{20.9 - \%O_2}{\%CO_2}$$

11. Average Gas Velocity, ft/sec

$$v_s = 85.49 \times C_p \times (\Delta P^{1/2})_{avg} \times \frac{(T_s + 460)^{1/2}}{(P_s \times M_s)^{1/2}}$$

12. Area of Round Duct or Stack

$$A_s = \frac{\pi \times D^2}{4 \times 144} \quad (\text{round ducts})$$

13. Area of Rectangular Duct

$$A_s = \frac{L \times W}{144} \quad (\text{rectangular ducts})$$

14. Actual Volumetric Flow Rate of Flue Gas

$$Q_a = v_s \times A_s \times 60$$

15. Flow Rate of Flue Gas at Standard Temperature and Pressure

$$Q_s = Q_a \times \left[\frac{P_s \times 528}{(T_s + 460) \times 29.92} \right]$$

16. Dry Flow Rate of Flue Gas at Std. Temperature and Pressure

$$Q_{sd} = Q_s \times (1 - B_{ws})$$

NOMENCLATURE FOR EPA METHODS 2-4

A_s	=	Stack area, ft ²
B_{ws}	=	Moisture volume fraction
C_p	=	Pitot tube coefficient (≈ 0.84)
D_s	=	Stack diameter, inches
ΔH	=	Average meter orifice pressure, in.W.C.
ΔP	=	Pitot tube differential pressure, in.W.C.
F_o	=	Combustion factor
γ	=	Meter calibration factor, gamma
L	=	Length of rectangular stack or duct, inches
M_D	=	Dry molecular weight, lb/lb-mole
M_s	=	Wet molecular weight, lb/lb-mole
P_B	=	Barometric pressure, in.Hg
P_s	=	Absolute stack pressure, in.Hg
P_{static}	=	Average static pressure, in.W.C.
Q_a	=	Actual gas flow rate, acfm
Q_s	=	Standard gas flow rate, scfm
Q_{sd}	=	Dry standard gas flow rate, dscfm
T_m	=	Average meter temperature, °F
T_s	=	Average stack temperature, °F
v_f	=	Final impinger volume, ml
v_i	=	Initial impinger volume, ml
V_m	=	Uncorrected metered gas volume, dcf
$V_{m(std)}$	=	Corrected gas volume, dscf
v_s	=	Average gas velocity, ft/sec
$V_{wc(std)}$	=	Gas volume of water caught in impingers, scf
$V_{wsg(std)}$	=	Gas volume of water caught in silica gel, scf
W	=	Width of rectangular stack or duct, inches
w_f	=	Final silica gel mass, grams
w_i	=	Initial silica gel mass, grams
$\%O_2$	=	Dry volumetric concentration of O ₂ , %dv
$\%CO_2$	=	Dry volumetric concentration of CO ₂ , %dv
$\%CO$	=	Dry volumetric concentration of CO, %dv
$\%N_2$	=	Dry volumetric concentration of N ₂ , %dv

ONTARIO HYDRO METHOD CALCULATIONS

1. Mercury in Ash (Ash Sample is Greater Than 0.5 g) - Hg_{ash} , ug

$$Hg_{ash} = Hg_{ash_{aliquot}} \times \frac{W_{ash}}{W_{ash_{aliquot}}}$$

2. Total Particle-Bound Mercury - Hg_{tp} , ug

$$Hg_{tp} = Hg_{ash} - Hg_{fb} + Hg_{pr}$$

3. Total Oxidized Mercury - Hg_o , ug

$$Hg_o = Hg_{KCl} - Hg_{KCl-b}$$

4. Total Elemental Mercury - Hg_E , ug

$$Hg_E = Hg_{H_2O_2} - Hg_{H_2O_2b} + Hg_{KMNO_4} - Hg_{KMNO_4b}$$

5. Total Mercury - Hg_{tot} , ug

$$Hg_{tot} = Hg_{tp} - Hg_o - Hg_E$$

6. Concentration of Mercury Fraction (i) - C_i , ug/dscm

$$C_i = \frac{Hg_i \times 35.3145}{V_{mstd}}$$

7. Concentration corrected to 7% O₂, C_{i7}

$$C_{i7} = C_i \times \frac{13.9}{20.9 - \%O_2}$$

8. Concentration corrected to 12% CO₂, C_{i12}

$$C_{i12} = C_i \times \frac{12}{\%CO_2}$$

9. The mass rate of mercury fraction (i), G_i (lb/hr),

$$G_i = \frac{Hg_i \times Q_{sd} \times 60}{V_{mstd} \times 10^6 \times 453.593}$$

Nomenclature for Ontario Hydro Method Calculations

Hg_{ash}	= total mercury in ash, ug
$Hg_{ash-aliquot}$	= total mercury in ash aliquot, ug
W_{ash}	= total weight of ash on filter, g
$W_{ash-aliquot}$	= weight of ash aliquot analyzed, g
Hg_{tp}	= total particle-bound mercury, ug
Hg_{fb}	= total mercury in filter blank, ug
Hg_{pr}	= total mercury in probe rinse, ug
Hg_O	= total oxidized mercury, ug
Hg_{KCl}	= total mercury measured in KCl impingers, ug
Hg_{KClb}	= total mercury measured in KCl solution blank, ug
Hg_E	= total elemental mercury, ug
$Hg_{H_2O_2}$	= total mercury measured in acidified peroxide impinger, ug
$Hg_{H_2O_2b}$	= total mercury measured in acidified peroxide solution blank, ug
Hg_{KMnO_4}	= total mercury measured in acidified permanganate impingers, ug
Hg_{KMnO_4b}	= total mercury measured in acidified permanganate solution blank, ug
Hg_{tot}	= total mercury measured in sampling train, ug
C_i	= concentration of mercury fraction (I), ug/dscm
Hg_i	= total of mercury fraction (I), ug
V_{mstd}	= corrected metered gas volume, dscf
C_{i7}	= concentration of mercury fraction (I) at 7% O_2 , ug/dscm
% O_2	= oxygen content in stack gas, dry %
C_{i12}	= concentration of mercury fraction (I) at 12% CO_2 , ug/dscm
% CO_2	= carbon dioxide content in stack gas, dry %
60	= min/hr
10^6	= micrograms per gram
35.3145	= cubic feet per cubic meter
453.593	= grams/lb

Ontario Hydro Method - Procedures for Blank Correction
and Adding Multiple Fractions

THE FOLLOWING PROCEDURES WERE FOLLOWED FOR BLANK CORRECTION

Sample Minus Blank is Less Than Zero

The sample value is assumed non-detect and the detection limit is reported

Sample Minus Blank is Greater Than Zero

The blank value is subtracted from the sample.

**THE FOLLOWING PROCEDURES WERE FOLLOWED WHEN ADDING RESULTS
FROM TWO OR MORE FRACTIONS**

For All Fractions above Minimum Detection Limit (MDL)

Emissions are calculated using arithmetic sum of all fractions. Results are reported as detected or actual emissions (no "<" prefix designation).

For One (Or More) Fractions above MDL and One (Or More) Fractions below MDL

Emissions are calculated based only on the data above the MDL. Data below the MDL are treated as zero. Results are reported as detected or actual emissions (no "<" prefix designation).

For All Fractions below MDL

Emissions are calculated based on arithmetic sum of all fractions. Results are reported as being less than the MDL (preceded with "<" designation).

C

Appendix C

Raw Field Data

Appendix C.1

Raw Field Data for Ontario Hydro Method Testing - Unit 2 Stack

FACILITY: VA Power Cluster TEST LOCATION: Unit 2 Stack DATE: 11/27/99 12-1-99

START TIME: 8:35 END TIME: 11:10 POLLUTANT: Hg RUN I.D.: 4250-MCH-R 2

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft ³	DGM TEMP. INLET	DGM TEMP. OUTLET	EXT. TEMP	PROBE TEMP	IMP EXIT	FILTER TEMP.	VAC
D1	0	8:35		123	.83	.75	429.313	50	48	N/A	269	41	285	3
2	5			123	.80	.72	431.83	52	49		262	45	286	3
3	10			123	.80	.72	434.26	54	49		264	47	287	3
4	15		-.94	123	.81	.73	436.72	55	49		270	51	285	3
5	20			123	.72	.65	439.23	55	49		261	52	281	3
6	25			123	.58	.52	441.55	56	50		258	54	284	3
	30	9:05		/	/	/	443.718	/	/	/	/	/	/	/
1	30	9:10		123	.88	.79	443.788	54	50		259	53	286	3
2	35			123	.92	.83	446.24	56	51		261	56	287	3
3	40			123	.90	.81	448.88	57	51		268	58	286	3
4	45		-.96	123	.94	.85	451.47	57	51		272	60	286	3
5	50			123	.86	.77	454.11	57	51		277	61	280	3
6	55			123	.75	.68	456.63	58	52		281	57	284	3
	60	9:40		/	/	/	459.031	/	/	/	/	/	/	/
1	60	9:52		122	.82	.74	459.355	56	52		267	40	285	3
2	65			123	.80	.72	461.88	58	53		261	44	284	3
3	70			123	.82	.74	464.37	57	53		258	45	284	3
4	75		-.98	122	.81	.73	466.87	58	53		262	44	270	3
5	80			123	.79	.71	469.36	59	53		265	39	275	3
6	85			123	.65	.59	471.80	59	54		272	37	263	3
	90	10:22		/	/	/	474.072	/	/	/	/	/	/	/
1	90	10:30		123	.83	.75	474.072	56	53		270	34	285	3
2	95			123	.79	.71	476.55	57	54		263	38	282	3
3	100			123	.76	.68	478.98	58	54		257	40	282	3
4	105	10:45 10:55	-.73	123	.77	.69	481.43	56	53	✓	261	36	267	3

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
1	309	FILTER
2	310	FRONT HALF (PROBE) (RINSE)
3	311	IMP 1-3 + RINSE
4	313	IMP 4 + RINSE
5	315	IMP 5-7 + RINSE
6	316	SILICA GEL

LEAK CHECK:

VACUUM	15 in	15 in	5 in		
RATE	.002	.002	.002		

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
56	200	212
#1	100	196
#2	100	152
#3	100	113
#4	100	102
#5	100	100
#6	100	100

NOZZLE φ	.190
PITOT #	235
BOX I.D.	9
GAMMA γ	1.0026
ΔH ₀	1.770
P _{BAR}	30.08
FILTER	Q4/21/97-58
TECH.	CD JW

7 100 100

FACILITY: VA Power Clover TEST LOCATION: Unit 2 Stack DATE: 12-1-99
 START TIME: 12:25 END TIME: 14:39 POLLUTANT: Hg RUN I.D.: 4320-M04-R3

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft ³	DGM TEMP. INLET	DGM TEMP. OUTLET	EXT. TEMP	PROBE TEMP	IMP EXIT	FILTER TEMP.	VAC
A 1	0	12:25		122	.83	.75	487.574	53	52	1/4	286	42	281	4
2	5			122	.80	.72	490.12	53	52		284	49	284	4
3	10			122	.75	.68	494.59	54	52		263	51	282	4
4	15		- .86	120	.73	.66	497.00	55	52		264	49	276	4
5	20			122	.71	.64	499.34	56	52		267	47	260	4
6	25			122	.61	.55	501.62	57	52		271	44	268	3
	30	12:55		/	/	/	503.825	/	/	/	/	/	/	/
B 1	30	12:58		122	.88	.79	503.825	56	52		261	40	284	4
2	35			122	.83	.75	506.36	57	52		256	46	271	4
3	40			122	.79	.71	508.86	58	53		264	49	267	4
4	45		- .87	122	.79	.71	511.29	58	53		267	47	266	4
5	50			122	.77	.69	513.73	59	53		272	46	261	4
6	55			122	.72	.65	516.17	59	54		271	46	270	4
	60	13:28		/	/	/	518.494	/	/	/	/	/	/	/
C 1	60	13:35		122	.92	.83	518.623	59	55		278	44	280	4
2	65			122	.88	.79	521.27	61	55		269	49	280	4
3	70			122	.93	.84	523.86	62	56		261	53	282	4
4	75		- .91	122	.90	.81	526.51	63	57		261	58	280	4
5	80			122	.89	.80	529.12	63	57		268	60	271	4
6	85			122	.79	.71	531.74	63	58		273	62	273	4
	90	14:05		/	/	/	534.248	/	/	/	/	/	/	/
D 1	90	14:09		122	.86	.77	534.248	62	59		271	58	286	4
2	95			123	.83	.75	536.85	64	60		270	62	283	4
3	100			123	.84	.76	539.36	64	60		278	62	285	4
4	105		- .90	123	.80	.72	541.91	65	60	↓	279	64	281	4

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
1	318	FILTER
2	319	FRONT HALF NITRIC RINSE
3	320	IMP 1-3 + RINSE
4	322	IMP 4 + RINSE
5	323	IMP 5-7 + RINSE
6	325	SILICEL

LEAK CHECK:

VACUUM	15 in	10 in	6 in
RATE	.006	.004	.005

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
5.6 (#8)	200	217
#1	100	238
#2	100	124
#3	100	103
#4	100	100
#5	100	100
#6	100	100

NOZZLE φ	.190
PITOT #	235
BOX I.D.	9
GAMMA γ	1.0036
ΔH ₀	1.7770
P _{BAR}	5/19/99AA
FILTER	Q 12/3/96-7
TECH.	CD SW

7 100 102

FACILITY: VA Power Clover TEST LOCATION: Unit 2 Stack DATE: 12-1-99
 START TIME: 15:46 END TIME: 18:02 POLLUTANT: Hg RUN I.D.: 4250-M-R4

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft ³	DGM TEMP. INLET	DGM TEMP. OUTLET	EXT. TEMP	PROBE TEMP	IMP EXIT	FILTER TEMP.	VAC
D 1	0	15:46		122	.88	.79	550.545	62	60	N/A	266	50	280	3
2	5			122	.85	.77	553.22	63	60		267	53	283	3
3	10			122	.85	.77	555.80	64	60		272	56	282	3
4	15		-.85	122	.84	.76	558.32	65	60		276	58	280	3
5	20			122	.76	.68	560.91	66	60		283	60	273	3
6	25			122	.66	.59	563.32	66	60		286	60	280	2
	30	16:16		/	/	/	565.582	/	/	/	/	/	/	/
C 1	30	16:20		122	.94	.85	565.582	65	61		264	56	284	3
2	35			122	.92	.83	568.75	67	62		260	62	282	3
3	40			122	.89	.80	570.91	67	62		264	63	281	3
4	45		-.89	122	.92	.83	573.49	67	62		273	60	284	3
5	50			122	.90	.72	576.10	68	62		287	57	279	3
6	55			122	.73	.66	578.71	67	62		290	56	280	3
	60	16:50		/	/	/	581.187	/	/	/	/	/	/	/
B 1	60	16:58		122	.89	.80	581.407	65	62		278	48	284	3
2	65			122	.86	.77	583.99	66	62		270	47	283	3
3	70			122	.84	.76	586.57	66	62		264	47	284	3
4	75		-.88	122	.83	.75	589.12	66	62		280	48	282	3
5	80			122	.80	.72	591.65	66	62		281	46	271	3
6	85			122	.69	.62	594.11	66	62		278	45	276	3
	90	17:28		/	/	/	596.383	/	/	/	/	/	/	/
A 1	90	17:32		122	.86	.77	596.383	64	62		271	41	282	3
2	95			122	.77	.69	598.96	65	62		266	43	282	3
3	100			122	.74	.67	601.55	66	62		274	45	280	3
4	105		-.84	122	.76	.68	604.11	66	62	✓	269	45	273	3

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
1	327	FILTER
2	328	FRONT HALF NITRIC RINSE
3	329	IMP. 1-3 + RINSE
4	331	IMP 4 + RINSE
5	332	IMP 5-7 + RINSE
C	334	SILICA GEL

LEAK CHECK:

VACUUM	15 in	5 in	5 in		
RATE	1003	1002	1002		

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
SILICA GEL	200	211
#1	100	217
#2	100	139
#3	100	108
#4	100	104
#5	100	100
#6	100	100
#7	100	100

NOZZLE Ø	.190
PITOT #	235
BOX I.D.	9
GAMMA γ	1.0036
ΔH ₀	1.7770
P _{BAR}	30.00
FILTER	Q 5-19-97-5
TECH.	C.D. SW

Appendix C.2

Raw Field Data for Ontario Hydro Method Testing - A Scrubber Inlet

FACILITY: VA Power - Cleve TEST LOCATION: Unit 2 Sulfur Dioxide Inlet DATE: 12-01-99
 START TIME: 835 END TIME: 1102 POLLUTANT: Hg RUN I.D.: W51AM04 R1R2

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft ³	DGM TEMP. INLET	DGM TEMP. OUTLET	EXT. TEMP	PROBE TEMP	IMP EXIT	FILTER TEMP.	VAC	
05	0	835		274	0.70	0.53	564.782	39	36	302	255	33	N/A	4	
4	5		-17	274	0.72	0.54	566.8	44	37	302	254	32		4	
3	10			275	0.53	0.40	568.8	43	38	303	255	34		4	
2	15			274	0.55	0.41	570.6	45	39	304	256	36		4	
1	20			274	0.57	0.43	572.4	46	41	305	256	38		4	
1	25	0900					574.207								
D5	25	910		274	0.70	0.53	574.207	44	47	306	255	42		4	
4	30		-17	275	0.60	0.45	576.2	52	48	308	254	43		4	
3	35			275	0.68	0.51	578.0	54	50	308	255	43		4	
2	40			275	0.68	0.51	579.9	56	52	309	256	42		4	
1	45			274	0.65	0.49	581.9	57	52	307	255	42		4	
	50	935					583.737								
05	50	939		275	0.78	0.59	583.737	56	55	308	255	44		4	
4	55		-17	275	0.80	0.60	585.6	58	55	308	254	43		4	
3	60			274	0.73	0.55	587.8	58	57	307	255	43		4	
2	65			274	0.73	0.55	587.9	59	57	307	254	43		4	
1	70			274	0.66	0.50	591.9	60	58	308	256	43		4	
	75	1001					593.872								
05	75	1009		275	0.73	0.55	594.396	58	60	308	254	45		4	
4	80		-17	275	0.75	0.56	596.3	59	60	308	256	45		4	
3	85			276	0.72	0.54	598.4	60	60	308	256	46		4	
2	90			275	0.66	0.50	600.4	60	60	307	255	43		4	
1	95			275	0.55	0.41	602.3	60	59	307	256	45		4	
	100	1044					604.112								

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
1	209	GERMAN FACTEL
2	210	PH NITRIK RING
3	211	IMP 1-3 + RING
4	213	IMP 4 + RING
5	214	IMP 5-7 + RING
6	215	SIL GOU

LEAK CHECK:

VACUUM	15"	7"	5"		
RATE	0.011	0.005	0.003		

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
6.61	200	205.4
#1	100	167
#2	100	102
#3	100	100
#4	100	100
#5	100	100
#6	100	100
#7	100	100

NOZZLE Ø	3/16
PITOT #	223
BOX I.D.	11
GAMMA Y	1.0140
ΔH ₀	1.6705
P _{BAR}	30.00
FILTER	067-27-99-1
TECH.	DV / JM

FACILITY: VA Power - Coker TEST LOCATION: Unit 2 Scrubber Inlet DATE: 12-01-99
 START TIME: 1225 END TIME: 1443 POLLUTANT: Hg RUN I.D.: 02SIA MOH-2 R3

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft ³	DGM TEMP. INLET	DGM TEMP. OUTLET	EXT. TEMP	PROBE TEMP	IMP EXIT	FILTER TEMP.	VAC
A5	0	1225		274	0.33	0.62	618.373	60	63	253	310	56	N/A	4
4	5			275	0.77	0.58	620.5	61	63	255	308	54		4
3	10		-17.5	275	0.60	0.45	622.6	63	63	256	308	55		4
2	15			275	0.51	0.43	624.5	65	63	254	308	54		4
1	20			274	0.53	0.40	626.4	64	64	255	308	52		4
	25	1250					628.073							
B5	25	1252	-17.5	274	0.80	0.60	628.093	63	65	253	309	52		4
4	30			275	0.77	0.58	630.2	65	65	256	310	51		4
3	35			276	0.67	0.50	632.3	65	65	258	310	50		4
2	40			275	0.62	0.47	634.2	65	65	254	309	50		4
1	45			274	0.63	0.47	636.1	65	65	255	309	50		4
	50	1317					637.973	6						
C5	50	1320		274	0.65	0.49	637.993	65	65	258	310	52		4
4	55			275	0.45	0.34	640.0	66	66	257	310	52		4
3	60		-17	275	0.43	0.32	641.6	66	66	255	310	52		4
2	65			275	0.55	0.41	643.2	66	66	255	311	53		4
1	70			274	0.47	0.35	645.0	67	67	256	310	51		4
	75	1345					646.673							
D5	75	1350		276	0.68	0.51	646.678	67	68	256	311	49		4
4	80			276	0.67	0.50	648.7	67	66	258	310	49		4
3	85		-17	275	0.67	0.50	650.6	64	66	255	310	47		4
2	90			275	0.65	0.49	653.6	64	64	257	309	48		4
1	95			274	0.63	0.51	654.5	63	63	254	309	47		4
	100	1415					656.474							

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
1	218	GELMAN FILTER
2	219	FRONT HALF NITRIC RINSE
3	220	IMP 1-3 + RINSE
4	222	IMP 4 + RINSE
5	223	IMP 5-7 + RINSE
6	225	SIL. GEL

LEAK CHECK:

VACUUM	15"	5"	5"		
RATE	0.008	0.002	0.002		

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
SIL. GEL	200	215
#1	100	136
#2	100	113
#3	100	102
#4	100	104
#5	100	100
#6	100	100
#7	100	100

NOZZLE Ø	3/16
PITOT #	223
BOX I.D.	11
GAMMA V	1.046
ΔHQ	1.6705
PBAR	30.00
FILTER	7/27/99-34
TECH.	DV/JM

FACILITY: UA - Power - Clover TEST LOCATION: Unit 2 Scrubber Inlet DATE: 12-01-99
 START TIME: 1546 END TIME: 1800 POLLUTANT: Hg RUN I.D.: 42SIA MOH - R 4

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft ³	DGM TEMP. INLET	DGM TEMP. OUTLET	EXT. TEMP	PROBE TEMP	IMP EXIT	FILTER TEMP.	VAC
E5	0	1546		274	0.73	0.55	669.240	52	51	310	258	50	N/A	4
4	5			274	0.66	0.50	671.3	54	52	308	255	50		4
3	10		-17	274	0.50	0.38	673.2	55	52	308	257	50		4
2	15			274	0.50	0.31	674.9	55	52	309	258	51		4
1	20			274	0.60	0.45	676.8	56	52	309	256	51		4
	25	1611					678.628							
D5	25	1613		274	0.68	0.51	678.635	55	52	309	254	52		4
4	30			275	0.65	0.49	680.6	56	52	308	258	51		4
3	35		-17.5	275	0.66	0.50	682.5	57	52	308	258	51		4
2	40			274	0.66	0.50	684.3	57	52	308	255	52		4
1	45			274	0.60	0.45	686.480	57	52	309	256	53		4
	50	1638					688.330							
C5	50	1642		274	0.85	0.64	688.330	56	52	310	257	53		5
4	55			276	0.90	0.68	690.5	57	52	308	257	50		5
3	60		-17.5	275	0.72	0.54	692.3	58	52	308	256	52		5
2	65			274	0.74	0.56	694.8	58	52	308	256	51		5
1	70			273	0.65	0.49	696.9	58	52	309	258	50		4
	75	1707					698.860							
B5	75	1712		274	0.78	0.59	698.972	56	53	309	258	48		5
4	80			275	0.78	0.59	701.0	57	53	309	257	48		5
3	85		-17	275	0.79	0.59	703.2	58	53	308	255	46		5
2	90			275	0.60	0.45	705.3	58	53	308	255	47		4
1	95			274	0.63	0.47	707.3	58	53	309	258	48		4
	100	1737					707.132							

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
1	227	GELMAM FILTER
2	228	FRONT HALF NITRIC RINSE
3	229	IMP. 1-3 + RINSE
4	231	IMP. 4 + RINSE
5	232	IMP. 5-7 + RINSE
6	234	SIL-GEL

LEAK CHECK:

VACUUM	15"	6"	6"		
RATE	0.002	0.007	0.002		

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
56 #8	200	24
#1	100	136
#2	100	124
#3	100	102
#4	100	100
#5	100	100
#6	100	100
#7	100	100

NOZZLE Ø	3/16
PITOT #	223
BOX I.D.	11
GAMMA V	1.0140
ΔH ₀	1.6705
P _{BAR}	30.00
FILTER	7/27/99 #2
TECH.	N

Appendix C.3

Raw Field Data for EPA Methods 2 and 4 - B Scrubber Inlet

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	VA Power Plant
LOCATION	Unit 2 SE "B"
RUN NUMBER	2
TECHNICIAN	FC EC
DATE	12/11/99
START TIME	0835
END TIME	1112
BAROMETRIC	30.00
METER BOX #	5
Gamma	.9838
Delta H@	1.6621
PITOT #	114
Cp	
TEST TIME	

METHOD 4 DATA

	INITIAL	FINAL	NET
	(ft) ml	(ft) ml	(ft) ml
IMP.1	100	187	
IMP.2	100	106	
IMP.3	0	2	-
IMP.4			
S.G.	784.65	799.59	
		TOTAL	

VOLUME METER	delta H (in.W.C)	METER VOLUME (dct)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.66	155.321	33	32
FINAL	1.66	241.909	72	67
AVG.				

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
A 1		284	.36	
2		291	.43	
3		291	.65	
4		291	.56	-16.7
5		289	.56	
B 1		289	.49	
2		289	.61	
3		292	.61	
4		292	.56	
5		291	.75	
C 1		289	.49	
2		292	.65	
3		292	.68	
4		292	.65	-17.4
5		291	.74	
D 1		288	.62	
2		290	.57	
3		291	.59	
4		291	.81	
5		289	.74	
E 1		290	.40	
2		291	.79	
3		289	.79	
4		290	.67	
5		292	.56	
AVERAGE				

PITOT LEAK CHECK

PRE-TEST	<input checked="" type="checkbox"/>
POST-TEST	<input checked="" type="checkbox"/>

M4 LEAK CHECK

PRE-TEST	<input checked="" type="checkbox"/>
POST-TEST	<input checked="" type="checkbox"/>

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	VA Power-Clower
LOCATION	Unit 2 SE "B"
RUN NUMBER	3
TECHNICIAN	FC/FC
DATE	12-1-99
START TIME	1225
END TIME	1443
BAROMETRIC	30.00
METER BOX #	5
Gamma	.9838
Delta H@	1.6621
PITOT #	114
Cp	
TEST TIME	

METHOD 4 DATA

	INITIAL (g) ml	FINAL (g) ml	NET (g) ml
IMP.1	100	104	
IMP.2	100	104	
IMP.3	0	0	-
IMP.4			
S.G.	799.5g	813.5g	
		TOTAL	

VOLUME METER	delta H (in.W.C)	METER VOLUME (ccf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.66	242.782	62	65
FINAL	1.66	335.332	68	64
AVG.				

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
A 1		287	.53	
2		291	.59	
3		291	.71	-16.3
4		291	.64	
5		291	.63	
B 1		285	.41	
2		291	.62	
3		292	.62	
4		291	.64	
5		291	.55	
C 1		279	.82	
2		291	.89	
3		292	.84	-17.5
4		291	.79	
5		290	.92	
D 1		285	.94	
2		291	.79	
3		291	.63	
4		291	.65	
5		290	.79	
E 1		288	.50	
2		290	.77	
3		290	.80	
4		291	.67	
5		291	.55	
AVERAGE				

PITOT LEAK CHECK

PRE-TEST	<input checked="" type="checkbox"/>
POST-TEST	<input checked="" type="checkbox"/>

M4 LEAK CHECK

PRE-TEST	<input checked="" type="checkbox"/>
POST-TEST	<input checked="" type="checkbox"/>

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	W.A. Powell - 11 Down
LOCATION	Unit 2 ST 421
RUN NUMBER	4
TECHNICIAN	FL / EC
DATE	12-1-99
START TIME	15:16
END TIME	18:06
BAROMETRIC	30.00
METER BOX #	5
Gamma	.9338
Delta H@	1.6621
PITOT #	114
Cp	
TEST TIME	

METHOD 4 DATA

	INITIAL	FINAL	NET
	(g) ml	(g) ml	(g) ml
IMP.1	100	198	
IMP.2	100	106	
IMP.3	0	2	
IMP.4			
S.G.	708.4 g	803.3 g	
	TOTAL		

VOLUME METER	delta H (in.W.C)	METER VOLUME (cc)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.66	335.505	52	52
FINAL	1.66	426.039	63	56
AVG.				

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
A 1		285	.29	
2		290	.43	
3		290	.36	
4		290	.45	-16.6
5		292	.65	
B 1		288	.77	
2		291	.67	
3		291	.69	
4		290	.72	
5		290	.65	
C 1		287	.75	
2		291	.71	
3		291	.69	
4		291	.72	-17.5
5		288	.81	
D 1		287	.57	
2		290	.58	
3		291	.54	
4		290	.65	
5		288	.78	
E 1		290	.60	
2		290	.61	
3		291	.52	
4		290	.59	
5		290	.61	
AVERAGE				

PITOT LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

M4 LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

Appendix C.4

Raw Field Data for Cyclonic Flow Checks - All Locations

CYCLONIC FLOW CHECK
40 CFR 60, APPENDIX A, METHOD 1, SECTION 2.4

Location: Unit 2 Stack Outlet
 Date: 11-29-90

Load Condition: Full Load
 Start Time: _____
 End Time: _____

Point No.	α
A 1	8
2	-8
3	12
4	15
5	0
6	18
B 1	4
2	-15
3	0
4	-8
5	15
6	13

Point No.	$\bar{\alpha}$
C 1	8
2	-2
3	0
4	20
5	5
6	-5
D 1	17
2	0
3	-3
4	20
5	11
6	2

Sum of the Absolute Value of the Rotation Angles ($\sum |\alpha|_{i=1, n}$): 209
 where: α = rotation angle for point i, and
 n = number of sampling points.

Average Rotation Angle ($\frac{\sum \alpha_{i=1, n}}{n}$): 8.7°
 where: α = rotation angle for point i, and
 n = number of sampling points.

Note: the flow is determined to be cyclonic if the Average Rotation Angle is greater than 20°.

Flow Check Done by: SW / CD

CYCLONIC FLOW CHECK
40 CFR 60, APPENDIX A, METHOD 1, SECTION 2.4

Location: Unit 2 Scrubber Inlet "A"
 Date: 11-29-99

Load Condition: Full Load
 Start Time: _____
 End Time: _____

Point No.	α
A 5	5
4	-5
3	10
2	0
1	5
B 5	0
4	5
3	10
2	5
1	5
C 5	0
4	15
3	10

Point No.	α
C 2	10
1	5
D 5	5
4	5
3	5
2	5
1	5
E 5	5
4	5
3	10
2	15
1	15

Sum of the Absolute Value of the Rotation Angles ($\sum |\alpha|_{i=1, n}$): 165
 where: α = rotation angle for point i, and
 n = number of sampling points.

Average Rotation Angle ($\frac{\sum \alpha_{i=1, n}}{n}$): 6.6
 where: α = rotation angle for point i, and
 n = number of sampling points.

Note: the flow is determined to be cyclonic if the Average Rotation Angle is greater than 20°.

Flow Check Done by: DV / JM

CYCLONIC FLOW CHECK
40 CFR 60, APPENDIX A, METHOD 1, SECTION 2.4

Location: Unit 2 Scrubber Inlet "B"
 Date: 11-29-99

Load Condition: Full Load
 Start Time: _____
 End Time: _____

Point No.	α
A 1	3
2	2
3	4
4	2
5	1
B 1	3
2	3
3	5
4	6
5	3
C 1	2
2	2
3	1

Point No.	$\bar{\alpha}$
C 4	3
5	4
D 1	0
2	0
3	5
4	5
5	3
E 1	3
2	5
3	6
4	5
5	3

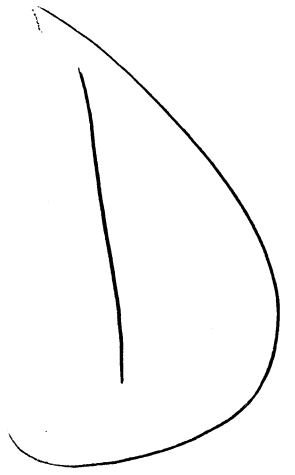
Sum of the Absolute Value of the Rotation Angles ($\sum_{i=1}^n |\alpha_i|$): 79
 where: α = rotation angle for point i , and
 n = number of sampling points.

Average Rotation Angle ($\frac{\sum_{i=1}^n |\alpha_i|}{n}$): 3.2

where: α = rotation angle for point i , and
 n = number of sampling points.

Note: the flow is determined to be cyclonic if the Average Rotation Angle is greater than 20°.

Flow Check Done by: FC / RC



Appendix D

Laboratory Data and Sample Custody Logs

Appendix D.1

Laboratory Analytical Data for Ontario Hydro Method

ETS, Incorporated
1401 Municipal Rd.
Roanoke, VA 24012
ATTN: Mr. Andy Hetz

Re: Laboratory Analysis
Q BioChem Client No. 6593
Virginia Power - Clover

REPORT DATE/NUMBER: January 6, 2000 / 256

ANALYSIS FOR: Mercury

METHOD OF ANALYSIS: Ontario Hydro Method, SW-846 Method 7470A

SAMPLE ANALYSIS DATA

CLIENT ID: U2SI-MOH-R2
MATRIX: FILTER/LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 1 & 2

LAB ID: 244666
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

METALS/ELEMENTS RESULTS:

Mercury, Filter _____ 0.074 ug, Total
↳Analysis Date: 12/23/99 Time: 12:56 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

Mercury, Probe _____ < 0.017 ug, Total
↳Analysis Date: 12/23/99 Time: 10:18 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.017 ug, Total

CLIENT ID: U2SI-MOH-R2
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 3

LAB ID: 244667
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 1.24 ug, Total
↳Analysis Date: 12/23/99 Time: 10:41 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.220 ug, Total

REPORT CONTINUED ON NEXT PAGE

SAMPLE ANALYSIS DATA

CLIENT ID: U2SI-MOH-R2
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 4

LAB ID: 244668
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.147 ug, Total
↳Analysis Date: 12/23/99 Time: 11:53 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.085 ug, Total

CLIENT ID: U2SI-MOH-R2
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 5

LAB ID: 244669
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 1.37 ug, Total
↳Analysis Date: 12/23/99 Time: 14:05 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.149 ug, Total

CLIENT ID: U2OUT-MOH-R2
MATRIX: FILTER/LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 1 & 2

LAB ID: 244670
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury, Filter _____ 0.022 ug, Total
↳Analysis Date: 12/23/99 Time: 13:02 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

Mercury, Probe _____ 0.064 ug, Total
↳Analysis Date: 12/22/99 Time: 14:30 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.040 ug, Total

CLIENT ID: U2OUT-MOH-R2
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 3

LAB ID: 244671
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.567 ug, Total
↳Analysis Date: 12/22/99 Time: 15:14 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.170 ug, Total

CLIENT ID: U2OUT-MOH-R2
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 4

LAB ID: 244672
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

SAMPLE ANALYSIS DATA

CLIENT ID: U2SI-MOH-R3
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 5

LAB ID: 244681
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.556 ug, Total

↳Analysis Date: 12/23/99 Time: 14:43 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.146 ug, Total

CLIENT ID: U2OUT-MOH-R3
MATRIX: FILTER/LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 1 & 2

LAB ID: 244682
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury, Filter _____ 0.020 ug, Total

↳Analysis Date: 12/23/99 Time: 13:48 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

Mercury, Probe _____ < 0.038 ug, Total

↳Analysis Date: 12/23/99 Time: 10:24 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.038 ug, Total

CLIENT ID: U2OUT-MOH-R3
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 3

LAB ID: 244683
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.470 ug, Total

↳Analysis Date: 12/23/99 Time: 10:47 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.179 ug, Total

CLIENT ID: U2OUT-MOH-R3
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 4

LAB ID: 244684
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.179 ug, Total

↳Analysis Date: 12/23/99 Time: 11:25 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.163 ug, Total

CLIENT ID: U2OUT-MOH-R3
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 5

LAB ID: 244685
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

SAMPLE ANALYSIS DATA

CLIENT ID: U2OUT-MOH-R3 LAB ID: 244685 (continued)

Mercury _____ 0.213 ug, Total

↳Analysis Date: 12/23/99 Time: 14:19 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.149 ug, Total

CLIENT ID: U2SI-MOH-R4

LAB ID: 244690

MATRIX: FILTER/LIQUID

COLLECTED BY: ETS, INC.

COLLECTION DATE: / /

DATE RECEIVED: 12/03/99

OTHER ID: 99-531-T/7483

TIME COLLECTED:

DESCRIPTION: 1 & 2

Mercury, Filter _____ 0.098 ug, Total

↳Analysis Date: 12/23/99 Time: 13:19 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

Mercury, Probe _____ < 0.043 ug, Total

↳Analysis Date: 12/23/99 Time: 10:30 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.043 ug, Total

CLIENT ID: U2SI-MOH-R4

LAB ID: 244691

MATRIX: LIQUID

COLLECTED BY: ETS, INC.

COLLECTION DATE: / /

DATE RECEIVED: 12/03/99

OTHER ID: 99-531-T/7483

TIME COLLECTED:

DESCRIPTION: 3

Mercury _____ 1.49 ug, Total

↳Analysis Date: 12/23/99 Time: 10:50 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.181 ug, Total

CLIENT ID: U2SI-MOH-R4

LAB ID: 244692

MATRIX: LIQUID

COLLECTED BY: ETS, INC.

COLLECTION DATE: / /

DATE RECEIVED: 12/03/99

OTHER ID: 99-531-T/7483

TIME COLLECTED:

DESCRIPTION: 4

Mercury _____ < 0.153 ug, Total

↳Analysis Date: 12/23/99 Time: 11:31 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.153 ug, Total

CLIENT ID: U2SI-MOH-R4

LAB ID: 244693

MATRIX: LIQUID

COLLECTED BY: ETS, INC.

COLLECTION DATE: / /

DATE RECEIVED: 12/03/99

OTHER ID: 99-531-T/7483

TIME COLLECTED:

DESCRIPTION: 5

Mercury _____ 0.795 ug, Total

↳Analysis Date: 12/23/99 Time: 14:25 by: LBH Run ID: AIR662CV

↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.151 ug, Total

REPORT CONTINUED ON NEXT PAGE

SAMPLE ANALYSIS DATA

CLIENT ID: U2OUT-MOH-R4
MATRIX: FILTER/LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 1 & 2

LAB ID: 244694
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury, Filter 0.058 ug, Total

↳Analysis Date: 12/23/99 Time: 13:51 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

Mercury, Probe 0.047 ug, Total

↳Analysis Date: 12/22/99 Time: 14:52 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.036 ug, Total

CLIENT ID: U2OUT-MOH-R4
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 3

LAB ID: 244695
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury < 0.168 ug, Total

↳Analysis Date: 12/23/99 Time: 13:44 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.168 ug, Total

CLIENT ID: U2OUT-MOH-R4
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 4

LAB ID: 244696
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury 0.184 ug, Total

↳Analysis Date: 12/23/99 Time: 11:34 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.163 ug, Total

CLIENT ID: U2OUT-MOH-R4
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 5

LAB ID: 244697
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury 0.159 ug, Total

↳Analysis Date: 12/23/99 Time: 14:31 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.129 ug, Total

CLIENT ID: U2SI-MOH-FB
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 3

LAB ID: 244698
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

SAMPLE ANALYSIS DATA

CLIENT ID: U2SI-MOH-FB ■ LAB ID: 244698 (continued)

Mercury _____ < 0.140 ug, Total
↳Analysis Date: 12/23/99 Time: 10:53 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.140 ug, Total

CLIENT ID: U2SI-MOH-FB
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 4

LAB ID: 244699
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.246 ug, Total
↳Analysis Date: 12/23/99 Time: 11:40 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.173 ug, Total

CLIENT ID: U2SI-MOH-FB
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 5

LAB ID: 244700
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.152 ug, Total
↳Analysis Date: 12/23/99 Time: 14:34 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.149 ug, Total

CLIENT ID: U2OUT-MOH-FB
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 3

LAB ID: 244701
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ < 0.140 ug, Total
↳Analysis Date: 12/23/99 Time: 10:55 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.140 ug, Total

CLIENT ID: U2OUT-MOH-FB
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 4

LAB ID: 244702
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ 0.320 ug, Total
↳Analysis Date: 12/23/99 Time: 11:43 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.163 ug, Total

CLIENT ID: U2OUT-MOH-FB
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 5

LAB ID: 244703
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

SAMPLE ANALYSIS DATA

CLIENT ID: U2OUT-MOH-FB LAB ID: 244703 (continued)

Mercury _____ 1.23 ug, Total
↳Analysis Date: 12/23/99 Time: 14:37 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.166 ug, Total

CLIENT ID: MOH-RB-512
MATRIX: THIMBLE
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 12A

LAB ID: 244704
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ < 0.010 ug, Total
↳Analysis Date: 12/23/99 Time: 13:27 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

CLIENT ID: MOH-RB-513
MATRIX: THIMBLE
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 12B

LAB ID: 244705
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ < 0.010 ug, Total
↳Analysis Date: 12/23/99 Time: 13:30 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

CLIENT ID: MOH-RB-514
MATRIX: THIMBLE
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 12C

LAB ID: 244706
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ < 0.010 ug, Total
↳Analysis Date: 12/23/99 Time: 13:32 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

CLIENT ID: MOH-RB-515
MATRIX: FILTER
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 12D

LAB ID: 244707
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

Mercury _____ < 0.010 ug, Total
↳Analysis Date: 12/23/99 Time: 13:35 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.010 ug, Total

CLIENT ID: MOH-RB-516
MATRIX: FILTER
COLLECTION DATE: / /
OTHER ID: 99-531-T/7483
DESCRIPTION: 12E

LAB ID: 244708
COLLECTED BY: ETS, INC.
DATE RECEIVED: 12/03/99
TIME COLLECTED:

SAMPLE ANALYSIS DATA

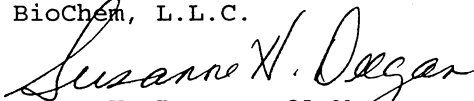
CLIENT ID: MOH-RB-511 ■ LAB ID: 244713 (continued)

Mercury < 0.020 ug, Total
↳Analysis Date: 12/22/99 Time: 14:58 by: LBH Run ID: AIR662CV
↳Method: CVAAS, SW-846 7470A; Quantitation Limit=0.020 ug, Total

Quality Assurance performed on the above data is presented on the following page(s).

If we may be of further assistance, please contact us at any time.

Sincerely,
Q BioChem, L.L.C.


Susanne H. Deegan, QA Manager

QUALITY ASSURANCE SUMMARY

CALIBRATION VERIFICATION

ANALYTE	UNITS	TYPE	TRUE	FOUND	% REC	QAO	RUN ID
Mercury	ug/l	CCV1	5.00	5.22	104.4	90-110%	AIR662CV
Mercury	ug/l	CCV10	5.00	5.03	100.6	90-110%	AIR662CV
Mercury	ug/l	CCV11	5.00	5.02	100.4	90-110%	AIR662CV
Mercury	ug/l	CCV12	5.00	5.03	100.6	90-110%	AIR662CV
Mercury	ug/l	CCV13	5.00	5.02	100.4	90-110%	AIR662CV
Mercury	ug/l	CCV14	5.00	5.04	100.8	90-110%	AIR662CV
Mercury	ug/l	CCV15	5.00	4.99	99.8	90-110%	AIR662CV
Mercury	ug/l	CCV16	5.00	4.98	99.6	90-110%	AIR662CV
Mercury	ug/l	CCV17	5.00	5.02	100.4	90-110%	AIR662CV
Mercury	ug/l	CCV18	5.00	4.80	96.0	90-110%	AIR662CV
Mercury	ug/l	CCV19	5.00	4.68	93.6	90-110%	AIR662CV
Mercury	ug/l	CCV2	5.00	5.10	102.0	90-110%	AIR662CV
Mercury	ug/l	CCV20	5.00	4.68	93.6	90-110%	AIR662CV
Mercury	ug/l	CCV21	5.00	4.37	87.4	90-110%	AIR662CV
Mercury	ug/l	CCV22	5.00	4.23	84.6	90-110%	AIR662CV
Mercury	ug/l	CCV23	5.00	4.09	81.8	90-110%	AIR662CV
Mercury	ug/l	CCV3	5.00	5.18	103.6	90-110%	AIR662CV
Mercury	ug/l	CCV4	5.00	5.08	101.6	90-110%	AIR662CV
Mercury	ug/l	CCV5	5.00	5.11	102.2	90-110%	AIR662CV
Mercury	ug/l	CCV6	5.00	5.14	102.8	90-110%	AIR662CV
Mercury	ug/l	CCV7	5.00	5.14	102.8	90-110%	AIR662CV
Mercury	ug/l	CCV8	5.00	4.99	99.8	90-110%	AIR662CV
Mercury	ug/l	CCV9	5.00	4.96	99.2	90-110%	AIR662CV
Mercury	ug/l	ICV1	5.00	4.79	95.8	90-110%	AIR662CV
Mercury	ug/l	ICV2	5.00	4.64	92.8	90-110%	AIR662CV
Mercury	ug/l	ICV3	5.00	4.69	93.8	90-110%	AIR662CV
Mercury	ug/l	LCSW2	5.00	4.64	92.8	80-120%	AIR662CV
Mercury	ug/l	LCSW2	5.00	4.69	93.8	80-120%	AIR662CV
Mercury	ug/l	LCSW2	5.00	4.71	94.2	80-120%	AIR662CV

QA Report Continued on Next Page

QUALITY ASSURANCE SUMMARY
 Continued

CALIBRATION VERIFICATION

ANALYTE	UNITS	TYPE	TRUE	FOUND	% REC	QAO	RUN ID
Mercury	ug/l	LCSW3	5.00	4.70	94.0	80-120%	AIR662CV
Mercury	ug/l	LCSW5	5.00	4.28	85.6	80-120%	AIR662CV

BLANKS

ANALYTE	UNITS	TYPE	FOUND	QAO	RUN ID
Mercury	ug/l	CCB1	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB10	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB11	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB12	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB13	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB14	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB15	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB16	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB17	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB18	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB19	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB2	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB20	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB21	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB22	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB23	<0.200	<0.2 ug/l	AIR662CV ¹
Mercury	ug/l	CCB3	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB4	<0.200	<0.2 ug/l	AIR662CV

QA Report Continued on Next Page

QUALITY ASSURANCE SUMMARY
 Continued

BLANKS

ANALYTE	UNITS	TYPE	FOUND	QAO	RUN ID
Mercury	ug/l	CCB5	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB6	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB7	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB8	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	CCB9	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	ICB1	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	ICB2	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	ICB3	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	PBW1	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	PBW2	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	PBW3	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	PBW4	<0.200	<0.2 ug/l	AIR662CV
Mercury	ug/l	PBW5	<0.200	<0.2 ug/l	AIR662CV

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID
244667	Mercury	1.24	1.32	ug, Total	6.2	≤10 RPD	AIR662CV
244668	Mercury	0.147	0.119	ug, Total	21.1	+/-0.08ug	AIR662CV
244668	Mercury	0.147	0.125	ug, Total	16.2	+/-0.08ug	AIR662CV
244669	Mercury	1.37	1.29	ug, Total	6.1	≤10 RPD	AIR662CV
244671	Mercury	0.567	0.469	ug, Total	18.9	+/-0.17ug	AIR662CV
244672	Mercury	0.287	0.253	ug, Total	12.6	+/-0.17ug	AIR662CV
244673	Mercury	0.430	0.451	ug, Total	4.8	≤10 RPD	AIR662CV

QA Report Continued on Next Page

QUALITY ASSURANCE SUMMARY
 Continued

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID
244679	Mercury	1.29	1.23	ug, Total	4.8	≤10 RPD	AIR662CV
244680	Mercury	0.192	0.197	ug, Total	2.6	≤10 RPD	AIR662CV
244681	Mercury	0.556	0.491	ug, Total	12.4	+/-0.15ug	AIR662CV
244683	Mercury	0.470	0.458	ug, Total	2.6	≤10 RPD	AIR662CV
244684	Mercury	0.179	0.186	ug, Total	3.8	≤10 RPD	AIR662CV
244685	Mercury	0.213	0.222	ug, Total	4.1	≤10 RPD	AIR662CV
244691	Mercury	1.49	1.45	ug, Total	2.4	≤10 RPD	AIR662CV
244692	Mercury	<0.152	<0.152	ug, Total	NC	≤10 RPD	AIR662CV
244693	Mercury	0.795	0.795	ug, Total	NC	≤10 RPD	AIR662CV
244695	Mercury	<0.168	<0.168	ug, Total	NC	≤10 RPD	AIR662CV
244696	Mercury	0.184	0.163	ug, Total	12.1	+/-0.16ug	AIR662CV
244697	Mercury	0.159	0.179	ug, Total	11.8	+/-0.13ug	AIR662CV
244698	Mercury	<0.140	<0.140	ug, Total	NC	≤10 RPD	AIR662CV
244699	Mercury	0.246	0.226	ug, Total	8.5	≤10 RPD	AIR662CV
244700	Mercury	0.152	0.164	ug, Total	7.6	≤10 RPD	AIR662CV
244701	Mercury	<0.140	<0.140	ug, Total	NC	≤10 RPD	AIR662CV
244702	Mercury	0.320	0.280	ug, Total	13.3	+/-0.16ug	AIR662CV
244703	Mercury	1.23	1.16	ug, Total	5.6	≤10 RPD	AIR662CV
244704	Mercury	<0.010	<0.010	ug, Total	NC	≤10 RPD	AIR662CV
244705	Mercury	<0.010	<0.010	ug, Total	NC	≤10 RPD	AIR662CV
244706	Mercury	<0.010	<0.010	ug, Total	NC	≤10 RPD	AIR662CV
244707	Mercury	<0.010	<0.010	ug, Total	NC	≤10 RPD	AIR662CV
244708	Mercury	0.021	0.021	ug, Total	0.0	≤10 RPD	AIR662CV
244709	Mercury	<0.010	<0.010	ug, Total	NC	≤10 RPD	AIR662CV
244710	Mercury	<0.100	<0.100	ug, Total	NC	≤10 RPD	AIR662CV
244711	Mercury	0.154	0.152	ug, Total	1.3	≤10 RPD	AIR662CV
244712	Mercury	<0.100	<0.100	ug, Total	NC	≤10 RPD	AIR662CV
244713	Mercury	<0.020	<0.020	ug, Total	NC	≤10 RPD	AIR662CV

QA Report Continued on Next Page

QUALITY ASSURANCE SUMMARY
 Continued

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID
244694	Mercury, Filter	0.058	0.054	ug, Total	7.1	≤10 RPD	AIR662CV
244666	Mercury, Filter	0.074	0.071	ug, Total	4.1	≤10 RPD	AIR662CV
244666	Mercury, Filter	0.074	0.074	ug, Total	0.0	≤10 RPD	AIR662CV
244670	Mercury, Filter	0.022	0.020	ug, Total	9.5	≤10 RPD	AIR662CV
244678	Mercury, Filter	0.038	0.040	ug, Total	5.1	≤10 RPD	AIR662CV
244682	Mercury, Filter	0.020	0.020	ug, Total	0.0	≤10 RPD	AIR662CV
244690	Mercury, Filter	0.098	0.098	ug, Total	0.0	≤10 RPD	AIR662CV
244666	Mercury, Probe	<0.017	<0.017	ug, Total	NC	≤10 RPD	AIR662CV
244670	Mercury, Probe	0.064	0.053	ug, Total	18.8	+/-0.04ug	AIR662CV
244678	Mercury, Probe	<0.017	<0.017	ug, Total	NC	≤10 RPD	AIR662CV
244682	Mercury, Probe	<0.038	<0.038	ug, Total	NC	≤10 RPD	AIR662CV
244690	Mercury, Probe	<0.043	<0.043	ug, Total	NC	≤10 RPD	AIR662CV
244694	Mercury, Probe	0.047	0.044	ug, Total	6.6	≤10 RPD	AIR662CV

SPIKES

LAB ID	ANALYTE	TYPE	SAMPLE	SPK	ADDED	%REC	QAO	RUN ID
244666	Mercury, Filter	MS	1.48	2.25	1.00	77.0	75-125%	AIR662CV
244668	Mercury	MS	0.346	1.17	1.00	82.4	75-125%	AIR662CV

QAO: Quality Assurance Objective; REC: Recovery; RPD: Relative Percent Difference; NC: Not calculatable.
 DUP: Duplicate Analysis Result; SPK: Spiked Analysis Result; MS: Matrix SPK; MSD: Matrix SPK Duplicate.
 For Duplicates <5X the Quantitation Limit (QL), ± DL shall apply for the QAO unless otherwise specified.

Appendix D.2

Laboratory Analytical Data for Coal Analysis



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA NVLAP 101262-0

• AIHA ACCREDITATION NO. 100439

• NY DOH 10903

• PA DER 06-353

• NJ DEP 7767E

ANALYTICAL REPORT

Client: ETS, Inc.
 Report to: Terry G. Williamson
 ETSI, Air Compliance Division
 449 Veit Rd.
 Huntingdon Valley PA 19006

Project: 188777
 Received: 10-DEC-99
 Reported: 27-DEC-99

PURCHASE ORDER: 7484

Project Description: Contract #99-631/Virginia Power
 Mercury and Chloride

Sampled: 01-DEC-99

	<u>AS RECEIVED BASIS</u>	<u>DRY BASIS</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
<u>602/73524 (Coal-R2)</u>						
Lab Sample: 1386401						
Mercury, Total	0.121	0.127	mg/kg	7471	20-DEC-99	JLP
Chlorine, Total	0.04	0.04		E776/300.0	20-DEC-99	DRK
Moisture, Total	4.35			D 3302	11-DEC-99	GLB
<u>603/73525 (Coal-R3)</u>						
Lab Sample: 1386402						
Mercury, Total	0.164	0.170	mg/kg	7471	20-DEC-99	JLP
Chlorine, Total	0.05	0.05	%	E776/300.0	20-DEC-99	DRK
Moisture, Total	3.42		%	D 3302	11-DEC-99	GLB
<u>604/73526 (Coal-R4)</u>						
Lab Sample: 1386403						
Mercury, Total	0.186	0.193	mg/kg	7471	20-DEC-99	JLP
Chlorine, Total	0.06	0.05	%	E776/300.0	20-DEC-99	DRK
Moisture, Total	3.82		%	D 3302	11-DEC-99	GLB

< Indicates less than the limit of quantitation.

TO: Terry G. Williamson FROM: Philip Analytical
 COMPANY: ETSI, Air Compliance Division FAX#: (610)921-9667
 TOTAL PAGES: 1 PHONE#: (610)921-8833

Project: 189532 Add'l analysis: Virginia Power (aka 188777)
 Heating Value, Rush TAT
 PO: 7484

1388855 aka 1386401: 602/73524 (Coal-R2)
 sampled: 01-DEC-99 received: 10-DEC-99

Moisture, Total	4.35		D 3302
Heating Value	12520	BTU/lb	D 3286
Dry Weight	13090		

1388856 aka 1386402: 603/73525 (Coal-R3)
 sampled: 01-DEC-99 received: 10-DEC-99

Moisture, Total	3.42	%	D 3302
Heating Value	13140	BTU/lb	D 3286
Dry Weight	13610		

1388857 aka 1386403: 604/73526 (Coal-R4)
 sampled: 01-DEC-99 received: 10-DEC-99

Moisture, Total	3.82	%	D 3302
Heating Value	13050	BTU/lb	D 3286
Dry Weight	13570		

*** end of report ***

Appendix D.3

Analytical Data for EPA Method 3A

INTEGRATED BAG ANALYSIS DATA

Job Name	VIRGINIA POWER - CLOVER STAT. 04
Contract	99-531-T
Method of Analysis	3A

Run Number	%O ₂	%CO ₂	
U2BI-MOH-R2	4.0	15.0	
U2BI-MOH-R3	4.5	14.7	
U2BI-MOH-R4	3.9	15.0	
U2SIA-MOH-R2	5.0	14.1	
U2SIA-MOH-R3	5.2	13.9	
U2SIA-MOH-R4	5.0	14.0	
U2SIB-MOH-R2	4.0	14.8	
U2SIB-MOH-R3	4.2	14.5	
U2SIB-MOH-R4	4.5	14.6	
U2S0-MOH-R ² R2	6.7	12.2	
U2S0-MOH-R3	6.5	12.4	
U2S0-MOH-R4	6.4	12.6	

Appendix D.4

Sample Custody Logs

KUN

ETS, INC.

CONTRACT NO: 99-531
JOB I.D.: VIRGINIA POWER COYER
TEST METHOD: ORGANO HYDRO

SAMPLE NO.	CONTAINER NO.	OTHER I.D.	TEST LOCATION	RUN I.D.	SAMPLE TYPE	TOTAL SAMPLE VOLUME	ALIQOT VOLUME	INITIALS	DATE	COMMENTS
109A	1A		Bayhouse Inlet	UZBI-MOH -RZ	THIMBLE FILTER	16.01Vlg		AAH	12/1/99	Combined into Sample # 109C
109B	1B				THIMBLE FILTER	2.945g		AAH	12/1/99	
110	2				FH NITRIC RINSE	160ml		AAH	12/1/99	
111	3				IMP 1-3 + RINSE	700ml		AAH	12/1/99	
113	4				IMP 4 + RINSE	155 ml		AAH	12/1/99	
114	5				IMP 5-7 + RINSE	590ml		AAH	12/1/99	
209	1		Scubber	UZSM-MOH	GERMAN FILTER	NA		AAH	12/1/99	
210	2		Inlet	-RZ	FH NITRIC RINSE	45 ml		AAH	12/1/99	
211	3				IMP 1-3 + RINSE	780ml		AAH	12/1/99	
213	4				IMP 4 + RINSE	115 ml		AAH	12/1/99	
214	5				IMP 5-7 + RINSE	600ml		AAH	12/1/99	
309	1		Stack	UZSM-MOH	FILTER	NA		AAH	12/1/99	
310	2		(Scubber	-RZ	FH NITRIC RINSE	155ml		AAH	12/1/99	
311	3		Outlet)		IMP 1-3 + RINSE	580ml		AAH	12/1/99	
313	4				IMP 4 + RINSE	170ml		AAH	12/1/99	
314	5				IMP 5-7 + RINSE	560ml		AAH	12/1/99	
109C	1C		Bayhouse Inlet	RZ	Fish sample	18.1070g		TW	12/3/99	
<p>Collected by: [Signature] Date/Time 12/1/99 12:00</p> <p>Relinquished by: [Signature] Date/Time 12/2/99 16:35</p> <p>Relinquished by: [Signature] Date/Time 12/2/99 14:35</p> <p>Relinquished by: [Signature] Date/Time</p>										
CHAIN OF CUSTODY	<p>Received by: [Signature] Date/Time 12/2/99 14:35</p> <p>Received by: [Signature] Date/Time 12-3-99 1435</p> <p>Received by: [Signature] Date/Time</p>									

ETS, INC.

CONTRACT NO: 99-531
 JOB I.D.: VIRGINIA POWER CLAY
 TEST METHOD: ORANGE CRUZE

SAMPLE NO.	CONTAINER NO.	OTHER I.D.	TEST LOCATION	RUN I.D.	SAMPLE TYPE	TOTAL SAMPLE VOLUME	ALIQOT VOLUME	INITIALS	DATE	COMMENTS
118A	1A		Baghouse	U261-MOH	THIMBLE FILTER	7.1575g		AA+	12/1/99	Combustion loss Sample #118C
118B	1B		Inlet	-R3	THIMBLE FILTER	9.6269g		AAH	12/1/99	
119	2				FH NITRIC RINSE	145ml		AA+	12/1/99	
120	3				IMP1-3 + RINSE	680ml		AAA	12/1/99	
122	4				IMP4 + RINSE	140ml		AA+	12/1/99	
123	5				IMP5-7 + RINSE	670ml		AA+	12/1/99	
218	1		Scrubber	U251-MOH	GELMAN FILTER	N/A		AAA	12/1/99	
219	2		Inlet	-R3	FH NITRIC RINSE	55ml		AA+	12/1/99	
220	3				IMP1-3 + RINSE	680ml		AAH	12/1/99	
222	4				IMP4 + RINSE	175ml		AAA	12/1/99	
223	5				IMP5-7 + RINSE	580ml		AA+	12/1/99	
318	1		Scrubber	U200-MOH	FILTER	N/A		AA+	12/1/99	
319	2		Outlet (Stack)	-R3	FH NITRIC RINSE	130ml		AA+	12/1/99	
320	3				IMP1-3 + RINSE	625ml		AA+	12/1/99	
322	4				IMP4 + RINSE	155ml		AA+	12/1/99	
323	5				IMP5-7 + RINSE	590ml		AA+	12/1/99	
118C	1C		Baghouse Inlet	R3	Ash Sample	16.167L		TL	12/3/99	
<p>Collected by: <u>[Signature]</u> Date/Time 12/1/99 1530</p> <p>Relinquished by: <u>[Signature]</u> Date/Time 12/2/99 1435</p> <p>Relinquished by: <u>[Signature]</u> Date/Time 12/3/99 1435</p> <p>Relinquished by: <u>[Signature]</u> Date/Time</p>										
CHAIN OF CUSTODY	<p>Received by: <u>[Signature]</u> Date/Time 12/3/99 1435</p> <p>Received by: <u>[Signature]</u> Date/Time 12-3-99 1435</p> <p>Received by: <u>[Signature]</u> Date/Time</p>									

KUN4

ETS, INC.

CONTRACT NO: 99-531
JOB I.D.: VIRGINIA POWER CLOVER
TEST METHOD: ORNATIS HYDES

SAMPLE NO.	CONTAINER NO.	OTHER I.D.	TEST LOCATION	RUN I.D.	SAMPLE TYPE	TOTAL SAMPLE VOLUME	ALIQOT VOLUME	INITIALS	DATE	COMMENTS
127	1		Booths	UZ01-moh	THIMBLE FILTER	15.2238g		AAA	12/1/99	See Sample M127B
128	2		Inlet	-R4	F4 NITRIC RINSE	75ml		AAA	12/1/99	
129	3				IMP 1-3 + RINSE	700ml		AAA	12/1/99	
131	4				IMP 4 + RINSE	140ml		AAA	12/1/99	
132	5				IMP 5-7 + RINSE	570ml		AAA	12/1/99	
227	1		Scrubber	UZ01-moh	GERMAN FILTER	NA.		AAA	12/1/99	
228	2		Inlet	-R4	F4 NITRIC RINSE	55ml		AAA	12/1/99	
229	3				IMP 1-3 + RINSE	610ml		AAA	12/1/99	
231	4				IMP 4 + RINSE	180ml		AAA	12/1/99	
232	5				IMP 5-7 + RINSE	600ml		AAA	12/1/99	
327	1		Scrubber	UZ01-moh	FILTER	NA		AAA	12/1/99	
328	2		Outlet	-R4	F4 NITRIC RINSE	125ml		AAA	12/1/99	
329	3		(Stack)		IMP 1-3 + RINSE	595ml		AAA	12/1/99	
331	4				IMP 4 + RINSE	160ml		AAA	12/1/99	
332	5				IMP 5-7 + RINSE	520ml		AAA	12/1/99	
127B	1B		Booths	R4	Wash Sample	15.0038g		TL	12/3/99	
<p>Collected by: [Signature] Date/Time 12/1/99 20:00</p> <p>Relinquished by: [Signature] Date/Time 12/2/99 14:35</p> <p>Relinquished by: [Signature] Date/Time 12/3/99 14:35</p> <p>Relinquished by: [Signature] Date/Time</p>										
CHAIN OF CUSTODY	<p>Received by: [Signature] Date/Time 12/2/99 14:35</p> <p>Received by: [Signature] Date/Time 12-3-99 1436</p> <p>Received by: [Signature] Date/Time</p>									

ETS, INC.

CONTRACT NO: 99-531
 JOB I.D.: Virginia Power Closure
 TEST METHOD: Cation Hydro

SAMPLE NO.	CONTAINER NO.	OTHER I.D.	TEST LOCATION	RUN I.D.	SAMPLE TYPE	TOTAL SAMPLE VOLUME	ALIQOT VOLUME	INITIALS	DATE	COMMENTS
400	3		Scrubber	U25-MOH	Field	~400ul		AAH	11/30/97	Imp 1-3
401	4		Inlet	-FB	Blank	~100ul		AAA	11/30/97	Imp 4
402	5		↓	↓	↓	~500ul		AAH	11/30/97	Imp 5-7
403	6		↓	↓	↓	NA		AAH	11/30/97	Silica Gel
404	3		Stack	U20U	Field	~400ul		AAH	11/30/97	Imp 1-3
405	4		(Scrubber Outlet)	-MOH-FB	Blank	~120ul		AAH	11/30/97	Imp 4
406	5		↓	↓	↓	~750ul		AAH	11/30/97	Imp 5-7
407	6		↓	↓	↓	NA		AAH	11/30/97	Silica Gel
507	7		NA	MOH-RB	Reagent	50ul		AAH	11/30/97	0.1N HNO3
508	8		NA		Blank	50ul		AAH	11/30/97	1N KCl
509	9					50ul		AAH	11/30/97	HNO3/H2O2
510	10					50ul		AAH	11/30/97	H2SO4/KMnO4
511	11					100ul		AAH	11/30/97	Hydroxylamine
512	12A					NA		AAH	11/30/97	Quartz Thimble #1
513	12B					NA		AAH	11/30/97	Quartz Thimble #2
514	12C					NA		AAH	11/30/97	Quartz Thimble #3
515	12D					NA		AAH	11/30/97	Quartz Gel pens
516	12E			✓	↓	NA		AAH	11/30/97	Quartz Method 5
4										
Collected by: AA HEE Date/Time 11/30/97 14:00 Relinquished by: [Signature] Date/Time 12/2/99 14:35 Relinquished by: [Signature] Date/Time 12/3/99 14:35 Relinquished by: [Signature] Date/Time										
CHAIN OF CUSTODY	Received by: [Signature] Date/Time 12/2/97 11:35 Received by: [Signature] Date/Time 12-3-99 14:35 Received by: [Signature] Date/Time									

6

Appendix E

Equipment Calibration Data

ETS, Inc
 PITOT TUBE CALIBRATION WORKSHEET

Date: 05/21/99
 Pitot Tube Identification #: 235
 Calibrated By: J. McKenna

SIDE "A" CALIBRATION

RUN NO.	delta P std. (in. Water)	delta P (s) (in. Water)	Cp (s)	DEVIATION Cp(s) - Cp(A)
1	0.40	0.57	0.8293	-0.0034
2	0.41	0.57	0.8356	0.0069
3	0.40	0.57	0.8293	-0.0034

Avg. Cp for Side A - Cp(A): 0.8328

SIDE "B" CALIBRATION

RUN NO.	delta P std. (in. Water)	delta P (s) (in. Water)	Cp (s)	DEVIATION Cp(s) - Cp(B)
1	0.41	0.59	0.8253	-0.0001
2	0.41	0.58	0.8324	0.0070
3	0.41	0.60	0.8184	-0.0070

Avg. Cp for Side B - Cp(B): 0.8253

Avg. Dev. Side "A": -3.701E-17 (Allowable Limit = (0.01)
 Avg. Dev. Side "B": 0 (Allowable Limit = (0.01)
 Cp(A) - Cp(B): 0.0074 (Allowable Limit = (0.01)

Cp for Pitot # 235 : 0.8291

Comments:

ETS, Inc
PITOT TUBE CALIBRATION WORKSHEET

Date: 05/21/99
 Pitot Tube Identification #: 223
 Calibrated By: J. McKenna

SIDE "A" CALIBRATION

RUN NO.	delta P std. (in. Water)	delta P (s) (in. Water)	Cp (s)	DEVIATION Cp(s) - Cp(A)
1	0.41	0.55	0.8548	0.0078
2	0.40	0.55	0.8443	-0.0035
3	0.40	0.55	0.8443	-0.0035
Avg. Cp for Side A - Cp(A):			0.8478	

SIDE "B" CALIBRATION

RUN NO.	delta P std. (in. Water)	delta P (s) (in. Water)	Cp (s)	DEVIATION Cp(s) - Cp(B)
1	0.41	0.56	0.8471	0.0009
2	0.41	0.56	0.8471	0.0009
3	0.40	0.55	0.8443	-0.0019
Avg. Cp for Side B - Cp(B):			0.8462	

Avg. Dev. Side "A": 3.701E-17 (Allowable Limit = (0.01)
 Avg. Dev. Side "B": 0 (Allowable Limit = (0.01)
 Cp(A) - Cp(B): 0.0016 (Allowable Limit = (0.01)

Cp for Pitot # 223 : 0.8470

Comments:

ETS, Inc
PITOT TUBE CALIBRATION WORKSHEET

Date: 08 Oct 98
 Pitot Tube Identification #: 114
 Calibrated By: W.C.Hayes

SIDE "A" CALIBRATION

RUN NO.	delta P std. (in. Water)	delta P (s) (in. Water)	Cp (s)	DEVIATION Cp(s) - Cp(A)
1	0.49	0.65	0.8596	0.0000
2	0.49	0.65	0.8596	0.0000
3	0.49	0.65	0.8596	0.0000
Avg. Cp for Side A - Cp(A):			0.8596	

SIDE "B" CALIBRATION

RUN NO.	delta P std. (in. Water)	delta P (s) (in. Water)	Cp (s)	DEVIATION Cp(s) - Cp(B)
1	0.49	0.65	0.8596	0.0015
2	0.48	0.64	0.8574	-0.0007
3	0.48	0.64	0.8574	-0.0007
Avg. Cp for Side B - Cp(B):			0.8581	

Avg. Dev. Side "A": 0 (Allowable Limit =< 0.01)
 Avg. Dev. Side "B": 3.701E-17 (Allowable Limit =< 0.01)
 Cp(A) - Cp(B): 0.0015 (Allowable Limit =< 0.01)

Cp for Pitot # 114 : 0.8588

ments:


E T S , I N C .


METER CONSOLE CALIBRATION FORM

Contract No. 99-487w2
Job I.D.

Print Date 07/08/99

Meter Box No.: 5
Delta H: 1.6621
Gamma: 0.9838

Analyst: 
Calibration Date: 07/08/99
Test Meter No. 9548
Barometric Pressure 28.88

QA/QC Check: 
Previous Calibration Date: 03/15/99
Previous Gamma: 0.9793

Temp Check
Ice H2O 31 degrees F
Boiling H2O 212 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	345.990	367.562	21.572	73.0	75.0	74.00	996.738	1018.83	22.091	75.0	74.0	78.0	82.0	77.25	50.0	1.56494	0.98120
2	1.0	367.785	388.592	20.807	75.0	75.0	75.00	1019.05	1040.50	21.456	82.0	79.0	81.0	86.0	82.00	34.5	1.59364	0.97995
3	1.5	388.802	400.623	11.821	75.0	75.0	75.00	1040.70	1052.87	12.179	85.0	81.0	82.0	87.0	83.75	16.5	1.68858	0.98273
4	2.0	400.792	413.950	13.158	75.0	75.0	75.00	1053.04	1066.57	13.530	86.0	82.0	82.0	88.0	84.50	16.0	1.70633	0.98476
5	2.5	414.540	441.764	27.224	76.0	76.0	76.00	1067.16	1094.87	27.711	78.0	78.0	80.0	87.0	80.75	29.5	1.71189	0.98486
6	3.0	441.953	452.049	10.096	76.0	76.0	76.00	1095.06	1105.34	10.277	86.0	80.0	81.0	88.0	83.75	10.0	1.70693	0.98904

D.T.S. INC.
WATER METER CALIBRATION FORM

Meter Box No. 5 REFERENCE CALIBRATOR HA71 CAL-K
THERMOCOUPLE NUMBER 1 Date 06-Aug-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	-1	0.017
2	32	31	0.032
3	100	102	0.001
4	200	202	0.005
5	300	301	-0.132
6	400	400	0.000
7	500	500	0.000
8	600	600	0.000
9	700	700	0.000
10	800	800	0.000
11	900	900	0.000

0.025 AVERAGE DIFF

Calibration Performed by D.S. Guly

Post-Test Calibration-Contract # - - - - -

Pre-Test Calibration-Contract # - - - - -

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No. S REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER Z Date 26-Aug-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	100	100	0.000
4	200	200	0.000
5	300	300	0.000
6	400	400	0.000
7	500	500	0.000
8	600	600	0.000
9	700	700	0.000
10	800	800	0.000
11	900	900	0.000

0.000 AVERAGE DIFF

Calibration Performed By, D.B. Dwy

Post-Test Calibration-Contract #-

Pre-Test Calibration-Contract #-

Comments:

E. T. S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 5 REFERENCE CALIBRATOR HRT1 CAL-K
THERMOCOUPLE NUMBER 3 Date 06-Aug-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	31	0.133
3	100	100	0.000
4	200	200	0.000
5	300	300	0.000
6	400	400	0.000
7	500	500	0.000
8	600	601	-0.014
9	700	700	0.000
10	800	800	0.000
11	900	901	-0.074

0.000 AVERAGE DIFF

Calibration Performed by C.B.Doty

Post-Test Calibration-Contract #-

Pre-Test Calibration-Contract #-

Comments:

E. I. S. INC.
METER ROOM IN CALIBRATION FORM

Meter Box No. 5 REFERENCE CALIBRATOR NH71 CAL-K
THERMOCOUPLE NUMBER 4 Date 01-Aug-68

	Reference Temperature	Thermocouple Temperature	Difference #
1	1	0	0.000
2	32	31	0.000
3	100	101	-0.179
4	200	220	0.000
5	310	301	-0.122
6	400	400	0.000
7	500	501	-0.104
8	600	600	0.000
9	700	700	0.000
10	800	801	-0.079
11	900	901	-0.074

-0.058 AVERAGE DIFF

Calibration Performed by E. S. S.

Post Test Calibration-Contract # -

Pre-Test Calibration-Contract # -

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION COPY

Meter Box No.....	5	REFERENCE CALIBRATOR	HP71 CAL-K
THERMOCOUPLE NUMBER	5	Date	00-Aug-95
	Reference Temperature	Thermocouple Temperature	Difference
	0	0	0.000
1	25	25	0.000
2	100	100	0.000
4	200	200	0.000
5	300	300	0.000
6	400	400	0.000
7	500	500	0.000
8	600	600	0.000
9	700	700	0.000
10	800	800	0.000
11	900	900	-0.074

-0.007 AVERAGE DIFF

Calibrator Recommended By D.E. Dwy

Post-Test Calibration-Contract #:-

Pre-Test Calibration-Contract #:-

Comments:

S.T.S. INC.
METER SCALE CALIBRATION FORM

Meter Box No.	5	REFERENCE CALIBRATOR	471 CAL-R
THERMOCOUPLE NUMBER	6	Date	26-Aug-55
	Reference Temperature	Thermocouple Temperature	Difference °C
1	0		0.017
2	25	25	0.001
3	100	100	0.000
4	200	200	0.000
5	300	300	0.002
6	400	401	-0.116
7	500	501	-0.104
8	600	601	-0.094
9	700	700	0.000
10	800	800	0.000
11	900	901	-0.074

0.000 AVERAGE DIFF

Calibration Performed By I. S. Doty

Post-Test Calibration-Contract # -

Pre-Test Calibration-Contract # -

Comments:


E T S , I N C .

METER CONSOLE CALIBRATION FORM

Print Date 07/27/99

Contract No. 99-555
Job I.D.

Meter Box No.: 9
Delta H: 1.7770
Gamma: 1.0026

Analyst: 
Calibration Date: 07/27/99
Test Meter No. 9548
Barometric Pressure 28.74

QA/QC Check:
Previous Calibration Date: 05/12/99
Previous Gamma: 0.9976

Temp Check
Ice H2O 32 degrees F
Boiling H2O 212 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	826.970	842.758	15.788	76.0	76.0	76.00	677.389	693.269	15.880	77.0	78.0	79.0	82.0	79.00	38.5	1.71308	0.99852
2	1.0	843.302	855.642	12.340	76.0	76.0	76.00	693.821	706.192	12.371	78.0	78.0	78.0	82.0	79.00	21.5	1.78468	1.00052
3	1.5	855.886	866.319	10.433	76.0	77.0	76.50	706.440	716.908	10.468	82.0	79.0	80.0	86.0	81.75	15.0	1.81706	1.00256
4	2.0	866.502	878.607	12.105	76.0	76.0	76.00	717.092	729.240	12.148	85.0	80.0	81.0	87.0	83.25	15.0	1.79137	1.00480
5	2.5	878.812	891.949	13.137	76.0	76.0	76.00	729.452	742.642	13.190	86.0	81.0	82.0	85.0	83.50	14.5	1.77577	1.00350
6	3.0	892.191	923.395	31.204	76.0	77.0	76.50	742.875	774.168	31.293	85.0	82.0	84.0	90.0	85.25	31.5	1.78007	1.00570

E.T.E. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 9 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 1 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	1	-0.217
2	32	32	0.000
3	98	97	0.179
4	203	204	-0.151
5	299	299	0.000
6	405	407	-0.115
7	499	500	-0.104
8	604	604	0.000
9	703	704	-0.086
10	798	796	0.159
11	904	905	-0.073

-0.037 AVERAGE DIFF

Calibration Performed By W.E.Haves

Post Test Calibration-Contract #-

Pre-Test Calibration-Contract #-

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No. 9 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 2 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	1	1	0.000
2	30	30	0.000
3	102	102	0.000
4	200	200	0.000
5	300	304	-0.131
6	402	402	0.000
7	504	504	0.000
8	602	603	-0.094
9	700	707	-0.100
10	799	806	-0.079
11	904	904	0.000

-0.035 AVERAGE DIFF

Calibration Performed By W.C. Hayes

Post Test Calibration-Contract #1- -----

Pre-Test Calibration-Contract #- -----

Comments:

E. T. S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 9 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 3 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	1	1	0.000
2	34	34	0.000
3	105	105	0.000
4	200	200	0.000
5	303	304	-0.131
6	403	403	0.000
7	500	500	0.000
8	600	601	-0.094
9	703	704	-0.096

10	797	797	0.000
11	899	900	-2.074

-0.035 AVERAGE DIFF

Calibration Performed By W.C.Hayes

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 9 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 4 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	31	31	0.000
3	98	99	-0.179
4	199	199	0.000
5	300	301	-0.132
6	401	401	0.000
7	499	499	0.000
8	606	607	-0.094
9	703	703	0.000
10	799	799	0.000
11	900	900	0.000

-0.037 AVERAGE DIFF

Calibration Performed By W.C.Hayes

Post Test Calibration-Contract #-

Pre-Test Calibration-Contract #-

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 9 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 6 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	101	101	0.020
4	203	204	-0.151
5	300	301	-0.132
6	402	402	0.000
7	502	501	-0.104
8	602	603	-0.094
9	699	700	-0.085
10	800	801	-0.079
11	901	901	0.000

-0.058 AVERAGE DIFF

Calibration Performed By W.C.Hayes

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.G. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 9 REFERENCE CALIBRATOR BH71 CAL-K
THERMOCOUPLE NUMBER 7 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	30	0.000
3	102	103	-0.176
4	201	201	0.000
5	302	302	0.000
6	410	411	-0.115
7	500	501	-0.104
8	604	605	-0.094
9	702	703	-0.086
10	802	803	-0.079
11	903	904	-0.073

-0.066 AVERAGE DIFF

Calibration Performed By W.D.Hayes

Post Test Calibration-Contract #-

Pre-Test Calibration-Contract #-

Comments:


E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. reset1
Job I.D.

Print Date 08/03/99

Meter Box No.: 11
Delta H: 1.6705
Gamma: 1.0140

Analyst: 
Calibration Date: 08/03/99
Test Meter No. 9548
Barometric Pressure 28.88

QA/QC Check: _____
Previous Calibration Date: 07/30/99
Previous Gamma: 1.0043

Temp Check
Ice H2O 32 degrees F
Boiling H2O 212 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	57.688	70.432	12.744	76.0	76.0	76.00	566.476	579.187	12.711	78.0	77.0	78.0	80.0	78.25	30.0	1.62334	1.00552
2	1.0	70.765	80.909	10.144	76.0	76.0	76.00	579.509	589.610	10.101	79.0	82.0	78.0	79.0	79.50	17.0	1.64165	1.00825
3	1.5	46.092	57.541	11.449	75.0	76.0	75.50	555.007	566.238	11.231	76.0	75.0	76.0	79.0	76.50	16.0	1.71873	1.01743
4	2.0	81.137	93.499	12.362	76.0	76.0	76.00	589.839	602.085	12.246	81.0	79.0	80.0	85.0	81.25	15.0	1.71565	1.01420
5	2.5	93.763	107.798	14.035	76.0	76.0	76.00	602.344	616.218	13.874	85.0	80.0	81.0	87.0	83.25	15.0	1.65764	1.01880
6	3.0	108.264	122.058	13.794	76.0	76.0	76.00	616.673	630.295	13.622	87.0	81.0	81.0	87.0	84.00	13.5	1.66572	1.01995

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E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter box no. 11 REFERENCE CALIBRATOR HP71 CAL-H
THERMOCOUPLE NUMBER 1 Date 27-JUL-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	21	21	0.203
3	100	101	-0.179
4	200	200	0.000
5	300	300	0.000
6	400	400	0.000
7	500	500	0.000
8	600	599	0.094
9	700	698	0.172
10	800	798	0.159
11	900	899	0.074

0.048 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No. 11 REFERENCE CALIBRATOR HW71 CAL-K
THERMOCOUPLE NUMBER 2 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	31	0.303
3	100	101	-2.179
4	200	199	0.152
5	300	299	0.132
6	400	399	0.116
7	500	499	0.104
8	600	599	0.094
9	700	699	0.086
10	800	798	0.159
11	900	898	0.147

0.092 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Past Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E. T. S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 3 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	-1	0.217
2	32	32	0.000
3	100	101	-0.179
4	200	200	0.000
5	300	298	0.263
6	400	398	0.233
7	500	498	0.200
8	600	598	0.189
9	700	698	0.172
10	800	798	0.159
11	900	897	0.221

0.135 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HN71 CAL-K
THERMOCOUPLE NUMBER 4 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	1	-0.217
2	32	32	0.000
3	100	101	-0.179
4	200	199	0.152
5	300	300	0.000
6	400	400	0.000
7	500	499	0.104
8	600	599	0.094
9	700	699	0.086
10	800	799	0.079
11	900	898	0.147

0.024 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 5 Date 27-Jul-89

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	1	-0.217
2	32	32	0.000
3	100	101	-0.179
4	200	201	-0.152
5	300	300	0.000
6	400	400	0.000
7	500	498	0.200
8	600	600	0.000
9	700	699	0.056
10	800	798	0.150
11	900	896	0.147

0.005 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E. T. S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HK71 DAL-K
THERMOCOUPLE NUMBER 6 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	1	-0.217
2	32	33	-0.203
3	100	100	-0.357
4	320	301	-0.152
5	320	301	-0.132
6	400	400	0.000
7	500	500	0.000
8	600	600	0.000
9	700	693	0.056
10	800	799	0.079
11	900	899	0.074

-0.075 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Post Test Calibration-Contract #- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No. 11 REFERENCE CALIBRATOR NH71 CAL-K
THERMOCOUPLE NUMBER 7 Date 27-Jul-99

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	1	-0.217
2	32	33	-0.203
3	100	100	0.000
4	200	201	-0.152
5	300	300	0.000
6	400	400	0.000
7	500	500	0.000
8	600	599	0.004
9	700	695	0.006
10	800	795	0.079
11	900	899	0.074

-0.022 AVERAGE DIFF

Calibration Performed By J.T.Hogan

Post Test Calibration-Contract #1- _____

Pre-Test Calibration-Contract #- _____

Comments:

ANALYZER CALIBRATION DATA

JOB I.D.:	VA Power - Core
CONTRACT NO.:	99-531
TECHNICIAN:	AAJ / WVO

TEST METHOD/ANALYTICAL METHOD: 3/3A
 TEST LOCATION: _____
 ANALYZER: O₂ # 5
 REPORTING UNITS (ppm, %): %
 TEST DATE: 12/1/94
 DATE OF ANALYSIS: 12/1/94
 SPAN: 25%

RANGE	GAS CYLINDER ID	GAS VALUE	ANALYZER RESPONSE	ERROR % OF SPAN	TIME
ZERO	N ₂	0	0	0	19:35
LOW	4065	10.07	10.2	0.5	19:38
HIGH	4064	21.0	21.0	0	19:41
OTHER					

TEST METHOD/ANALYTICAL METHOD: 3/3A
 TEST LOCATION: _____
 ANALYZER: CO₂ # 2
 REPORTING UNITS (ppm, %): %
 TEST DATE: 12/1/94
 DATE OF ANALYSIS: 12/1/94
 SPAN: 20%

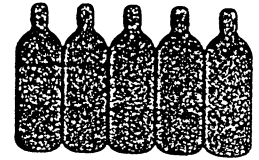
RANGE	GAS CYLINDER ID	GAS VALUE	ANALYZER RESPONSE	ERROR % OF SPAN	TIME
ZERO	N ₂	0	0	0	19:36
LOW	4065	10.05	10.0	0.25	19:38
HIGH	4064	18.0	18.3	1.5	19:40
OTHER					



SPECTRA GASES INC.

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Shipped From: 80 Industrial Drive • Alpha, NJ 08865

4064



CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE

PROCEDURE #: G1

CUSTOMER: ETS, INC
SGI ORDER #: 142592
ITEM#: 8
P.O.#: 7212

CYLINDER #: CC84936
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 590

CERTIFICATION DATE: 5/14/99
EXPIRATION DATE: 5/14/2002

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Dioxide	5/14/99	18.00 %	18.00 %	+/- 1%
Oxygen	5/14/99	21.0 %	21.0 %	+/- 1%

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Dioxide	NTRM-82745x	CC79944	20.00 %
Oxygen	NTRM-82659X	CC83900	22.80 %

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Carbon Dioxide	Horiba VIA-510	571417045	NDIR	5/3/99
Oxygen	Horiba MPA-510	570694081	PM	5/3/99

THIS STANDARD WAS CERTIFIED ACCORDING TO THE EPA PROTOCOL PROCEDURES.
DO NOT USE THIS STANDARD IF THE CYLINDER PRESSURE IS LESS THAN 150 PSIG.

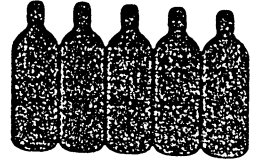
ANALYST: FRED PIKULA

DATE: 5/14/99



SPECTRA GASES INC.

4065



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Shipped From: 80 Industrial Drive • Alpha, NJ 08865

CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE PROCEDURE #: G1

CUSTOMER: ETS, INC
SGI ORDER #: 142592
ITEM#: 7
P.O.#: 7212

CYLINDER #: CC90921
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 590

CERTIFICATION DATE: 5/14/99
EXPIRATION DATE: 5/14/2002

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Dioxide	5/14/99	10.05 %	10.05 %	+/- 1%
Oxygen	5/14/99	10.07 %	10.07 %	+/- 1%

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Dioxide	NTRM-82745x	CC79944	20.00 %
Oxygen	NTRM-82659X	CC83900	22.80 %

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Carbon Dioxide	Horiba VIA-510	571417045	NDIR	5/3/99
Oxygen	Horiba MPA-510	570694081	PM	5/3/99

THIS STANDARD WAS CERTIFIED ACCORDING TO THE EPA PROTOCOL PROCEDURES.
DO NOT USE THIS STANDARD IF THE CYLINDER PRESSURE IS LESS THAN 150 PSIG.

ANALYST: FRED PIKULA

DATE: 5/14/99

METHOD 20
INTERFERENCE RESPONSE TABLE

DATE: 10/6/94

ANALYZER TYPE: CO #2

SERIAL NUMBER: 78-28883-233

TEST GAS TYPE	CONCENTRATION (ppmdv)	ANALYZER OUTPUT	% OF SPAN
O ₂	21.7	-0.6	-0.067
NO _x	223	0.0	0.000
CO ₂	17.04	0.00	0.000
SO ₂	224	0.0	0.000
TOTAL		-0.600	-0.067

12:28

12:30

12:35

12:38

----- % OF SPAN = (ANALYZER OUTPUT RESPONSE / INSTRUMENT SPAN) X 100 -----

The sum of the (% of Span) values should not exceed 2%.

REFERENCE METHOD CALIBRATION DATA

ANALYZER ID: **CO #2** *Serial # 28883-233*

UNITS: **PPM** SPAN: **900**

SOURCE ID: **Interference Check**

LOCATION: **ERTS**

TECHNICIAN: **C.S.**

DATE(S): **10 / 06 / 94**

ANALYZER CALIBRATION						
RANGE	GAS CYLINDER ID	GAS VALUE	ANALYZER RESPONSE	ERROR % SPAN	TIME	
ZERO	AV-24336	0 (N2)	0.0	0	11:20	
LOW	ALM-10503	288	300	0.22	11:25	
HIGH	ALM034281	507	507	0.33	11:28	
OTHER	SA10333	897	900	6.33	11:23	

SYSTEM BIAS AND DRIFT		SYSTEM BIAS			SYSTEM DRIFT		
RUN ID	RANGE	ANALYZER RESPONSE	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME	
	ZERO						
	UPSCALE						
	ZERO						
	UPSCALE						
	ZERO						
	UPSCALE						
	ZERO						
	UPSCALE						
	ZERO						
	UPSCALE						

METHOD 20
INTERFERENCE RESPONSE TABLE

DATE: 1/3/95

ANALYZER TYPE: O₂ #5

SERIAL NUMBER: 115914

TEST GAS TYPE	CONCENTRATION (ppmdv)	ANALYZER OUTPUT	% OF SPAN
SO ₂ cyl. # SGAL-2156	224	0.08	0.3
NO _x cyl. # ALM009351	223	0.00	0.0
CO cyl. # SGAL 1966	442	0.01	0.0
CO ₂ cyl. # ALM028817	10.4%	0.01	0.0
TOTAL			0.3

% OF SPAN = (ANALYZER OUTPUT RESPONSE/INSTRUMENT SPAN) X 100

The sum of the (% of Span) values should not exceed 2%.

REFERENCE METHOD CALIBRATION DATA

ANALYZER ID: 02 115914 #5
 UNITS: % SPAN: 25%
 SOURCE ID: 1
 LOCATION: ETS
 TECHNICIAN: D Vecellio
 DATE(S): 01 / 03 / 95

ANALYZER CALIBRATION						
RANGE	GAS CYLINDER ID	GAS VALUE	ANALYZER RESPONSE	ERROR % SPAN	TIME	
ZERO	<u>N₂ - AX 18304</u>	<u>0</u>	<u>0.09</u>	<u>0.36</u>	<u>15:00</u>	
LOW	<u>O₂ - ALM 045637</u>	<u>9.97</u>	<u>10.05</u>	<u>0.32</u>	<u>15:14</u>	
HIGH	<u>O₂ - ALM 044169</u>	<u>13.07 21.7</u>	<u>21.7</u>	<u>0</u>	<u>15:10</u>	
OTHER						

SYSTEM BIAS AND DRIFT			SYSTEM BIAS				SYSTEM DRIFT			
RUN ID	RANGE	ANALYZER RESPONSE	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									

F

Appendix F

Detailed Process Data

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 08:35:00	33.03	33.08	33.09	32.97	33.00	47.07	45.21	5.32
01-Dec-99 08:36:00	33.06	33.11	33.12	33.00	33.03	46.98	44.24	5.32
01-Dec-99 08:37:00	33.16	33.21	33.22	33.10	33.13	45.87	44.56	5.32
01-Dec-99 08:38:00	33.32	33.37	33.38	33.26	33.29	46.21	44.12	5.32
01-Dec-99 08:39:00	33.34	33.39	33.40	33.28	33.31	47.35	44.28	5.32
01-Dec-99 08:40:00	33.09	33.14	33.15	33.03	33.06	47.04	44.26	5.32
01-Dec-99 08:41:00	33.02	33.07	33.08	32.95	32.98	46.45	44.59	5.32
01-Dec-99 08:42:00	33.05	33.10	33.11	32.97	33.00	47.40	44.63	5.32
01-Dec-99 08:43:00	33.14	33.19	33.20	33.00	33.03	46.51	44.76	5.32
01-Dec-99 08:44:00	33.22	33.27	33.28	33.03	33.06	46.59	44.83	5.32
01-Dec-99 08:45:00	33.31	33.36	33.37	33.05	33.08	47.81	44.59	5.32
01-Dec-99 08:46:00	33.39	33.44	33.45	33.08	33.11	46.74	44.76	5.32
01-Dec-99 08:47:00	33.09	33.14	33.15	33.11	33.14	46.63	44.40	5.32
01-Dec-99 08:48:00	33.08	33.14	33.15	33.14	33.17	46.12	44.67	5.32
01-Dec-99 08:49:00	33.10	33.15	33.16	33.08	33.11	46.62	45.42	5.32
01-Dec-99 08:50:00	33.12	33.17	33.18	32.96	32.99	47.63	45.11	5.32
01-Dec-99 08:51:00	33.14	33.19	33.20	32.86	32.89	46.27	44.90	5.32
01-Dec-99 08:52:00	33.16	33.21	33.22	32.85	32.88	45.66	45.25	5.32
01-Dec-99 08:53:00	33.18	33.23	33.24	32.87	32.90	46.23	44.97	5.32
01-Dec-99 08:54:00	33.13	33.18	33.19	32.89	32.92	46.47	45.96	5.32
01-Dec-99 08:55:00	32.99	33.04	33.05	32.91	32.94	47.00	45.66	5.32
01-Dec-99 08:56:00	32.87	32.92	32.93	32.93	32.96	46.86	45.39	5.32
01-Dec-99 08:57:00	33.03	33.08	33.09	32.95	32.98	45.92	45.60	5.32
01-Dec-99 08:58:00	33.15	33.20	33.21	32.98	33.01	46.60	45.39	5.32
01-Dec-99 08:59:00	33.13	33.19	33.20	33.00	33.03	46.36	45.50	5.32
01-Dec-99 09:00:00	33.07	33.12	33.13	33.01	33.04	46.19	45.74	5.31
01-Dec-99 09:01:00	33.02	33.07	33.08	33.01	33.04	46.16	45.36	5.31
01-Dec-99 09:02:00	33.17	33.22	33.23	33.01	33.04	47.63	45.48	5.31
01-Dec-99 09:03:00	33.16	33.21	33.22	33.01	33.04	47.41	45.79	5.31
01-Dec-99 09:04:00	33.14	33.19	33.20	33.01	33.04	47.00	45.85	5.31
01-Dec-99 09:05:00	33.16	33.21	33.18	33.01	33.04	45.97	45.21	5.31
01-Dec-99 09:06:00	33.24	33.29	33.14	33.01	33.04	47.02	45.39	5.31
01-Dec-99 09:07:00	33.31	33.37	33.09	33.06	33.09	47.75	45.49	5.31
01-Dec-99 09:08:00	33.37	33.42	33.05	33.20	33.23	47.27	45.56	5.31
01-Dec-99 09:09:00	33.27	33.32	33.00	33.17	33.20	46.55	45.75	5.31
01-Dec-99 09:10:00	33.18	33.23	33.08	33.12	33.15	47.07	46.57	5.31
01-Dec-99 09:11:00	33.14	33.19	33.19	33.08	33.11	46.29	45.80	5.31
01-Dec-99 09:12:00	33.14	33.20	33.20	33.08	33.11	46.12	45.39	5.31
01-Dec-99 09:13:00	33.16	33.21	33.22	33.10	33.13	47.30	45.89	5.31
01-Dec-99 09:14:00	33.17	33.22	33.23	33.11	33.14	47.26	46.15	5.31
01-Dec-99 09:15:00	33.18	33.23	33.24	33.12	33.15	46.58	45.70	5.31
01-Dec-99 09:16:00	33.09	33.14	33.16	33.03	33.06	47.47	45.81	5.31
01-Dec-99 09:17:00	33.10	33.15	33.19	33.07	33.10	47.88	46.12	5.31
01-Dec-99 09:18:00	33.14	33.19	33.26	33.14	33.17	47.26	46.07	5.31
01-Dec-99 09:19:00	33.18	33.23	33.34	33.21	33.24	46.88	45.97	5.31
01-Dec-99 09:20:00	33.22	33.27	33.37	33.25	33.28	47.34	46.16	5.31
01-Dec-99 09:21:00	33.26	33.31	33.38	33.26	33.29	47.69	46.50	5.31
01-Dec-99 09:22:00	33.30	33.36	33.39	33.27	33.30	47.48	45.86	5.31
01-Dec-99 09:23:00	33.34	33.39	33.41	33.28	33.31	47.75	46.03	5.31
01-Dec-99 09:24:00	33.36	33.41	33.42	33.29	33.33	47.96	45.96	5.31
01-Dec-99 09:25:00	33.37	33.42	33.43	33.31	33.34	46.97	45.77	5.31
01-Dec-99 09:26:00	33.38	33.43	33.44	33.32	33.35	47.13	46.06	5.31
01-Dec-99 09:27:00	33.39	33.44	33.45	33.33	33.36	47.66	45.36	5.31
01-Dec-99 09:28:00	33.39	33.44	33.45	33.33	33.36	46.90	45.43	5.31
01-Dec-99 09:29:00	33.21	33.26	33.27	33.15	33.18	46.61	45.20	5.31
01-Dec-99 09:30:00	32.98	33.04	33.05	32.92	32.95	47.47	45.34	5.31
01-Dec-99 09:31:00	32.76	32.81	32.82	32.70	32.73	47.67	45.95	5.31
01-Dec-99 09:32:00	32.57	32.62	32.63	32.51	32.54	47.64	45.16	5.31
01-Dec-99 09:33:00	32.62	32.67	32.68	32.54	32.57	47.18	46.60	5.31
01-Dec-99 09:34:00	32.68	32.73	32.74	32.59	32.62	47.08	46.48	5.31
01-Dec-99 09:35:00	32.74	32.79	32.80	32.63	32.66	46.97	46.34	5.31
01-Dec-99 09:36:00	32.80	32.85	32.86	32.68	32.71	46.87	46.20	5.31
01-Dec-99 09:37:00	32.86	32.91	32.92	32.73	32.76	46.76	46.06	5.31
01-Dec-99 09:38:00	32.92	32.97	32.98	32.77	32.80	46.65	45.92	5.31
01-Dec-99 09:39:00	32.98	33.03	33.04	32.82	32.85	46.54	45.13	5.31
01-Dec-99 09:40:00	32.99	33.04	33.05	32.84	32.87	45.15	44.37	5.31
01-Dec-99 09:41:00	32.98	33.03	33.04	32.86	32.89	43.68	44.47	5.31
01-Dec-99 09:42:00	32.97	33.02	33.03	32.87	32.90	44.79	44.54	5.31
01-Dec-99 09:43:00	32.97	33.02	33.03	32.89	32.92	45.88	44.21	5.31
01-Dec-99 09:44:00	32.97	33.02	33.03	32.90	32.94	46.05	44.73	5.31

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 09:45:00	33.02	33.07	33.04	32.95	32.98	45.78	44.13	5.31
01-Dec-99 09:46:00	33.07	33.12	33.06	33.01	33.04	42.96	44.92	5.31
01-Dec-99 09:47:00	33.09	33.14	33.12	33.03	33.06	42.12	44.63	5.31
01-Dec-99 09:48:00	33.03	33.08	33.27	32.97	33.00	43.32	43.83	5.31
01-Dec-99 09:49:00	32.97	33.02	33.37	32.91	32.94	44.01	44.39	5.31
01-Dec-99 09:50:00	32.94	32.99	33.34	32.88	32.91	44.49	44.00	5.31
01-Dec-99 09:51:00	32.97	33.02	33.31	32.91	32.94	43.75	44.65	5.31
01-Dec-99 09:52:00	33.00	33.05	33.28	32.94	32.97	42.42	44.58	5.31
01-Dec-99 09:53:00	33.03	33.08	33.25	32.97	33.00	40.97	44.80	5.31
01-Dec-99 09:54:00	33.06	33.11	33.22	33.00	33.03	41.74	44.46	5.31
01-Dec-99 09:55:00	33.09	33.14	33.19	33.03	33.06	41.46	44.04	5.31
01-Dec-99 09:56:00	33.12	33.15	33.17	33.06	33.09	42.89	44.01	5.31
01-Dec-99 09:57:00	33.15	33.14	33.17	33.09	33.12	43.26	44.59	5.31
01-Dec-99 09:58:00	33.19	33.13	33.17	33.12	33.15	42.31	44.42	5.31
01-Dec-99 09:59:00	33.22	33.12	33.18	33.16	33.19	40.29	44.59	5.31
01-Dec-99 10:00:00	33.25	33.11	33.18	33.19	33.22	39.21	44.49	5.31
01-Dec-99 10:01:00	33.28	33.09	33.18	33.22	33.25	40.22	45.10	5.31
01-Dec-99 10:02:00	33.32	33.08	33.18	33.26	33.29	40.07	44.29	5.31
01-Dec-99 10:03:00	33.32	33.07	33.19	33.25	33.29	40.75	44.33	5.31
01-Dec-99 10:04:00	33.26	33.06	33.25	33.15	33.18	39.30	44.66	5.31
01-Dec-99 10:05:00	33.22	33.04	33.28	33.10	33.13	37.78	44.75	5.31
01-Dec-99 10:06:00	33.20	33.01	33.26	33.09	33.12	39.21	45.11	5.31
01-Dec-99 10:07:00	33.19	32.99	33.25	33.09	33.12	39.18	44.77	5.31
01-Dec-99 10:08:00	33.17	32.96	33.23	33.08	33.11	41.13	44.64	5.31
01-Dec-99 10:09:00	33.15	32.94	33.22	33.08	33.11	42.19	44.13	5.31
01-Dec-99 10:10:00	33.13	32.93	33.19	33.07	33.10	40.90	43.93	5.31
01-Dec-99 10:11:00	33.08	32.96	33.14	33.02	33.05	39.45	44.25	5.31
01-Dec-99 10:12:00	33.02	32.99	33.08	32.96	32.99	39.56	44.64	5.31
01-Dec-99 10:13:00	32.96	33.05	33.02	32.90	32.93	40.81	44.38	5.31
01-Dec-99 10:14:00	32.99	33.18	33.05	32.95	32.96	41.00	44.07	5.31
01-Dec-99 10:15:00	33.13	33.19	33.19	33.13	33.10	40.36	43.83	5.31
01-Dec-99 10:16:00	33.06	33.11	33.12	32.98	33.01	42.77	44.16	5.31
01-Dec-99 10:17:00	33.10	33.15	33.16	33.00	33.03	41.81	44.29	5.31
01-Dec-99 10:18:00	33.14	33.19	33.20	33.02	33.05	41.63	44.87	5.31
01-Dec-99 10:19:00	33.17	33.23	33.24	33.04	33.07	41.93	44.60	5.31
01-Dec-99 10:20:00	33.21	33.26	33.27	33.05	33.08	42.09	44.34	5.31
01-Dec-99 10:21:00	33.18	33.23	33.24	33.00	33.03	42.41	44.41	5.31
01-Dec-99 10:22:00	33.13	33.18	33.19	32.93	32.96	42.68	43.61	5.31
01-Dec-99 10:23:00	33.08	33.13	33.14	32.86	32.89	43.25	43.24	5.31
01-Dec-99 10:24:00	33.03	33.08	33.09	32.79	32.82	42.98	43.92	5.31
01-Dec-99 10:25:00	32.98	33.04	33.05	32.72	32.75	41.41	44.08	5.31
01-Dec-99 10:26:00	32.94	32.99	33.00	32.69	32.72	43.26	44.06	5.31
01-Dec-99 10:27:00	32.96	33.01	33.02	32.79	32.82	43.27	44.20	5.31
01-Dec-99 10:28:00	33.02	33.07	33.08	32.92	32.95	43.92	44.31	5.31
01-Dec-99 10:29:00	33.06	33.11	33.12	32.96	33.03	43.37	44.43	5.31
01-Dec-99 10:30:00	33.09	33.14	33.15	32.90	33.05	43.67	44.67	5.31
01-Dec-99 10:31:00	33.11	33.16	33.17	32.84	33.08	43.94	44.58	5.31
01-Dec-99 10:32:00	33.14	33.19	33.20	32.83	33.08	44.44	45.24	5.31
01-Dec-99 10:33:00	33.16	33.21	33.22	32.88	33.09	40.56	44.40	5.31
01-Dec-99 10:34:00	33.14	33.19	33.20	32.93	33.10	33.30	44.55	5.31
01-Dec-99 10:35:00	33.12	33.17	33.18	32.97	33.12	32.67	53.90	5.31
01-Dec-99 10:36:00	33.11	33.16	33.17	33.02	33.13	32.72	42.70	5.31
01-Dec-99 10:37:00	33.09	33.14	33.15	33.08	33.15	33.08	39.91	5.31
01-Dec-99 10:38:00	33.07	33.12	33.13	33.10	33.14	34.40	39.27	5.31
01-Dec-99 10:39:00	33.01	33.06	33.07	32.98	33.01	34.39	38.88	5.31
01-Dec-99 10:40:00	32.97	33.02	33.03	32.88	32.91	34.81	39.12	5.31
01-Dec-99 10:41:00	33.02	33.07	33.08	32.79	32.82	35.44	39.41	5.31
01-Dec-99 10:42:00	33.08	33.13	33.14	32.78	32.81	35.46	39.91	5.31
01-Dec-99 10:43:00	33.14	33.19	33.20	32.87	32.90	36.03	39.93	5.31
01-Dec-99 10:44:00	33.20	33.25	33.26	32.91	32.94	36.28	39.39	5.31
01-Dec-99 10:45:00	33.25	33.30	33.31	32.90	32.94	35.88	39.09	5.31
01-Dec-99 10:46:00	33.09	33.14	33.15	32.90	32.93	37.56	39.40	5.31
01-Dec-99 10:47:00	32.97	33.02	33.03	32.85	32.88	36.38	39.59	5.31
01-Dec-99 10:48:00	33.11	33.16	33.17	32.78	32.81	37.95	39.86	5.31
01-Dec-99 10:49:00	32.98	33.03	33.04	32.74	32.77	39.20	40.20	5.31
01-Dec-99 10:50:00	32.86	32.91	32.92	32.76	32.79	38.57	39.73	5.31
01-Dec-99 10:51:00	32.77	32.82	32.83	32.80	32.83	39.33	40.27	5.31
01-Dec-99 10:52:00	32.82	32.88	32.89	32.83	32.86	39.07	40.13	5.31
01-Dec-99 10:53:00	32.90	32.95	32.96	32.85	32.88	39.86	40.11	5.31
01-Dec-99 10:54:00	32.97	33.02	33.03	32.84	32.87	39.35	39.66	5.31

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 10:55:00	33.04	33.10	33.11	32.84	32.87	40.13	40.72	5.31
01-Dec-99 10:56:00	33.12	33.17	33.18	32.83	32.86	40.66	39.64	5.31
01-Dec-99 10:57:00	33.16	33.21	33.22	32.83	32.86	40.21	40.21	5.31
01-Dec-99 10:58:00	33.09	33.14	33.15	32.82	32.85	40.78	40.33	5.31
01-Dec-99 10:59:00	33.01	33.11	33.08	32.82	32.85	39.71	41.09	5.31
01-Dec-99 11:00:00	32.95	33.10	33.01	32.81	32.84	40.92	40.87	5.31
01-Dec-99 11:01:00	32.88	33.10	32.94	32.81	32.84	41.23	40.25	5.31
01-Dec-99 11:02:00	32.84	33.05	32.86	32.78	32.81	40.68	40.40	5.31
01-Dec-99 11:03:00	32.81	32.88	32.80	32.75	32.78	40.50	41.28	5.31
01-Dec-99 11:04:00	32.83	32.88	32.85	32.77	32.80	41.29	40.89	5.31
01-Dec-99 11:05:00	32.86	32.91	32.91	32.81	32.84	41.14	40.09	5.31
01-Dec-99 11:06:00	32.87	32.93	32.94	32.90	32.93	41.75	40.55	5.31
01-Dec-99 11:07:00	32.94	33.00	33.01	33.00	33.03	41.71	39.57	5.31
01-Dec-99 11:08:00	33.05	33.10	33.11	33.11	33.14	41.49	40.62	5.31
01-Dec-99 11:09:00	33.16	33.21	33.22	33.21	33.24	41.48	41.19	5.31
01-Dec-99 11:10:00	33.27	33.32	33.33	33.32	33.35	41.71	40.95	5.31
01-Dec-99 11:11:00	33.35	33.40	33.41	33.40	33.43	41.74	41.35	5.31
Average	33.09	33.12	33.14	32.98	33.02	43.23	43.94	5.31

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kbs/hr
01-Dec-99 08:35:00	5.39	298.30	279.85	122.57	118.28	2.46	3.28	463.11	3291.99
01-Dec-99 08:36:00	5.39	298.30	279.85	122.57	118.28	2.46	3.41	462.86	3294.83
01-Dec-99 08:37:00	5.39	298.29	279.85	122.57	118.28	2.46	3.23	462.61	3291.68
01-Dec-99 08:38:00	5.39	298.29	279.85	122.58	118.28	2.46	3.36	462.37	3291.53
01-Dec-99 08:39:00	5.39	298.28	279.85	122.58	118.27	2.46	3.39	462.12	3291.38
01-Dec-99 08:40:00	5.39	298.28	279.85	122.58	118.27	2.46	3.38	461.95	3291.23
01-Dec-99 08:41:00	5.39	298.28	279.85	122.58	118.27	2.46	3.31	461.89	3291.08
01-Dec-99 08:42:00	5.39	298.27	279.85	122.58	118.27	2.46	3.33	461.84	3290.93
01-Dec-99 08:43:00	5.39	298.27	279.85	122.59	118.27	2.46	3.36	461.68	3290.78
01-Dec-99 08:44:00	5.39	298.27	279.85	122.59	118.27	2.46	3.42	461.26	3290.63
01-Dec-99 08:45:00	5.39	298.26	279.85	122.59	118.26	2.46	3.32	461.06	3290.48
01-Dec-99 08:46:00	5.39	298.26	279.85	122.59	118.26	2.46	3.40	461.30	3290.32
01-Dec-99 08:47:00	5.39	298.26	279.85	122.59	118.26	2.46	3.33	461.56	3290.17
01-Dec-99 08:48:00	5.39	298.25	279.84	122.59	118.26	2.46	3.38	461.82	3290.02
01-Dec-99 08:49:00	5.39	298.25	279.84	122.60	118.26	2.46	3.41	462.07	3289.87
01-Dec-99 08:50:00	5.39	298.25	279.84	122.60	118.25	2.46	3.41	462.21	3289.72
01-Dec-99 08:51:00	5.39	298.24	279.84	122.60	118.25	2.46	3.40	462.27	3289.57
01-Dec-99 08:52:00	5.39	298.24	279.84	122.60	118.25	2.46	3.38	462.33	3289.42
01-Dec-99 08:53:00	5.39	298.24	279.84	122.60	118.25	2.46	3.30	462.37	3289.27
01-Dec-99 08:54:00	5.39	298.23	279.84	122.60	118.25	2.46	3.27	462.36	3289.12
01-Dec-99 08:55:00	5.39	298.23	279.84	122.61	118.24	2.46	3.30	462.27	3288.97
01-Dec-99 08:56:00	5.39	298.22	279.84	122.61	118.24	2.46	3.40	462.06	3288.81
01-Dec-99 08:57:00	5.39	298.22	279.84	122.61	118.24	2.46	3.29	461.85	3288.66
01-Dec-99 08:58:00	5.39	298.22	279.84	122.61	118.24	2.46	3.21	461.64	3288.51
01-Dec-99 08:59:00	5.39	298.21	279.84	122.61	118.24	2.46	3.39	461.43	3288.36
01-Dec-99 09:00:00	5.39	298.21	279.83	122.62	118.23	2.46	3.42	461.22	3288.21
01-Dec-99 09:01:00	5.39	298.21	279.83	122.62	118.23	2.46	3.42	461.02	3288.06
01-Dec-99 09:02:00	5.39	298.20	279.83	122.62	118.23	2.46	3.42	460.87	3287.91
01-Dec-99 09:03:00	5.39	298.20	279.83	122.62	118.23	2.46	3.38	460.73	3287.76
01-Dec-99 09:04:00	5.39	298.20	279.83	122.62	118.23	2.46	3.39	460.59	3287.61
01-Dec-99 09:05:00	5.39	298.19	279.83	122.62	118.23	2.46	3.37	460.02	3287.46
01-Dec-99 09:06:00	5.39	298.19	279.83	122.63	118.22	2.46	3.41	459.56	3287.30
01-Dec-99 09:07:00	5.39	298.19	279.83	122.63	118.22	2.46	3.40	460.03	3287.15
01-Dec-99 09:08:00	5.39	298.18	279.83	122.63	118.22	2.47	3.40	460.45	3287.00
01-Dec-99 09:09:00	5.39	298.18	279.84	122.63	118.22	2.47	3.32	460.53	3286.85
01-Dec-99 09:10:00	5.39	298.17	279.84	122.63	118.22	2.47	3.35	460.40	3286.70
01-Dec-99 09:11:00	5.39	298.17	279.84	122.63	118.21	2.47	3.48	460.99	3286.55
01-Dec-99 09:12:00	5.39	298.17	279.84	122.64	118.21	2.47	3.27	461.68	3286.40
01-Dec-99 09:13:00	5.39	298.16	279.84	122.64	118.21	2.47	3.32	462.13	3286.25
01-Dec-99 09:14:00	5.39	298.16	279.84	122.64	118.21	2.47	3.47	462.01	3286.10
01-Dec-99 09:15:00	5.39	298.16	279.84	122.64	118.21	2.47	3.45	462.16	3285.95
01-Dec-99 09:16:00	5.39	298.15	279.84	122.64	118.20	2.47	3.40	462.32	3285.79
01-Dec-99 09:17:00	5.39	298.15	279.84	122.64	118.20	2.47	3.44	462.38	3285.64
01-Dec-99 09:18:00	5.39	298.15	279.85	122.65	118.20	2.47	3.31	462.67	3285.49
01-Dec-99 09:19:00	5.39	298.14	279.85	122.65	118.20	2.47	3.32	462.97	3285.34
01-Dec-99 09:20:00	5.39	298.14	279.85	122.65	118.20	2.47	3.45	462.52	3285.19
01-Dec-99 09:21:00	5.39	298.14	279.85	122.65	118.19	2.47	3.32	462.37	3285.17
01-Dec-99 09:22:00	5.39	298.13	279.85	122.65	118.19	2.47	3.32	462.33	3285.08
01-Dec-99 09:23:00	5.39	298.13	279.85	122.66	118.19	2.47	3.37	461.93	3289.60
01-Dec-99 09:24:00	5.39	298.13	279.85	122.66	118.19	2.47	3.35	461.58	3292.13
01-Dec-99 09:25:00	5.39	298.12	279.85	122.66	118.19	2.47	3.37	461.45	3294.66
01-Dec-99 09:26:00	5.39	298.12	279.86	122.66	118.19	2.47	3.35	461.35	3297.18
01-Dec-99 09:27:00	5.40	298.11	279.86	122.66	118.18	2.47	3.32	461.28	3299.71
01-Dec-99 09:28:00	5.40	298.11	279.86	122.66	118.18	2.47	3.43	461.17	3302.24
01-Dec-99 09:29:00	5.40	298.11	279.86	122.67	118.18	2.47	3.48	462.17	3304.77
01-Dec-99 09:30:00	5.40	298.10	279.86	122.67	118.18	2.47	3.45	463.86	3307.29
01-Dec-99 09:31:00	5.40	298.10	279.86	122.67	118.18	2.47	3.49	465.20	3309.82
01-Dec-99 09:32:00	5.40	298.10	279.86	122.67	118.17	2.47	3.44	465.95	3312.35
01-Dec-99 09:33:00	5.40	298.09	279.86	122.43	118.17	2.47	3.55	465.20	3312.20
01-Dec-99 09:34:00	5.40	298.09	279.87	121.95	118.17	2.47	3.53	464.36	3308.38
01-Dec-99 09:35:00	5.40	298.09	279.87	121.48	118.17	2.47	3.51	463.52	3304.53
01-Dec-99 09:36:00	5.40	298.08	279.87	121.01	118.17	2.47	3.50	462.68	3300.69
01-Dec-99 09:37:00	5.40	298.08	279.87	120.53	118.16	2.47	3.48	461.85	3296.85
01-Dec-99 09:38:00	5.40	298.08	279.87	120.06	118.16	2.47	3.46	461.01	3293.00
01-Dec-99 09:39:00	5.40	298.07	279.87	119.59	118.16	2.47	3.37	460.17	3289.16
01-Dec-99 09:40:00	5.40	298.07	279.87	119.35	118.16	2.47	3.51	459.37	3285.32
01-Dec-99 09:41:00	5.40	298.07	279.87	119.61	118.16	2.47	3.21	459.15	3281.47
01-Dec-99 09:42:00	5.40	298.06	279.88	119.89	118.15	2.47	3.33	459.13	3277.63
01-Dec-99 09:43:00	5.40	298.06	279.88	120.16	118.15	2.47	3.50	459.11	3273.79
01-Dec-99 09:44:00	5.40	298.05	279.88	119.74	118.15	2.47	3.29	459.03	3271.33

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kbs/hr
01-Dec-99 09:45:00	5.40	298.05	279.88	118.29	118.15	2.47	3.34	458.89	3271.75
01-Dec-99 09:46:00	5.40	298.05	279.88	117.95	118.15	2.47	3.33	458.75	3272.25
01-Dec-99 09:47:00	5.40	298.04	279.88	118.75	118.14	2.47	3.21	458.61	3272.75
01-Dec-99 09:48:00	5.40	298.04	279.88	119.54	118.14	2.47	3.33	458.47	3273.25
01-Dec-99 09:49:00	5.40	298.04	279.88	120.34	118.14	2.47	3.28	458.79	3273.75
01-Dec-99 09:50:00	5.40	298.03	279.89	120.98	118.14	2.47	3.33	459.63	3274.25
01-Dec-99 09:51:00	5.40	298.03	279.89	121.00	118.14	2.47	3.29	459.70	3274.75
01-Dec-99 09:52:00	5.40	298.03	279.89	120.95	118.14	2.47	3.30	459.64	3275.25
01-Dec-99 09:53:00	5.40	298.02	279.89	120.90	118.13	2.47	3.19	459.59	3275.75
01-Dec-99 09:54:00	5.40	298.02	279.89	120.86	118.13	2.47	3.31	459.53	3276.25
01-Dec-99 09:55:00	5.40	298.02	279.89	120.81	118.13	2.47	3.39	459.47	3276.75
01-Dec-99 09:56:00	5.40	298.01	279.89	120.76	118.13	2.47	3.36	459.40	3277.25
01-Dec-99 09:57:00	5.40	298.01	279.89	120.71	118.13	2.47	3.45	459.34	3277.75
01-Dec-99 09:58:00	5.40	298.01	279.90	120.66	118.12	2.47	3.21	459.28	3278.25
01-Dec-99 09:59:00	5.40	298.00	279.90	120.61	118.12	2.47	3.34	459.33	3278.75
01-Dec-99 10:00:00	5.40	298.00	279.90	120.57	118.12	2.47	3.22	459.46	3279.25
01-Dec-99 10:01:00	5.40	297.99	279.90	120.52	118.12	2.47	3.26	459.58	3279.75
01-Dec-99 10:02:00	5.40	297.99	279.90	120.27	118.12	2.47	3.34	459.65	3280.25
01-Dec-99 10:03:00	5.40	297.99	279.90	119.21	118.11	2.48	3.25	459.71	3280.75
01-Dec-99 10:04:00	5.40	297.98	279.90	118.55	118.11	2.48	3.26	459.78	3281.25
01-Dec-99 10:05:00	5.40	297.98	279.90	118.92	118.11	2.48	3.33	459.84	3281.75
01-Dec-99 10:06:00	5.40	297.98	279.91	119.32	118.11	2.48	3.34	459.99	3282.25
01-Dec-99 10:07:00	5.40	297.97	279.91	119.72	118.11	2.48	3.42	460.15	3282.75
01-Dec-99 10:08:00	5.40	297.97	279.91	120.12	118.10	2.48	3.35	460.32	3283.25
01-Dec-99 10:09:00	5.40	297.97	279.91	120.52	118.10	2.48	3.35	460.48	3283.75
01-Dec-99 10:10:00	5.40	297.96	279.91	120.92	118.10	2.48	3.33	460.65	3284.25
01-Dec-99 10:11:00	5.40	297.96	279.91	121.32	118.10	2.48	3.35	460.85	3284.75
01-Dec-99 10:12:00	5.40	297.96	279.91	121.72	118.10	2.48	3.33	461.12	3285.25
01-Dec-99 10:13:00	5.40	297.95	279.91	121.96	118.10	2.48	3.36	461.41	3285.75
01-Dec-99 10:14:00	5.40	297.95	279.92	121.96	118.09	2.48	3.34	461.46	3286.25
01-Dec-99 10:15:00	5.40	297.95	279.92	121.96	118.09	2.48	3.32	460.48	3286.75
01-Dec-99 10:16:00	5.40	297.94	279.92	121.96	118.09	2.48	3.36	460.22	3287.25
01-Dec-99 10:17:00	5.40	297.94	279.92	121.95	118.09	2.48	3.35	460.05	3287.75
01-Dec-99 10:18:00	5.40	297.93	279.92	121.95	118.09	2.48	3.37	459.87	3288.25
01-Dec-99 10:19:00	5.40	297.93	279.92	121.95	118.08	2.48	3.39	459.73	3288.75
01-Dec-99 10:20:00	5.40	297.93	279.92	121.95	118.08	2.48	3.43	459.84	3289.25
01-Dec-99 10:21:00	5.40	297.92	279.92	121.95	118.08	2.48	3.41	460.16	3289.75
01-Dec-99 10:22:00	5.40	297.92	279.92	121.94	118.08	2.48	3.38	460.56	3290.25
01-Dec-99 10:23:00	5.40	297.92	279.93	121.94	118.08	2.48	3.45	460.97	3290.76
01-Dec-99 10:24:00	5.40	297.91	279.93	121.94	118.07	2.48	3.31	461.37	3291.26
01-Dec-99 10:25:00	5.40	297.91	279.93	121.94	118.07	2.48	3.40	461.77	3291.76
01-Dec-99 10:26:00	5.40	297.91	279.93	121.93	118.07	2.48	3.31	462.14	3292.26
01-Dec-99 10:27:00	5.40	297.90	279.93	121.93	118.07	2.48	3.45	462.14	3292.76
01-Dec-99 10:28:00	5.40	297.90	279.93	121.93	118.07	2.48	3.40	462.00	3293.26
01-Dec-99 10:29:00	5.40	297.90	279.93	121.93	118.06	2.48	3.36	461.82	3293.76
01-Dec-99 10:30:00	5.40	297.89	279.93	121.92	118.06	2.48	3.48	461.46	3294.26
01-Dec-99 10:31:00	5.40	297.89	279.94	121.92	118.06	2.48	3.40	461.08	3294.76
01-Dec-99 10:32:00	5.40	297.89	279.94	121.92	118.06	2.48	3.40	460.64	3295.26
01-Dec-99 10:33:00	5.40	297.88	279.94	121.92	118.06	2.48	3.32	460.13	3295.76
01-Dec-99 10:34:00	5.40	297.88	279.94	121.92	118.06	2.48	3.44	459.59	3296.26
01-Dec-99 10:35:00	5.40	297.87	279.94	121.91	118.05	2.48	3.43	459.43	3296.76
01-Dec-99 10:36:00	5.40	297.87	279.94	121.91	118.05	2.48	3.43	459.48	3297.26
01-Dec-99 10:37:00	5.40	297.87	279.94	121.91	118.05	2.48	3.45	459.63	3297.76
01-Dec-99 10:38:00	5.40	297.86	279.94	121.91	118.05	2.48	3.40	460.05	3298.26
01-Dec-99 10:39:00	5.40	297.86	279.95	121.90	118.05	2.48	3.43	460.55	3298.76
01-Dec-99 10:40:00	5.40	297.86	279.95	121.90	118.04	2.48	3.30	461.04	3299.26
01-Dec-99 10:41:00	5.40	297.85	279.95	121.90	118.04	2.48	3.35	461.53	3299.76
01-Dec-99 10:42:00	5.40	297.85	279.95	121.90	118.04	2.48	3.48	462.00	3300.26
01-Dec-99 10:43:00	5.40	297.85	279.95	121.90	118.04	2.48	3.42	461.56	3300.76
01-Dec-99 10:44:00	5.40	297.84	279.95	121.89	118.04	2.48	3.40	461.08	3301.26
01-Dec-99 10:45:00	5.40	297.84	279.95	121.89	118.03	2.48	3.47	461.00	3301.76
01-Dec-99 10:46:00	5.40	297.84	279.95	121.89	118.03	2.48	3.49	460.92	3302.26
01-Dec-99 10:47:00	5.40	297.83	279.96	121.89	118.03	2.48	3.43	460.84	3302.76
01-Dec-99 10:48:00	5.40	297.83	279.96	121.88	118.03	2.48	3.40	460.76	3303.26
01-Dec-99 10:49:00	5.40	297.82	279.96	121.88	118.03	2.48	3.44	460.70	3303.76
01-Dec-99 10:50:00	5.40	297.82	279.96	121.88	118.02	2.48	3.43	461.10	3304.26
01-Dec-99 10:51:00	5.40	297.82	279.96	121.88	118.02	2.48	3.50	461.72	3304.76
01-Dec-99 10:52:00	5.40	297.81	279.96	121.88	118.02	2.48	3.40	461.87	3305.26
01-Dec-99 10:53:00	5.40	297.81	279.96	121.87	118.02	2.48	3.33	461.33	3305.76
01-Dec-99 10:54:00	5.40	297.81	279.96	121.87	118.02	2.48	3.36	460.78	3306.26

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel Deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow klbs/hr
01-Dec-99 10:55:00	5.40	297.80	279.97	121.87	118.02	2.49	3.29	460.23	3306.76
01-Dec-99 10:56:00	5.40	297.80	279.97	121.87	118.01	2.49	3.44	459.70	3307.26
01-Dec-99 10:57:00	5.40	297.80	279.97	121.86	118.01	2.49	3.50	459.61	3307.76
01-Dec-99 10:58:00	5.40	297.79	279.97	121.86	118.01	2.49	3.26	459.75	3308.26
01-Dec-99 10:59:00	5.40	297.79	279.97	121.86	118.01	2.49	3.43	459.89	3308.76
01-Dec-99 11:00:00	5.40	297.79	279.97	121.86	118.01	2.49	3.30	460.02	3309.26
01-Dec-99 11:01:00	5.40	297.78	279.97	121.85	118.00	2.49	3.38	460.16	3309.76
01-Dec-99 11:02:00	5.40	297.78	279.97	121.85	118.00	2.49	3.40	460.31	3310.26
01-Dec-99 11:03:00	5.40	297.78	279.98	121.85	118.00	2.50	3.40	460.53	3310.76
01-Dec-99 11:04:00	5.40	297.77	279.98	121.85	118.00	2.50	3.32	460.76	3311.27
01-Dec-99 11:05:00	5.40	297.77	279.98	121.85	118.00	2.50	3.46	460.99	3311.77
01-Dec-99 11:06:00	5.40	297.76	279.98	121.84	117.99	2.50	3.51	461.20	3312.27
01-Dec-99 11:07:00	5.40	297.76	279.98	121.84	117.99	2.50	3.53	460.96	3312.77
01-Dec-99 11:08:00	5.40	297.76	279.98	121.84	117.99	2.50	3.41	460.56	3313.27
01-Dec-99 11:09:00	5.40	297.75	279.98	121.84	117.99	2.50	3.32	460.17	3313.77
01-Dec-99 11:10:00	5.40	297.75	279.98	121.83	117.99	2.50	3.33	459.77	3314.27
01-Dec-99 11:11:00	5.40	297.75	279.99	121.83	117.98	2.50	3.39	459.69	3314.77
Average	5.40	298.02	279.90	121.75	118.13	2.47	3.38	460.98	3292.13

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 08:35:00	986.87	2521.75	67553816.00				0.06	22.54	10.71
01-Dec-99 08:36:00	986.73	2519.65	67517288.00				0.06	22.29	10.63
01-Dec-99 08:37:00	986.86	2518.16	67490448.00				0.06	22.39	10.68
01-Dec-99 08:38:00	986.99	2517.48	67779688.00				0.06	22.05	10.68
01-Dec-99 08:39:00	987.13	2516.81	68185176.00				0.06	21.91	10.69
01-Dec-99 08:40:00	987.26	2516.13	68192288.00				0.06	21.98	10.69
01-Dec-99 08:41:00	987.31	2515.46	68248024.00				0.06	21.69	10.70
01-Dec-99 08:42:00	986.95	2514.79	68248344.00				0.06	21.45	10.67
01-Dec-99 08:43:00	986.52	2514.12	68110240.00				0.06	21.48	10.64
01-Dec-99 08:44:00	986.09	2514.40	68059520.00				0.06	20.85	10.63
01-Dec-99 08:45:00	985.91	2515.28	67965408.00				0.06	20.72	10.74
01-Dec-99 08:46:00	986.22	2516.16	67803456.00				0.06	19.68	9.85
01-Dec-99 08:47:00	986.54	2517.04	67703360.00				0.06	16.87	8.76
01-Dec-99 08:48:00	986.86	2517.92	67301640.00				0.06	18.95	10.27
01-Dec-99 08:49:00	987.17	2519.39	67301424.00				0.06	20.02	10.64
01-Dec-99 08:50:00	987.49	2521.67	67408344.00				0.06	20.57	10.65
01-Dec-99 08:51:00	987.81	2523.96	67427512.00				0.06	20.22	10.65
01-Dec-99 08:52:00	987.43	2525.25	67368632.00				0.06	19.96	10.66
01-Dec-99 08:53:00	986.08	2523.77	67301976.00				0.06	19.70	10.66
01-Dec-99 08:54:00	984.73	2522.13	67528184.00				0.05	19.39	10.64
01-Dec-99 08:55:00	983.39	2521.18	68059072.00				0.05	19.37	10.64
01-Dec-99 08:56:00	982.78	2521.18	68058576.00	1.77	849.86	0.05	19.52	14.31	10.71
01-Dec-99 08:57:00	982.66	2522.04	68027856.00	1.77	841.01	0.05	18.89	14.24	10.54
01-Dec-99 08:58:00	982.54	2522.67	68028600.00	1.76	845.95	0.05	18.62	14.38	10.65
01-Dec-99 08:59:00	982.42	2521.87	68266952.00	1.77	849.26	0.05	18.70	14.33	10.70
01-Dec-99 09:00:00	982.30	2521.06	68341088.00	1.77	845.00	0.05	18.36	14.30	10.64
01-Dec-99 09:01:00	982.18	2520.19	68294520.00				0.05	18.17	10.63
01-Dec-99 09:02:00	982.06	2519.01	68154592.00				0.05	17.86	10.59
01-Dec-99 09:03:00	981.94	2517.77	68162616.00				0.05	17.56	10.63
01-Dec-99 09:04:00	981.82	2516.53	68248352.00				0.05	16.96	10.67
01-Dec-99 09:05:00	981.70	2515.71	68248600.00				0.05	16.67	10.60
01-Dec-99 09:06:00	982.01	2515.69	68421152.00				0.05	16.27	10.57
01-Dec-99 09:07:00	982.91	2516.08	68435848.00				0.04	15.56	10.63
01-Dec-99 09:08:00	983.82	2517.26	68200792.00				0.04	15.35	10.66
01-Dec-99 09:09:00	984.58	2518.29	68091120.00				0.04	14.96	10.60
01-Dec-99 09:10:00	984.11	2518.43	68059080.00				0.04	14.84	10.63
01-Dec-99 09:11:00	983.35	2518.43	68028640.00	1.76	841.16	0.04	14.54	14.28	10.61
01-Dec-99 09:12:00	982.60	2518.43	67912688.00	1.76	842.92	0.04	14.24	14.30	10.65
01-Dec-99 09:13:00	981.85	2518.41	67617320.00	1.77	835.98	0.04	14.17	14.13	10.64
01-Dec-99 09:14:00	981.09	2518.17	67617128.00	1.76	829.41	0.04	13.67	14.08	10.57
01-Dec-99 09:15:00	980.34	2517.88	68278344.00	1.76	830.95			14.11	
01-Dec-99 09:16:00	979.59	2517.58	68278576.00						
01-Dec-99 09:17:00	978.83	2517.29	68152184.00						
01-Dec-99 09:18:00	978.08	2517.00	68123240.00						
01-Dec-99 09:19:00	977.32	2516.71	67895328.00						
01-Dec-99 09:20:00	976.76	2516.23	67680928.00						
01-Dec-99 09:21:00	976.55	2515.63	67653648.00						
01-Dec-99 09:22:00	976.35	2515.02	67555272.00						
01-Dec-99 09:23:00	976.27	2514.42	67553640.00			0.07	25.27		10.97
01-Dec-99 09:24:00	977.17	2513.81	67615288.00			0.07	24.80		10.76
01-Dec-99 09:25:00	978.29	2513.21	67650024.00			0.07	23.74		10.64
01-Dec-99 09:26:00	979.41	2512.61	67870256.00	1.75	833.43	0.06	22.85	14.20	10.70
01-Dec-99 09:27:00	980.75	2512.00	68310392.00	1.77	834.76	0.06	22.82	14.12	10.69
01-Dec-99 09:28:00	982.05	2511.40	68309752.00	1.76	828.28	0.06	22.96	14.02	10.62
01-Dec-99 09:29:00	981.38	2515.84	68058384.00	1.75	827.69	0.06	22.65	14.09	10.58
01-Dec-99 09:30:00	980.07	2524.99	68029832.00	1.76	832.80	0.06	22.67	14.11	10.60
01-Dec-99 09:31:00	978.63	2534.15	68255192.00			0.06	22.78		10.62
01-Dec-99 09:32:00	976.08	2540.14	68407288.00			0.06	22.65		10.60
01-Dec-99 09:33:00	973.29	2537.47	68328056.00			0.06	22.17		10.54
01-Dec-99 09:34:00	970.50	2534.30	68060464.00			0.06	21.67		10.56
01-Dec-99 09:35:00	967.70	2531.13	68030616.00			0.06	21.95		10.62
01-Dec-99 09:36:00	964.91	2527.97	67461224.00			0.06	21.64		10.58
01-Dec-99 09:37:00	962.12	2524.80	67460392.00			0.06	20.74		10.52
01-Dec-99 09:38:00	959.32	2521.63	67599504.00			0.06	19.82		10.55
01-Dec-99 09:39:00	957.07	2518.53	67713392.00			0.06	20.29		10.61
01-Dec-99 09:40:00	958.03	2517.52	67764824.00			0.06	21.19		10.56
01-Dec-99 09:41:00	959.52	2517.52	67995632.00			0.06	21.34		10.54
01-Dec-99 09:42:00	961.02	2517.52	67995488.00			0.06	21.05		10.58
01-Dec-99 09:43:00	962.61	2517.50	68459056.00			0.06	20.83		10.62
01-Dec-99 09:44:00	964.22	2517.36	68563728.00			0.06	20.30		10.64

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow sch	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 09:45:00	965.68	2517.21	68665856.00			0.06	20.12		10.56
01-Dec-99 09:46:00	966.26	2517.06	68721320.00			0.06	20.23		10.53
01-Dec-99 09:47:00	966.68	2516.91	68784224.00			0.06	20.31		10.53
01-Dec-99 09:48:00	967.11	2516.75	69036400.00			0.06	20.14		10.55
01-Dec-99 09:49:00	967.53	2516.92	69041664.00			0.06	20.05		10.59
01-Dec-99 09:50:00	967.93	2518.98	69192696.00			0.06	19.84		10.57
01-Dec-99 09:51:00	968.32	2521.35	69192184.00			0.06	19.67		10.51
01-Dec-99 09:52:00	968.72	2522.74	69173408.00			0.05	19.41		10.58
01-Dec-99 09:53:00	969.12	2522.09	69161456.00			0.05	19.46		10.59
01-Dec-99 09:54:00	969.03	2521.39	69158304.00			0.05	19.38		10.61
01-Dec-99 09:55:00	968.25	2520.69	69035200.00			0.05	18.69		10.50
01-Dec-99 09:56:00	967.45	2520.11	69035232.00	1.77	839.98	0.05	18.33	14.20	10.49
01-Dec-99 09:57:00	966.94	2519.72	69914872.00	1.77	838.50	0.05	18.70	14.18	10.54
01-Dec-99 09:58:00	967.56	2519.33	69978040.00	1.77	838.35	0.05	18.90	14.13	10.52
01-Dec-99 09:59:00	968.30	2518.95	69802688.00	1.77	838.99	0.05	18.67	14.18	10.55
01-Dec-99 10:00:00	969.05	2518.56	69474432.00	1.77	842.65	0.05	18.29	14.22	10.57
01-Dec-99 10:01:00	969.80	2518.17	69475464.00			0.05	18.27		10.64
01-Dec-99 10:02:00	970.54	2517.79	69633448.00			0.05	18.13		10.60
01-Dec-99 10:03:00	971.24	2517.62	69633152.00			0.05	17.54		10.57
01-Dec-99 10:04:00	971.93	2517.89	69120336.00			0.05	17.62		10.59
01-Dec-99 10:05:00	972.61	2518.19	69004392.00			0.05	17.81		10.59
01-Dec-99 10:06:00	973.29	2518.48	68911952.00			0.05	17.67		10.55
01-Dec-99 10:07:00	973.97	2518.77	68845664.00			0.05	17.09		10.48
01-Dec-99 10:08:00	974.19	2519.06	68758208.00			0.05	16.76		10.49
01-Dec-99 10:09:00	974.09	2519.53	68595152.00			0.05	16.72		10.45
01-Dec-99 10:10:00	973.99	2521.13	68659240.00			0.05	16.76		10.45
01-Dec-99 10:11:00	973.89	2522.91	68847488.00	1.77	848.90	0.05	16.47	14.32	10.47
01-Dec-99 10:12:00	973.79	2524.69	68845712.00	1.77	849.95	0.05	16.13	14.36	10.51
01-Dec-99 10:13:00	973.65	2524.72	68997384.00	1.78	846.16	0.04	15.62	14.25	10.47
01-Dec-99 10:14:00	972.30	2522.20	69067888.00	1.78	840.47	0.04	15.27	14.15	10.47
01-Dec-99 10:15:00	970.37	2519.99	69136800.00	1.76	838.53			14.22	
01-Dec-99 10:16:00	969.88	2517.99	69759024.00						
01-Dec-99 10:17:00	970.83	2516.00	69692248.00						
01-Dec-99 10:18:00	971.79	2514.01	68754464.00						
01-Dec-99 10:19:00	972.74	2512.60	68754248.00						
01-Dec-99 10:20:00	973.70	2514.64	69018728.00						
01-Dec-99 10:21:00	974.59	2516.87	69066248.00						
01-Dec-99 10:22:00	974.88	2518.84	68678904.00			0.07	26.23		10.75
01-Dec-99 10:23:00	975.03	2520.81	67902600.00			0.07	25.43		10.60
01-Dec-99 10:24:00	975.18	2522.78	68052400.00			0.07	24.46		10.47
01-Dec-99 10:25:00	975.15	2524.76	68814768.00			0.07	23.95		10.48
01-Dec-99 10:26:00	974.40	2526.73	68814200.00	1.77	842.60	0.07	23.80	14.22	10.50
01-Dec-99 10:27:00	973.57	2528.05	68412640.00	1.77	842.38	0.07	23.83	14.23	10.50
01-Dec-99 10:28:00	972.74	2526.73	68311664.00	1.77	839.23	0.07	23.70	14.19	10.43
01-Dec-99 10:29:00	971.91	2525.11	68527984.00	1.77	838.08	0.07	23.38	14.16	10.38
01-Dec-99 10:30:00	971.09	2523.49	69036264.00	1.77	839.37	0.07	22.89	14.17	10.43
01-Dec-99 10:31:00	970.80	2521.88	69036272.00			0.07	23.00		10.45
01-Dec-99 10:32:00	970.76	2520.26	68663216.00			0.07	23.07		10.48
01-Dec-99 10:33:00	970.73	2518.65	68595808.00			0.07	23.08		10.48
01-Dec-99 10:34:00	970.69	2516.50	68885488.00			0.07	23.00		10.49
01-Dec-99 10:35:00	971.10	2513.73	69066360.00			0.07	22.68		10.45
01-Dec-99 10:36:00	971.97	2515.17	69066872.00			0.06	22.65		10.51
01-Dec-99 10:37:00	972.84	2517.65	69065776.00			0.06	22.69		10.50
01-Dec-99 10:38:00	973.71	2520.13	69037832.00			0.06	22.50		10.49
01-Dec-99 10:39:00	974.57	2522.61	68876936.00			0.06	22.31		10.47
01-Dec-99 10:40:00	975.44	2524.76	68877488.00			0.06	22.18		10.48
01-Dec-99 10:41:00	976.31	2525.54	68490328.00			0.06	22.26		10.49
01-Dec-99 10:42:00	976.68	2526.17	68280384.00			0.06	22.00		10.47
01-Dec-99 10:43:00	975.64	2525.84	68290632.00			0.06	21.74		10.49
01-Dec-99 10:44:00	974.50	2522.72	68312312.00			0.06	21.44		10.51
01-Dec-99 10:45:00	973.36	2519.48	68323648.00			0.06	21.30		10.44
01-Dec-99 10:46:00	972.48	2518.11	68374624.00			0.06	21.67		10.48
01-Dec-99 10:47:00	973.15	2517.72	68381792.00			0.06	21.21		10.42
01-Dec-99 10:48:00	974.07	2519.65	68783016.00			0.06	20.65		10.38
01-Dec-99 10:49:00	974.78	2522.70	68784256.00			0.06	20.89		10.50
01-Dec-99 10:50:00	974.84	2525.76	69008368.00			0.06	20.97		10.47
01-Dec-99 10:51:00	974.86	2528.81	69099160.00			0.06	20.72		10.44
01-Dec-99 10:52:00	974.88	2529.90	69099424.00			0.06	20.57		10.45
01-Dec-99 10:53:00	974.68	2525.29	69099424.00			0.06	20.19		10.43
01-Dec-99 10:54:00	974.14	2520.32	69142520.00			0.06	19.86		10.50

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #2

Start >>> 12/1/99 8:35
 Stop >>> 12/1/99 11:11
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 10:55:00	973.61	2515.46	69539352.00			0.06	19.84		10.43
01-Dec-99 10:56:00	973.26	2514.43	69539912.00	1.78	845.60	0.06	19.74	14.21	10.44
01-Dec-99 10:57:00	974.07	2515.25	69037216.00	1.78	844.60	0.06	19.39	14.17	10.43
01-Dec-99 10:58:00	975.07	2516.07	68911512.00	1.78	845.19	0.06	19.19	14.19	10.41
01-Dec-99 10:59:00	976.06	2516.89	69247136.00	1.78	845.54	0.05	18.63	14.19	10.38
01-Dec-99 11:00:00	977.06	2517.71	69443440.00	1.78	845.97	0.05	18.04	14.17	10.46
01-Dec-99 11:01:00	977.97	2518.53	69050056.00			0.05	17.16		10.44
01-Dec-99 11:02:00	978.50	2519.29	68597104.00			0.05	16.74		10.48
01-Dec-99 11:03:00	978.99	2519.72	68622616.00			0.05	16.50		10.46
01-Dec-99 11:04:00	979.48	2520.10	69379848.00			0.05	16.28		10.47
01-Dec-99 11:05:00	979.97	2520.47	69380312.00			0.05	15.94		10.49
01-Dec-99 11:06:00	979.60	2520.84	69157032.00			0.04	15.23		10.40
01-Dec-99 11:07:00	978.37	2520.57	69100224.00			0.04	14.56		10.42
01-Dec-99 11:08:00	977.14	2517.62	69250992.00			0.04	13.52		10.39
01-Dec-99 11:09:00	976.36	2514.39	69317056.00			0.04	12.92		10.45
01-Dec-99 11:10:00	978.29	2511.25	69106488.00			0.04	12.48		10.42
01-Dec-99 11:11:00	980.60	2510.97	68471152.00	1.77	852.86	0.03	11.99	14.38	10.52
Average	975.88	2519.66	68510632.66	1.77	840.90	0.06	19.75	14.21	10.54

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 12:25:00	32.66	32.72	32.73	32.57	32.60	43.35	45.93	5.30
01-Dec-99 12:26:00	32.70	32.75	32.76	32.58	32.61	43.28	45.21	5.30
01-Dec-99 12:27:00	32.72	32.77	32.78	32.61	32.64	43.03	44.09	5.30
01-Dec-99 12:28:00	32.74	32.79	32.80	32.64	32.67	43.28	44.95	5.30
01-Dec-99 12:29:00	32.76	32.81	32.82	32.67	32.70	43.23	45.73	5.30
01-Dec-99 12:30:00	32.78	32.83	32.84	32.70	32.73	43.29	46.66	5.30
01-Dec-99 12:31:00	32.80	32.85	32.86	32.73	32.76	42.92	45.65	5.30
01-Dec-99 12:32:00	32.81	32.86	32.87	32.75	32.78	43.52	44.33	5.30
01-Dec-99 12:33:00	32.83	32.88	32.89	32.76	32.80	43.68	43.47	5.30
01-Dec-99 12:34:00	32.84	32.89	32.90	32.78	32.81	43.27	44.56	5.30
01-Dec-99 12:35:00	32.85	32.90	32.92	32.79	32.82	43.45	45.93	5.30
01-Dec-99 12:36:00	32.87	32.92	32.93	32.80	32.84	43.36	45.50	5.30
01-Dec-99 12:37:00	32.64	32.69	32.70	32.63	32.66	43.36	44.84	5.30
01-Dec-99 12:38:00	32.57	32.63	32.59	32.53	32.56	43.15	43.45	5.30
01-Dec-99 12:39:00	32.64	32.70	32.68	32.54	32.57	43.01	43.32	5.30
01-Dec-99 12:40:00	32.69	32.75	32.72	32.53	32.56	43.35	44.49	5.30
01-Dec-99 12:41:00	32.73	32.81	32.74	32.53	32.56	43.62	44.96	5.30
01-Dec-99 12:42:00	32.78	32.83	32.75	32.53	32.56	43.61	45.23	5.30
01-Dec-99 12:43:00	32.82	32.81	32.77	32.53	32.56	43.54	45.18	5.30
01-Dec-99 12:44:00	32.84	32.78	32.79	32.57	32.61	43.46	43.80	5.30
01-Dec-99 12:45:00	32.80	32.77	32.77	32.63	32.66	43.82	42.22	5.30
01-Dec-99 12:46:00	32.76	32.75	32.76	32.68	32.71	43.58	43.48	5.30
01-Dec-99 12:47:00	32.71	32.73	32.74	32.74	32.77	43.79	44.57	5.30
01-Dec-99 12:48:00	32.67	32.71	32.72	32.78	32.81	43.64	44.40	5.30
01-Dec-99 12:49:00	32.65	32.70	32.71	32.76	32.79	43.85	43.77	5.30
01-Dec-99 12:50:00	32.66	32.71	32.72	32.73	32.76	43.31	43.02	5.30
01-Dec-99 12:51:00	32.67	32.73	32.74	32.71	32.74	43.67	42.88	5.30
01-Dec-99 12:52:00	32.69	32.74	32.75	32.68	32.71	43.48	43.07	5.30
01-Dec-99 12:53:00	32.70	32.75	32.76	32.72	32.75	44.08	43.96	5.30
01-Dec-99 12:54:00	32.97	33.03	33.04	33.00	33.03	44.00	44.22	5.30
01-Dec-99 12:55:00	33.05	33.10	33.13	33.18	33.21	43.74	44.73	5.30
01-Dec-99 12:56:00	32.98	33.03	33.11	33.10	33.13	44.09	44.50	5.30
01-Dec-99 12:57:00	32.92	32.97	33.11	33.01	33.04	43.85	44.39	5.30
01-Dec-99 12:58:00	32.86	32.91	33.10	32.91	32.94	43.69	44.72	5.30
01-Dec-99 12:59:00	32.81	32.86	33.10	32.81	32.85	44.33	44.50	5.30
01-Dec-99 13:00:00	32.75	32.80	33.10	32.72	32.75	44.49	44.63	5.30
01-Dec-99 13:01:00	32.77	32.82	32.87	32.72	32.75	44.31	45.38	5.30
01-Dec-99 13:02:00	32.68	32.73	32.63	32.61	32.65	44.30	45.72	5.30
01-Dec-99 13:03:00	32.68	32.73	32.70	32.62	32.65	44.32	45.34	5.30
01-Dec-99 13:04:00	32.74	32.79	32.77	32.68	32.71	44.07	45.80	5.30
01-Dec-99 13:05:00	32.79	32.84	32.84	32.73	32.76	43.69	45.94	5.30
01-Dec-99 13:06:00	32.79	32.84	32.85	32.73	32.76	43.92	46.57	5.30
01-Dec-99 13:07:00	32.72	32.77	32.78	32.66	32.69	44.15	46.86	5.30
01-Dec-99 13:08:00	32.68	32.73	32.74	32.62	32.65	43.93	47.52	5.30
01-Dec-99 13:09:00	32.68	32.73	32.74	32.62	32.65	43.84	47.04	5.30
01-Dec-99 13:10:00	32.77	32.83	32.84	32.71	32.74	44.37	47.08	5.30
01-Dec-99 13:11:00	32.89	32.94	32.95	32.82	32.86	43.81	47.49	5.30
01-Dec-99 13:12:00	32.98	33.03	33.04	32.91	32.95	44.23	47.36	5.30
01-Dec-99 13:13:00	32.99	33.04	33.05	32.84	32.93	44.33	46.56	5.30
01-Dec-99 13:14:00	32.99	33.04	33.05	32.74	32.89	44.37	46.52	5.30
01-Dec-99 13:15:00	32.99	33.04	33.05	32.64	32.86	44.27	46.61	5.30
01-Dec-99 13:16:00	32.96	33.01	33.02	32.54	32.82	44.45	46.99	5.30
01-Dec-99 13:17:00	32.82	32.88	32.89	32.53	32.78	43.66	47.56	5.30
01-Dec-99 13:18:00	32.77	32.82	32.83	32.57	32.75	43.88	47.68	5.30
01-Dec-99 13:19:00	32.71	32.76	32.77	32.60	32.71	44.11	48.44	5.30
01-Dec-99 13:20:00	32.66	32.71	32.72	32.63	32.67	44.47	48.44	5.30
01-Dec-99 13:21:00	32.60	32.65	32.66	32.67	32.65	44.28	49.08	5.30
01-Dec-99 13:22:00	32.63	32.68	32.69	32.70	32.73	44.74	48.70	5.30
01-Dec-99 13:23:00	32.81	32.86	32.87	32.73	32.79	43.92	48.29	5.30
01-Dec-99 13:24:00	32.81	32.86	32.87	32.72	32.72	44.20	48.95	5.30
01-Dec-99 13:25:00	32.81	32.86	32.87	32.63	32.63	44.55	28.91	5.30

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 13:26:00	32.81	32.86	32.87	32.53	32.55	44.00	25.24	5.30
01-Dec-99 13:27:00	32.81	32.86	32.86	32.58	32.61	43.76	25.33	5.30
01-Dec-99 13:28:00	32.82	32.87	32.82	32.71	32.74	44.36	25.68	5.30
01-Dec-99 13:29:00	32.84	32.89	32.76	32.69	32.72	43.94	26.55	5.30
01-Dec-99 13:30:00	32.86	32.91	32.70	32.60	32.64	44.00	26.63	5.30
01-Dec-99 13:31:00	32.87	32.92	32.66	32.54	32.57	43.88	27.18	5.30
01-Dec-99 13:32:00	32.88	32.93	32.75	32.65	32.68	44.05	29.50	5.30
01-Dec-99 13:33:00	32.79	32.84	32.88	32.67	32.70	44.10	32.81	5.30
01-Dec-99 13:34:00	32.71	32.76	32.97	32.65	32.68	43.59	33.25	5.30
01-Dec-99 13:35:00	32.78	32.83	32.99	32.72	32.75	43.88	33.65	5.30
01-Dec-99 13:36:00	32.86	32.91	33.01	32.80	32.83	44.32	34.07	5.30
01-Dec-99 13:37:00	32.94	32.99	33.03	32.88	32.91	43.66	34.65	5.30
01-Dec-99 13:38:00	32.94	33.00	33.03	32.88	32.91	43.68	35.23	5.30
01-Dec-99 13:39:00	32.87	32.93	32.95	32.81	32.84	44.00	35.70	5.30
01-Dec-99 13:40:00	32.80	32.86	32.88	32.74	32.77	44.15	36.60	5.30
01-Dec-99 13:41:00	32.75	32.80	32.81	32.69	32.72	44.59	37.09	5.30
01-Dec-99 13:42:00	32.76	32.82	32.83	32.70	32.73	43.87	37.67	5.30
01-Dec-99 13:43:00	32.73	32.78	32.79	32.66	32.69	43.38	38.45	5.30
01-Dec-99 13:44:00	32.62	32.67	32.84	32.57	32.59	44.04	39.67	5.30
01-Dec-99 13:45:00	32.62	32.67	32.78	32.58	32.60	44.08	39.40	5.30
01-Dec-99 13:46:00	32.62	32.68	32.76	32.61	32.61	44.37	40.16	5.30
01-Dec-99 13:47:00	32.63	32.68	32.75	32.64	32.63	44.71	39.79	5.30
01-Dec-99 13:48:00	32.64	32.69	32.73	32.66	32.64	44.47	40.74	5.30
01-Dec-99 13:49:00	32.64	32.69	32.71	32.69	32.66	43.91	41.70	5.30
01-Dec-99 13:50:00	32.67	32.73	32.74	32.72	32.67	43.52	41.94	5.30
01-Dec-99 13:51:00	32.73	32.78	32.79	32.74	32.68	43.87	42.42	5.30
01-Dec-99 13:52:00	32.78	32.83	32.85	32.77	32.70	44.69	42.70	5.30
01-Dec-99 13:53:00	32.83	32.88	32.90	32.78	32.72	44.80	42.78	5.30
01-Dec-99 13:54:00	32.83	32.88	32.91	32.79	32.75	43.83	43.38	5.30
01-Dec-99 13:55:00	32.81	32.86	32.92	32.79	32.77	44.29	43.86	5.30
01-Dec-99 13:56:00	32.80	32.85	32.93	32.80	32.80	44.58	44.12	5.30
01-Dec-99 13:57:00	32.78	32.83	32.93	32.81	32.82	44.57	44.05	5.30
01-Dec-99 13:58:00	32.76	32.81	32.94	32.82	32.85	44.95	43.70	5.30
01-Dec-99 13:59:00	32.76	32.82	32.94	32.82	32.85	44.53	45.23	5.30
01-Dec-99 14:00:00	32.80	32.85	32.94	32.82	32.85	44.24	46.49	5.30
01-Dec-99 14:01:00	32.84	32.89	32.93	32.81	32.84	44.62	46.13	5.30
01-Dec-99 14:02:00	32.84	32.89	32.90	32.77	32.81	44.66	46.56	5.30
01-Dec-99 14:03:00	32.73	32.78	32.79	32.67	32.70	44.41	61.57	5.30
01-Dec-99 14:04:00	32.62	32.67	32.68	32.56	32.59	45.05	62.94	5.30
01-Dec-99 14:05:00	32.52	32.57	32.58	32.46	32.49	44.72	63.64	5.30
01-Dec-99 14:06:00	32.68	32.73	32.74	32.62	32.65	44.80	62.74	5.30
01-Dec-99 14:07:00	32.95	33.01	33.02	32.89	32.92	44.86	62.48	5.30
01-Dec-99 14:08:00	32.75	32.84	32.85	32.73	32.76	45.12	62.00	5.30
01-Dec-99 14:09:00	32.75	32.98	32.99	32.87	32.90	45.33	62.11	5.30
01-Dec-99 14:10:00	32.79	33.05	33.06	32.94	32.97	45.41	61.61	5.30
01-Dec-99 14:11:00	32.83	33.03	33.04	32.92	32.95	44.78	62.15	5.30
01-Dec-99 14:12:00	32.87	33.01	33.02	32.90	32.93	45.27	61.05	5.30
01-Dec-99 14:13:00	32.91	32.99	33.00	32.88	32.91	44.86	60.55	5.30
01-Dec-99 14:14:00	32.89	32.94	32.95	32.83	32.86	44.99	61.04	5.30
01-Dec-99 14:15:00	32.80	32.85	32.86	32.74	32.77	44.88	61.19	5.30
01-Dec-99 14:16:00	32.70	32.75	32.76	32.64	32.67	45.18	60.72	5.30
01-Dec-99 14:17:00	32.61	32.66	32.67	32.55	32.58	45.69	60.61	5.30
01-Dec-99 14:18:00	32.57	32.62	32.63	32.51	32.54	45.23	60.25	5.30
01-Dec-99 14:19:00	32.58	32.63	32.64	32.52	32.55	44.78	59.93	5.29
01-Dec-99 14:20:00	32.59	32.64	32.65	32.53	32.56	45.42	60.02	5.29
01-Dec-99 14:21:00	32.57	32.63	32.64	32.53	32.58	45.56	59.46	5.29
01-Dec-99 14:22:00	32.56	32.61	32.63	32.52	32.60	45.40	59.31	5.29
01-Dec-99 14:23:00	32.59	32.64	32.65	32.52	32.63	45.47	59.55	5.29
01-Dec-99 14:24:00	32.62	32.67	32.67	32.55	32.65	45.23	59.48	5.29
01-Dec-99 14:25:00	32.66	32.71	32.69	32.57	32.66	45.70	58.38	5.29
01-Dec-99 14:26:00	32.69	32.74	32.72	32.59	32.67	45.45	58.45	5.29

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
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01-Dec-99 14:27:00	32.72	32.77	32.74	32.62	32.68	45.60	58.00	5.29
01-Dec-99 14:28:00	32.74	32.79	32.77	32.64	32.69	45.57	58.48	5.29
01-Dec-99 14:29:00	32.76	32.81	32.79	32.67	32.70	45.03	58.45	5.29
01-Dec-99 14:30:00	32.77	32.83	32.82	32.69	32.72	45.62	58.12	5.29
01-Dec-99 14:31:00	32.79	32.84	32.84	32.72	32.75	45.30	57.54	5.29
01-Dec-99 14:32:00	32.81	32.86	32.87	32.74	32.78	45.95	57.82	5.29
01-Dec-99 14:33:00	32.83	32.88	32.89	32.77	32.80	45.19	56.96	5.29
01-Dec-99 14:34:00	32.85	32.90	32.91	32.79	32.82	45.26	56.91	5.29
01-Dec-99 14:35:00	32.87	32.92	32.93	32.81	32.84	45.88	56.79	5.29
01-Dec-99 14:36:00	32.82	32.87	32.88	32.76	32.79	45.46	55.73	5.29
01-Dec-99 14:37:00	32.74	32.78	32.79	32.67	32.70	45.23	55.73	5.29
01-Dec-99 14:38:00	32.66	32.71	32.71	32.59	32.62	45.05	54.98	5.29
01-Dec-99 14:39:00	32.67	32.72	32.72	32.60	32.63	45.26	54.37	5.29
01-Dec-99 14:40:00	32.70	32.75	32.75	32.63	32.66	45.85	54.52	5.29
01-Dec-99 14:41:00	32.72	32.77	32.78	32.65	32.68	45.82	54.84	5.29
01-Dec-99 14:42:00	32.74	32.80	32.80	32.68	32.71	45.32	54.79	5.29

Average 32.76 32.82 32.83 32.70 32.73 44.33 47.22 5.30

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Reagent pH C-Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel Deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow klbs/hr
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01-Dec-99 12:25:00	5.40	297.49	280.10	121.81	116.42	2.59	3.39	462.22	3321.96
01-Dec-99 12:26:00	5.40	297.48	280.10	121.81	116.51	2.59	3.49	461.67	3321.58
01-Dec-99 12:27:00	5.40	297.48	280.10	121.81	116.21	2.59	3.47	461.15	3321.20
01-Dec-99 12:28:00	5.40	297.47	280.11	121.80	115.82	2.59	3.56	460.85	3320.82
01-Dec-99 12:29:00	5.40	297.47	280.11	121.80	115.44	2.60	3.65	460.59	3320.44
01-Dec-99 12:30:00	5.40	297.47	280.11	121.80	115.20	2.60	3.46	460.34	3320.06
01-Dec-99 12:31:00	5.40	297.46	280.11	121.80	115.26	2.60	3.57	460.27	3319.68
01-Dec-99 12:32:00	5.40	297.46	280.11	121.80	115.33	2.60	3.50	460.25	3319.30
01-Dec-99 12:33:00	5.40	297.46	280.11	121.80	115.40	2.60	3.40	460.81	3318.93
01-Dec-99 12:34:00	5.40	297.45	280.11	121.80	115.47	2.60	3.46	460.52	3318.55
01-Dec-99 12:35:00	5.40	297.45	280.12	121.80	115.54	2.60	3.49	460.52	3318.17
01-Dec-99 12:36:00	5.40	297.45	280.12	121.79	115.61	2.60	3.50	460.56	3317.79
01-Dec-99 12:37:00	5.40	297.44	280.12	121.79	115.68	2.61	3.45	460.61	3317.41
01-Dec-99 12:38:00	5.40	297.44	280.12	121.79	115.75	2.61	3.40	460.97	3317.03
01-Dec-99 12:39:00	5.40	297.44	280.12	121.79	115.82	2.61	3.37	461.22	3316.65
01-Dec-99 12:40:00	5.40	297.43	280.12	121.79	115.90	2.61	3.44	461.18	3316.27
01-Dec-99 12:41:00	5.40	297.43	280.12	121.79	115.97	2.61	3.50	461.11	3315.89
01-Dec-99 12:42:00	5.40	297.43	280.13	121.79	116.04	2.61	3.52	461.01	3315.52
01-Dec-99 12:43:00	5.40	297.42	280.13	121.79	116.11	2.61	3.41	460.92	3315.14
01-Dec-99 12:44:00	5.40	297.42	280.13	121.78	116.18	2.61	3.37	460.82	3314.76
01-Dec-99 12:45:00	5.40	297.41	280.13	121.78	116.25	2.61	3.39	460.73	3314.38
01-Dec-99 12:46:00	5.40	297.41	280.13	121.78	116.32	2.62	3.48	460.67	3314.00
01-Dec-99 12:47:00	5.40	297.41	280.13	121.78	116.39	2.62	3.33	460.67	3313.62
01-Dec-99 12:48:00	5.40	297.40	280.13	121.78	116.43	2.62	3.45	460.74	3313.24
01-Dec-99 12:49:00	5.40	297.40	280.13	121.78	116.45	2.62	3.49	461.13	3312.86
01-Dec-99 12:50:00	5.40	297.40	280.14	121.78	116.46	2.62	3.57	461.55	3312.48
01-Dec-99 12:51:00	5.40	297.39	280.14	121.78	116.47	2.62	3.40	461.97	3312.11
01-Dec-99 12:52:00	5.40	297.39	280.14	121.78	116.48	2.62	3.49	462.01	3311.73
01-Dec-99 12:53:00	5.40	297.39	280.14	121.77	116.49	2.62	3.38	461.26	3311.35
01-Dec-99 12:54:00	5.40	297.38	280.14	121.77	116.50	2.63	3.45	460.52	3310.97
01-Dec-99 12:55:00	5.40	297.38	280.14	121.77	116.52	2.63	3.50	460.15	3310.59
01-Dec-99 12:56:00	5.40	297.38	280.14	121.77	116.53	2.63	3.40	459.86	3310.21
01-Dec-99 12:57:00	5.40	297.37	280.15	121.77	116.54	2.63	3.39	459.92	3309.83
01-Dec-99 12:58:00	5.40	297.37	280.15	121.77	116.55	2.63	3.43	460.70	3309.45
01-Dec-99 12:59:00	5.40	297.37	280.15	121.77	116.56	2.63	3.49	461.11	3309.07
01-Dec-99 13:00:00	5.40	297.36	280.15	121.77	116.57	2.63	3.47	461.53	3308.78
01-Dec-99 13:01:00	5.40	297.36	280.15	121.76	116.59	2.63	3.50	461.95	3309.04
01-Dec-99 13:02:00	5.40	297.35	280.15	121.76	116.60	2.63	3.49	462.37	3309.38
01-Dec-99 13:03:00	5.40	297.35	280.15	121.76	116.61	2.64	3.45	462.79	3309.72
01-Dec-99 13:04:00	5.40	297.35	280.16	121.76	116.62	2.64	3.45	463.09	3310.06
01-Dec-99 13:05:00	5.40	297.34	280.16	121.76	116.63	2.64	3.45	463.13	3310.40
01-Dec-99 13:06:00	5.40	297.34	280.16	121.76	116.65	2.64	3.42	463.16	3310.74
01-Dec-99 13:07:00	5.40	297.34	280.16	121.76	116.66	2.64	3.44	463.30	3311.08
01-Dec-99 13:08:00	5.40	297.33	280.16	121.76	116.67	2.64	3.41	463.48	3311.42
01-Dec-99 13:09:00	5.40	297.33	280.16	121.76	116.68	2.64	3.39	463.67	3311.76
01-Dec-99 13:10:00	5.40	297.33	280.16	121.75	116.69	2.64	3.43	463.56	3312.10
01-Dec-99 13:11:00	5.40	297.32	280.16	121.75	116.70	2.65	3.45	463.25	3312.44
01-Dec-99 13:12:00	5.40	297.32	280.17	121.75	116.72	2.65	3.48	463.13	3312.78
01-Dec-99 13:13:00	5.40	297.32	280.17	121.75	116.73	2.65	3.29	463.07	3313.12
01-Dec-99 13:14:00	5.40	297.31	280.17	121.75	116.74	2.65	3.34	463.00	3313.46
01-Dec-99 13:15:00	5.40	297.31	280.17	121.75	116.75	2.65	3.59	462.94	3313.80
01-Dec-99 13:16:00	5.40	297.31	280.17	121.75	116.76	2.65	3.44	463.08	3314.14
01-Dec-99 13:17:00	5.40	297.30	280.17	121.75	116.77	2.65	3.50	463.49	3314.48
01-Dec-99 13:18:00	5.40	297.30	280.17	121.74	116.79	2.65	3.42	463.91	3314.82
01-Dec-99 13:19:00	5.40	297.29	280.18	121.74	116.80	2.65	3.45	464.23	3315.16
01-Dec-99 13:20:00	5.40	297.29	280.18	121.74	116.81	2.66	3.40	464.09	3315.50
01-Dec-99 13:21:00	5.40	297.29	280.18	121.74	116.82	2.66	3.62	463.90	3315.84
01-Dec-99 13:22:00	5.40	297.28	280.18	121.74	116.83	2.66	3.40	463.72	3316.18
01-Dec-99 13:23:00	5.40	297.28	280.18	121.74	116.84	2.66	3.47	463.53	3316.52
01-Dec-99 13:24:00	5.40	297.28	280.18	121.74	116.86	2.66	3.38	463.34	3316.86
01-Dec-99 13:25:00	5.40	297.27	280.18	121.74	116.87	2.66	3.42	463.19	3317.20

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel Deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kbs/hr
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01-Dec-99 13:26:00	5.40	297.27	280.19	121.74	116.88	2.66	3.43	463.04	3317.54
01-Dec-99 13:27:00	5.40	297.27	280.19	121.73	116.89	2.66	3.49	462.91	3317.88
01-Dec-99 13:28:00	5.40	297.26	280.19	121.73	116.90	2.67	3.44	462.98	3318.22
01-Dec-99 13:29:00	5.40	297.26	280.19	121.73	116.91	2.67	3.55	463.15	3318.57
01-Dec-99 13:30:00	5.40	297.26	280.19	121.73	116.93	2.67	3.42	463.32	3318.91
01-Dec-99 13:31:00	5.40	297.25	280.19	121.73	116.94	2.67	3.43	463.48	3319.25
01-Dec-99 13:32:00	5.40	297.25	280.19	121.73	116.95	2.67	3.66	463.64	3319.59
01-Dec-99 13:33:00	5.40	297.25	280.19	121.73	116.96	2.67	3.48	463.79	3319.93
01-Dec-99 13:34:00	5.40	297.24	280.20	121.73	116.97	2.67	3.60	463.95	3320.27
01-Dec-99 13:35:00	5.40	297.24	280.20	121.72	116.99	2.67	3.39	464.43	3320.61
01-Dec-99 13:36:00	5.40	297.23	280.20	121.72	117.00	2.67	3.44	464.44	3320.95
01-Dec-99 13:37:00	5.40	297.23	280.20	121.72	117.01	2.68	3.41	464.31	3321.29
01-Dec-99 13:38:00	5.40	297.23	280.20	121.72	117.02	2.68	3.47	463.54	3321.63
01-Dec-99 13:39:00	5.40	297.22	280.20	121.72	117.03	2.68	3.44	463.31	3321.97
01-Dec-99 13:40:00	5.40	297.22	280.20	121.72	117.04	2.68	3.54	463.32	3322.31
01-Dec-99 13:41:00	5.40	297.22	280.21	121.72	117.06	2.68	3.47	463.41	3322.65
01-Dec-99 13:42:00	5.40	297.21	280.21	121.72	117.07	2.68	3.42	463.30	3322.99
01-Dec-99 13:43:00	5.40	297.21	280.21	121.71	117.08	2.68	3.49	463.01	3323.33
01-Dec-99 13:44:00	5.40	297.21	280.21	121.71	117.09	2.68	3.46	463.04	3323.67
01-Dec-99 13:45:00	5.40	297.20	280.21	121.71	117.10	2.69	3.36	463.07	3324.01
01-Dec-99 13:46:00	5.40	297.20	280.21	121.71	117.11	2.69	3.41	462.53	3324.35
01-Dec-99 13:47:00	5.40	297.20	280.21	121.71	117.13	2.69	3.50	463.18	3324.69
01-Dec-99 13:48:00	5.40	297.19	280.22	121.71	117.14	2.69	3.45	463.21	3325.03
01-Dec-99 13:49:00	5.40	297.19	280.22	121.71	117.15	2.69	3.37	463.06	3325.37
01-Dec-99 13:50:00	5.40	297.18	280.22	121.71	117.16	2.69	3.46	462.90	3325.71
01-Dec-99 13:51:00	5.40	297.18	280.22	121.71	117.17	2.69	3.34	462.75	3326.05
01-Dec-99 13:52:00	5.40	297.18	280.22	121.70	117.18	2.69	3.38	462.60	3326.39
01-Dec-99 13:53:00	5.40	297.17	280.22	121.70	117.20	2.69	3.44	462.19	3326.73
01-Dec-99 13:54:00	5.40	297.17	280.22	121.70	117.21	2.70	3.47	461.98	3327.07
01-Dec-99 13:55:00	5.40	297.17	280.22	121.70	117.22	2.70	3.49	462.10	3327.41
01-Dec-99 13:56:00	5.40	297.16	280.23	121.70	117.23	2.70	3.52	462.22	3327.75
01-Dec-99 13:57:00	5.40	297.16	280.23	121.70	117.24	2.70	3.45	462.31	3328.10
01-Dec-99 13:58:00	5.40	297.16	280.23	121.70	117.25	2.70	3.39	462.23	3328.44
01-Dec-99 13:59:00	5.40	297.15	280.23	121.70	117.27	2.70	3.52	462.12	3328.78
01-Dec-99 14:00:00	5.40	297.15	280.23	121.69	117.28	2.70	3.47	461.96	3329.12
01-Dec-99 14:01:00	5.40	297.15	280.23	121.69	117.29	2.70	3.51	461.15	3329.46
01-Dec-99 14:02:00	5.40	297.14	280.23	121.69	117.30	2.71	3.50	461.38	3329.80
01-Dec-99 14:03:00	5.40	297.14	280.24	121.69	117.31	2.71	3.48	462.83	3330.14
01-Dec-99 14:04:00	5.40	297.14	280.24	121.69	117.33	2.71	3.33	464.02	3330.48
01-Dec-99 14:05:00	5.40	297.13	280.24	121.69	117.34	2.71	3.46	465.05	3330.84
01-Dec-99 14:06:00	5.40	297.13	280.24	121.69	117.35	2.71	3.49	464.71	3331.21
01-Dec-99 14:07:00	5.40	297.12	280.24	121.69	117.36	2.71	3.36	463.47	3331.58
01-Dec-99 14:08:00	5.40	297.12	280.24	121.69	117.37	2.71	3.49	462.90	3331.95
01-Dec-99 14:09:00	5.40	297.12	280.24	121.68	117.38	2.71	3.47	462.37	3332.31
01-Dec-99 14:10:00	5.40	297.11	280.24	121.68	117.40	2.71	3.46	461.72	3332.68
01-Dec-99 14:11:00	5.40	297.11	280.25	121.68	117.41	2.72	3.44	461.15	3333.05
01-Dec-99 14:12:00	5.40	297.11	280.25	121.68	117.42	2.72	3.29	461.29	3333.42
01-Dec-99 14:13:00	5.40	297.10	280.25	121.68	117.43	2.72	3.44	462.13	3333.79
01-Dec-99 14:14:00	5.40	297.10	280.25	121.68	117.44	2.72	3.51	462.95	3334.16
01-Dec-99 14:15:00	5.40	297.10	280.25	121.68	117.45	2.72	3.43	463.78	3334.52
01-Dec-99 14:16:00	5.40	297.09	280.25	121.68	117.47	2.72	3.41	464.61	3334.77
01-Dec-99 14:17:00	5.40	297.09	280.25	121.67	117.48	2.72	3.47	464.86	3334.64
01-Dec-99 14:18:00	5.40	297.09	280.26	121.67	117.49	2.72	3.39	464.52	3334.49
01-Dec-99 14:19:00	5.40	297.08	280.26	121.67	117.50	2.73	3.48	464.18	3334.34
01-Dec-99 14:20:00	5.40	297.08	280.26	121.67	117.51	2.73	3.48	463.84	3334.20
01-Dec-99 14:21:00	5.40	297.08	280.26	121.67	117.52	2.73	3.48	463.62	3334.05
01-Dec-99 14:22:00	5.40	297.07	280.26	121.67	117.54	2.73	3.30	463.57	3333.90
01-Dec-99 14:23:00	5.40	297.07	280.26	121.67	117.55	2.73	3.45	463.52	3333.75
01-Dec-99 14:24:00	5.40	297.06	280.26	121.67	117.56	2.73	3.45	463.23	3333.60
01-Dec-99 14:25:00	5.40	297.06	280.27	121.67	117.57	2.73	3.41	462.82	3333.45
01-Dec-99 14:26:00	5.40	297.06	280.27	121.66	117.58	2.73	3.54	462.41	3333.31

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel Deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kbs/hr
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01-Dec-99 14:27:00	5.40	297.05	280.27	121.66	117.59	2.73	3.52	462.02	3333.16
01-Dec-99 14:28:00	5.40	297.05	280.27	121.66	117.61	2.74	3.44	462.21	3333.01
01-Dec-99 14:29:00	5.40	297.05	280.27	121.66	117.62	2.74	3.44	462.68	3332.86
01-Dec-99 14:30:00	5.40	297.04	280.27	121.66	117.63	2.74	3.36	463.11	3332.71
01-Dec-99 14:31:00	5.40	297.04	280.27	121.66	117.64	2.74	3.36	462.88	3332.56
01-Dec-99 14:32:00	5.40	297.04	280.27	121.66	117.65	2.74	3.38	462.43	3332.42
01-Dec-99 14:33:00	5.40	297.03	280.28	121.66	117.67	2.74	3.44	461.99	3332.27
01-Dec-99 14:34:00	5.40	297.03	280.28	121.65	117.68	2.74	3.41	461.78	3332.12
01-Dec-99 14:35:00	5.40	297.03	280.28	121.65	117.69	2.74	3.38	461.74	3331.97
01-Dec-99 14:36:00	5.40	297.02	280.28	121.65	117.70	2.75	3.47	461.71	3331.82
01-Dec-99 14:37:00	5.40	297.02	280.28	121.65	117.71	2.75	3.40	462.23	3331.67
01-Dec-99 14:38:00	5.40	297.02	280.28	121.65	117.72	2.75	3.45	462.97	3331.53
01-Dec-99 14:39:00	5.40	297.01	280.28	121.65	117.74	2.75	3.36	463.06	3331.38
01-Dec-99 14:40:00	5.40	297.01	280.29	121.65	117.75	2.75	3.41	462.94	3331.23
01-Dec-99 14:41:00	5.40	297.00	280.29	121.65	117.76	2.75	3.38	462.73	3331.08
01-Dec-99 14:42:00	5.40	297.00	280.29	121.65	117.77	2.75	3.40	462.40	3330.93

Average 5.40 297.24 280.20 121.73 116.89 2.67 3.45 462.48 3322.20

Clover Power Station Mercury Test Operational Data Collection Logsheets

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 12:25:00	979.74	2520.08	69191560.00			0.07	25.03		10.51
01-Dec-99 12:26:00	978.94	2519.17	69101872.00	1.77	842.28	0.07	25.08	14.22	10.46
01-Dec-99 12:27:00	978.17	2518.43	69101088.00	1.77	849.48	0.07	25.11	14.31	10.48
01-Dec-99 12:28:00	978.15	2518.19	68962424.00	1.79	845.77	0.07	25.35	14.10	10.57
01-Dec-99 12:29:00	978.50	2517.99	68912608.00	1.78	835.11	0.07	24.35	14.00	10.42
01-Dec-99 12:30:00	978.84	2517.80	69181672.00	1.77	832.47	0.07	23.29	14.07	10.38
01-Dec-99 12:31:00	979.17	2517.60	69288072.00			0.07	24.19		10.50
01-Dec-99 12:32:00	979.17	2517.75	69046808.00			0.07	25.15		10.48
01-Dec-99 12:33:00	979.05	2518.14	68849696.00			0.07	25.04		10.45
01-Dec-99 12:34:00	978.93	2518.53	68871848.00			0.07	24.68		10.43
01-Dec-99 12:35:00	978.81	2518.92	69068952.00			0.07	23.92		10.49
01-Dec-99 12:36:00	978.69	2519.32	69069040.00			0.07	23.74		10.55
01-Dec-99 12:37:00	978.51	2519.83	69342136.00			0.07	24.23		10.51
01-Dec-99 12:38:00	978.20	2520.32	69478112.00			0.07	24.79		10.54
01-Dec-99 12:39:00	977.89	2520.66	69501920.00			0.07	24.56		10.47
01-Dec-99 12:40:00	977.86	2520.98	69541432.00			0.07	24.06		10.45
01-Dec-99 12:41:00	978.10	2520.86	69566528.00			0.07	23.77		10.54
01-Dec-99 12:42:00	978.35	2520.06	69635600.00			0.07	23.78		10.57
01-Dec-99 12:43:00	978.60	2519.27	69636512.00			0.07	24.39		10.55
01-Dec-99 12:44:00	978.93	2518.47	68963144.00			0.07	24.24		10.51
01-Dec-99 12:45:00	979.38	2517.64	68410608.00			0.07	23.84		10.51
01-Dec-99 12:46:00	979.83	2516.31	68424632.00			0.07	23.46		10.54
01-Dec-99 12:47:00	980.28	2516.01	68694016.00			0.07	22.99		10.56
01-Dec-99 12:48:00	980.79	2516.73	68692944.00			0.06	22.57		10.59
01-Dec-99 12:49:00	982.17	2519.10	68172976.00			0.07	23.84		10.68
01-Dec-99 12:50:00	983.62	2521.87	67998664.00			0.07	24.23		10.54
01-Dec-99 12:51:00	982.85	2524.62	68128392.00			0.07	23.44		10.47
01-Dec-99 12:52:00	981.54	2523.76	68409840.00			0.07	23.35		10.56
01-Dec-99 12:53:00	980.23	2520.43	68413192.00			0.07	23.60		10.53
01-Dec-99 12:54:00	978.92	2515.20	68629176.00			0.07	23.37		10.48
01-Dec-99 12:55:00	979.04	2507.67	68630312.00			0.07	22.97		10.56
01-Dec-99 12:56:00	982.09	2507.24	69246136.00	1.79	863.39	0.06	22.71	14.38	10.54
01-Dec-99 12:57:00	985.23	2509.28	69603968.00	1.80	866.08	0.06	22.80	14.41	10.58
01-Dec-99 12:58:00	988.32	2511.31	69604616.00	1.79	861.57	0.06	22.68	14.36	10.54
01-Dec-99 12:59:00	989.98	2513.35	69604528.00	1.78	859.54	0.06	22.18	14.42	10.48
01-Dec-99 13:00:00	990.95	2515.38	69548392.00	1.79	867.52	0.06	22.00	14.51	10.54
01-Dec-99 13:01:00	991.91	2517.42	69260128.00			0.06	22.00		10.61
01-Dec-99 13:02:00	992.80	2518.77	69259784.00			0.06	21.72		10.56
01-Dec-99 13:03:00	992.52	2519.45	68841360.00			0.06	21.30		10.59
01-Dec-99 13:04:00	991.84	2520.10	68631240.00			0.06	21.01		10.57
01-Dec-99 13:05:00	991.15	2520.26	68566712.00			0.06	20.69		10.55
01-Dec-99 13:06:00	990.47	2520.26	68504744.00			0.06	20.76		10.60
01-Dec-99 13:07:00	989.79	2520.26	68541768.00			0.06	20.74		10.56
01-Dec-99 13:08:00	989.27	2520.26	68693904.00			0.06	20.48		10.57
01-Dec-99 13:09:00	989.46	2520.26	68693176.00			0.06	20.46		10.66
01-Dec-99 13:10:00	989.70	2520.25	69026400.00			0.06	20.25		10.59
01-Dec-99 13:11:00	989.26	2519.16	69101736.00	1.78	858.17	0.06	19.68	14.43	10.53
01-Dec-99 13:12:00	988.50	2517.33	69138816.00	1.78	861.09	0.05	19.35	14.45	10.55
01-Dec-99 13:13:00	987.73	2515.50	69164824.00	1.77	859.01	0.05	19.14	14.49	10.54
01-Dec-99 13:14:00	987.35	2514.42	69203024.00	1.78	867.79	0.05	18.74	14.56	10.55
01-Dec-99 13:15:00	988.57	2516.43	69260472.00	1.79	868.38			14.51	
01-Dec-99 13:16:00	989.97	2518.77	69266456.00						
01-Dec-99 13:17:00	991.36	2521.12	69290144.00						
01-Dec-99 13:18:00	992.17	2523.32	69290408.00						
01-Dec-99 13:19:00	991.32	2523.33	69175512.00						
01-Dec-99 13:20:00	990.37	2522.59	69166784.00						
01-Dec-99 13:21:00	989.41	2521.85	68881632.00						
01-Dec-99 13:22:00	988.74	2521.10	68662920.00			0.08	28.39		10.99
01-Dec-99 13:23:00	988.90	2520.36	68593536.00			0.08	27.33		10.77
01-Dec-99 13:24:00	989.11	2519.62	68316232.00			0.07	26.67		10.64
01-Dec-99 13:25:00	989.32	2518.88	68362288.00			0.07	26.48		10.64

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press. psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 13:26:00	989.53	2518.17	68599272.00	1.78	857.45	0.07	25.67	14.41	10.56
01-Dec-99 13:27:00	989.73	2517.52	68600584.00	1.78	857.72	0.07	25.41	14.38	10.55
01-Dec-99 13:28:00	989.94	2516.86	68910152.00	1.78	859.30	0.07	25.00	14.43	10.59
01-Dec-99 13:29:00	990.15	2516.21	69289880.00	1.78	863.07	0.07	25.47	14.45	10.66
01-Dec-99 13:30:00	990.36	2516.04	69167048.00	1.78	854.68	0.07	25.33	14.34	10.57
01-Dec-99 13:31:00	990.58	2517.26	68473664.00			0.07	25.34		10.60
01-Dec-99 13:32:00	990.93	2518.56	68474504.00			0.07	25.80		10.64
01-Dec-99 13:33:00	991.28	2519.87	68553984.00			0.07	25.37		10.59
01-Dec-99 13:34:00	991.11	2521.18	68568856.00			0.07	25.28		10.63
01-Dec-99 13:35:00	990.80	2522.47	68501368.00			0.07	25.28		10.66
01-Dec-99 13:36:00	990.35	2522.32	68379088.00			0.07	25.47		10.57
01-Dec-99 13:37:00	988.60	2521.18	68387016.00			0.07	25.52		10.58
01-Dec-99 13:38:00	986.53	2520.11	68537520.00			0.07	25.28		10.57
01-Dec-99 13:39:00	984.51	2519.41	68537984.00			0.07	25.03		10.51
01-Dec-99 13:40:00	984.14	2519.35	68365280.00			0.07	25.49		10.58
01-Dec-99 13:41:00	984.57	2519.35	68284984.00			0.07	25.52		10.53
01-Dec-99 13:42:00	984.99	2519.35	68852224.00			0.07	25.13		10.54
01-Dec-99 13:43:00	985.42	2519.35	69385192.00			0.07	25.23		10.62
01-Dec-99 13:44:00	985.84	2519.69	69412424.00			0.07	25.34		10.55
01-Dec-99 13:45:00	986.24	2520.93	69794144.00			0.07	24.77		10.56
01-Dec-99 13:46:00	986.64	2521.18	69794656.00			0.07	23.48		9.74
01-Dec-99 13:47:00	987.03	2521.18	70058152.00			0.07	20.36		8.74
01-Dec-99 13:48:00	987.43	2521.18	70112144.00			0.07	22.84		10.17
01-Dec-99 13:49:00	987.62	2521.17	69466616.00			0.07	23.68		10.43
01-Dec-99 13:50:00	987.39	2520.39	68727976.00			0.07	23.57		10.45
01-Dec-99 13:51:00	987.16	2519.09	68731232.00			0.07	23.32		10.54
01-Dec-99 13:52:00	987.23	2517.78	68758688.00			0.07	23.31		10.55
01-Dec-99 13:53:00	987.44	2516.47	68757960.00			0.07	23.09		10.56
01-Dec-99 13:54:00	987.65	2515.77	68677536.00			0.07	22.90		10.52
01-Dec-99 13:55:00	987.96	2515.96	68664848.00			0.06	22.79		10.59
01-Dec-99 13:56:00	988.57	2516.16	69024792.00	1.79	870.52	0.06	22.77	14.54	10.62
01-Dec-99 13:57:00	989.01	2516.36	69135360.00	1.79	868.15	0.06	22.41	14.53	10.55
01-Dec-99 13:58:00	989.10	2516.46	69300280.00	1.79	872.37	0.06	22.51	14.52	10.63
01-Dec-99 13:59:00	989.18	2514.88	69794088.00	1.79	866.77	0.06	22.29	14.46	10.55
01-Dec-99 14:00:00	989.26	2512.72	69793576.00	1.77	863.25	0.06	21.88	14.53	10.55
01-Dec-99 14:01:00	989.33	2510.57	69793440.00			0.06	21.78		10.51
01-Dec-99 14:02:00	989.46	2511.95	69794456.00			0.06	21.54		10.51
01-Dec-99 14:03:00	991.18	2518.49	69750736.00			0.06	21.84		10.70
01-Dec-99 14:04:00	993.45	2525.07	69733408.00			0.06	21.79		10.64
01-Dec-99 14:05:00	992.03	2528.81	69246096.00			0.06	21.47		10.53
01-Dec-99 14:06:00	989.34	2524.31	68601056.00			0.06	20.77		10.53
01-Dec-99 14:07:00	987.29	2519.29	68216352.00			0.06	20.21		10.47
01-Dec-99 14:08:00	986.54	2514.89	67592632.00			0.06	19.87		10.61
01-Dec-99 14:09:00	985.83	2513.02	67592528.00			0.06	19.99		10.55
01-Dec-99 14:10:00	985.23	2511.61	66941732.00			0.06	19.74		10.55
01-Dec-99 14:11:00	986.26	2513.13	66868536.00	1.77	862.62	0.05	19.41	14.53	10.56
01-Dec-99 14:12:00	987.87	2515.67	66738328.00	1.79	870.24	0.05	19.14	14.53	10.62
01-Dec-99 14:13:00	989.46	2518.20	66587960.00	1.79	863.05	0.05	18.66	14.37	10.59
01-Dec-99 14:14:00	990.64	2520.73	66793352.00	1.78	858.82	0.05	18.04	14.45	10.54
01-Dec-99 14:15:00	991.62	2523.28	67276656.00	1.78	869.70			14.57	
01-Dec-99 14:16:00	992.60	2525.89	67277504.00						
01-Dec-99 14:17:00	992.23	2527.68	67784664.00						
01-Dec-99 14:18:00	989.07	2524.50	67873408.00						
01-Dec-99 14:19:00	985.83	2520.49	68436856.00						
01-Dec-99 14:20:00	983.54	2516.89	68788344.00						
01-Dec-99 14:21:00	985.16	2519.68	68868320.00						
01-Dec-99 14:22:00	987.21	2524.64	69042440.00			0.08	28.59		11.01
01-Dec-99 14:23:00	988.12	2524.95	69037232.00			0.08	27.43		10.67
01-Dec-99 14:24:00	986.72	2522.08	68697304.00			0.07	25.92		10.50
01-Dec-99 14:25:00	985.27	2519.20	68696824.00			0.07	25.08		10.54
01-Dec-99 14:26:00	985.24	2516.33	68738368.00	1.78	862.23	0.07	24.91	14.50	10.61

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #3

Start >>> 12/1/99 12:25
 Stop >>> 12/1/99 14:42
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 14:27:00	986.20	2513.46	68760336.00	1.78	861.75	0.07	24.88	14.50	10.56
01-Dec-99 14:28:00	987.13	2512.60	68755680.00	1.77	864.77	0.07	25.13	14.56	10.60
01-Dec-99 14:29:00	987.78	2513.74	68729176.00	1.78	860.65	0.07	25.02	14.45	10.58
01-Dec-99 14:30:00	988.32	2514.88	68729912.00	1.78	860.27	0.07	24.81	14.47	10.53
01-Dec-99 14:31:00	988.87	2516.03	68939200.00			0.07	24.82		10.58
01-Dec-99 14:32:00	989.22	2515.99	68946624.00			0.07	24.46		10.55
01-Dec-99 14:33:00	989.18	2514.77	69039232.00			0.07	24.02		10.53
01-Dec-99 14:34:00	989.12	2513.55	69072512.00			0.07	23.78		10.59
01-Dec-99 14:35:00	989.07	2512.33	69103296.00			0.07	23.97		10.56
01-Dec-99 14:36:00	989.01	2511.78	69199520.00			0.07	23.63		10.48
01-Dec-99 14:37:00	989.08	2515.24	69200512.00			0.07	23.94		10.54
01-Dec-99 14:38:00	989.87	2519.38	69419416.00			0.07	23.92		10.55
01-Dec-99 14:39:00	990.33	2523.01	69419976.00			0.07	23.35		10.48
01-Dec-99 14:40:00	989.49	2521.99	69134112.00			0.07	23.36		10.57
01-Dec-99 14:41:00	988.56	2519.83	69011392.00			0.07	23.17		10.55
01-Dec-99 14:42:00	987.64	2517.68	68880864.00			0.07	23.10		10.50
Average	986.58	2518.47	68843483.91	1.78	860.14	0.07	23.41	14.42	10.54

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 15:46:00	32.42	32.47	32.63	32.51	32.54	40.00	41.38	5.29
01-Dec-99 15:47:00	32.40	32.45	32.58	32.52	32.55	39.31	41.09	5.29
01-Dec-99 15:48:00	32.39	32.44	32.53	32.51	32.54	39.87	41.29	5.29
01-Dec-99 15:49:00	32.36	32.41	32.47	32.43	32.46	39.33	41.05	5.29
01-Dec-99 15:50:00	32.33	32.38	32.42	32.35	32.38	39.20	40.69	5.29
01-Dec-99 15:51:00	32.30	32.35	32.37	32.26	32.29	39.95	40.93	5.29
01-Dec-99 15:52:00	32.31	32.36	32.38	32.30	32.32	40.06	40.60	5.29
01-Dec-99 15:53:00	32.36	32.41	32.46	32.44	32.47	39.77	40.88	5.29
01-Dec-99 15:54:00	32.41	32.46	32.53	32.58	32.61	40.61	40.89	5.29
01-Dec-99 15:55:00	32.47	32.52	32.61	32.73	32.76	40.75	40.81	5.29
01-Dec-99 15:56:00	32.51	32.56	32.63	32.81	32.84	40.30	40.68	5.29
01-Dec-99 15:57:00	32.54	32.59	32.51	32.79	32.82	40.20	40.34	5.29
01-Dec-99 15:58:00	32.52	32.57	32.51	32.76	32.79	40.16	40.42	5.29
01-Dec-99 15:59:00	32.61	32.66	32.67	32.41	32.44	40.60	40.45	5.29
01-Dec-99 16:00:00	32.62	32.67	32.68	32.36	32.39	40.49	40.44	5.29
01-Dec-99 16:01:00	32.57	32.62	32.63	32.35	32.38	40.49	39.65	5.29
01-Dec-99 16:02:00	32.62	32.67	32.68	32.40	32.43	40.59	39.34	5.29
01-Dec-99 16:03:00	32.51	32.56	32.57	32.45	32.48	40.21	39.91	5.29
01-Dec-99 16:04:00	32.52	32.57	32.59	32.51	32.54	40.99	39.77	5.29
01-Dec-99 16:05:00	32.56	32.61	32.62	32.58	32.61	40.61	39.99	5.29
01-Dec-99 16:06:00	32.60	32.65	32.66	32.66	32.69	40.48	39.89	5.29
01-Dec-99 16:07:00	32.61	32.66	32.67	32.75	32.78	40.05	39.51	5.29
01-Dec-99 16:08:00	32.63	32.68	32.69	32.82	32.85	41.06	39.80	5.29
01-Dec-99 16:09:00	32.64	32.70	32.71	32.81	32.84	40.37	39.47	5.29
01-Dec-99 16:10:00	32.62	32.67	32.68	32.77	32.80	40.61	39.60	5.29
01-Dec-99 16:11:00	32.53	32.58	32.59	32.74	32.77	40.64	39.18	5.29
01-Dec-99 16:12:00	32.52	32.57	32.60	32.70	32.73	40.44	39.34	5.29
01-Dec-99 16:13:00	32.40	32.45	32.50	32.67	32.70	40.36	38.87	5.29
01-Dec-99 16:14:00	32.31	32.36	32.39	32.65	32.68	40.35	39.13	5.29
01-Dec-99 16:15:00	32.23	32.28	32.29	32.63	32.66	40.47	39.45	5.29
01-Dec-99 16:16:00	32.25	32.30	32.31	32.60	32.63	40.61	39.83	5.29
01-Dec-99 16:17:00	32.36	32.41	32.42	32.50	32.53	40.52	39.37	5.29
01-Dec-99 16:18:00	32.53	32.58	32.59	32.49	32.53	40.26	39.88	5.29
01-Dec-99 16:19:00	32.58	32.63	32.65	32.64	32.67	40.60	39.57	5.29
01-Dec-99 16:20:00	32.54	32.59	32.60	32.62	32.65	40.50	39.45	5.29
01-Dec-99 16:21:00	32.52	32.57	32.58	32.53	32.56	40.33	38.50	5.29
01-Dec-99 16:22:00	32.59	32.64	32.65	32.50	32.53	40.38	38.49	5.29
01-Dec-99 16:23:00	32.66	32.71	32.72	32.49	32.52	40.28	38.90	5.29
01-Dec-99 16:24:00	32.73	32.79	32.80	32.56	32.59	40.59	39.88	5.29
01-Dec-99 16:25:00	32.74	32.79	32.80	32.60	32.63	40.42	39.01	5.29
01-Dec-99 16:26:00	32.71	32.76	32.77	32.60	32.63	41.14	39.24	5.29
01-Dec-99 16:27:00	32.68	32.73	32.75	32.61	32.64	40.68	39.82	5.29
01-Dec-99 16:28:00	32.66	32.71	32.72	32.61	32.64	44.23	40.91	5.29
01-Dec-99 16:29:00	32.63	32.68	32.69	32.62	32.65	58.31	46.35	5.29
01-Dec-99 16:30:00	32.60	32.65	32.66	32.55	32.58	58.60	46.63	5.29
01-Dec-99 16:31:00	32.57	32.62	32.63	32.38	32.41	39.64	36.95	5.29
01-Dec-99 16:32:00	32.54	32.60	32.61	32.37	32.40	0.05	0.10	5.29
01-Dec-99 16:33:00	32.52	32.57	32.58	32.65	32.68	0.05	0.03	5.29
01-Dec-99 16:34:00	32.49	32.54	32.55	32.80	32.83	0.03	PI-API error: -1105	5.29
01-Dec-99 16:35:00	32.46	32.51	32.52	32.63	32.66	83.63	74.99	5.29
01-Dec-99 16:36:00	32.43	32.48	32.49	32.46	32.49	12.91	96.58	5.29
01-Dec-99 16:37:00	32.49	32.54	32.55	32.40	32.44	14.22	93.91	5.29
01-Dec-99 16:38:00	32.59	32.64	32.65	32.51	32.54	13.40	93.22	5.29
01-Dec-99 16:39:00	32.51	32.56	32.58	32.52	32.55	13.04	93.38	5.29
01-Dec-99 16:40:00	32.51	32.56	32.57	32.42	32.45	14.84	94.75	5.29
01-Dec-99 16:41:00	32.54	32.59	32.60	32.42	32.45	16.80	93.67	5.29
01-Dec-99 16:42:00	32.57	32.62	32.63	32.46	32.49	17.84	92.70	5.29
01-Dec-99 16:43:00	32.60	32.65	32.66	32.47	32.50	19.68	92.78	5.28
01-Dec-99 16:44:00	32.59	32.65	32.66	32.34	32.37	21.92	94.13	5.28
01-Dec-99 16:45:00	32.82	32.87	32.88	32.49	32.52	23.22	94.44	5.28
01-Dec-99 16:46:00	32.60	32.65	32.66	32.36	32.39	24.27	93.27	5.28
01-Dec-99 16:47:00	32.52	32.57	32.58	32.34	32.37	25.29	91.94	5.28
01-Dec-99 16:48:00	32.46	32.51	32.52	32.31	32.34	26.55	93.32	5.28
01-Dec-99 16:49:00	32.40	32.45	32.46	32.29	32.32	27.64	91.48	5.28
01-Dec-99 16:50:00	32.34	32.39	32.40	32.26	32.29	28.57	92.73	5.28
01-Dec-99 16:51:00	32.28	32.33	32.34	32.24	32.27	29.48	91.83	5.28

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 16:52:00	32.26	32.31	32.32	32.35	32.38	31.13	93.14	5.28
01-Dec-99 16:53:00	32.59	32.64	32.65	32.43	32.46	31.22	93.15	5.28
01-Dec-99 16:54:00	32.44	32.49	32.50	32.48	32.51	31.51	93.32	5.28
01-Dec-99 16:55:00	32.49	32.54	32.57	32.52	32.55	33.37	92.78	5.28
01-Dec-99 16:56:00	32.57	32.62	32.65	32.54	32.57	34.64	92.91	5.28
01-Dec-99 16:57:00	32.64	32.69	32.73	32.54	32.57	34.59	92.01	5.28
01-Dec-99 16:58:00	32.72	32.77	32.80	32.55	32.58	34.78	93.21	5.28
01-Dec-99 16:59:00	32.79	32.84	32.87	32.56	32.59	36.44	93.70	5.28
01-Dec-99 17:00:00	32.87	32.92	32.94	32.57	32.60	37.64	91.74	5.28
01-Dec-99 17:01:00	32.94	32.99	33.01	32.61	32.64	39.48	92.72	5.28
01-Dec-99 17:02:00	33.00	33.05	33.06	32.82	32.85	38.15	93.51	5.28
01-Dec-99 17:03:00	32.78	32.83	32.84	32.81	32.84	39.55	93.03	5.28
01-Dec-99 17:04:00	32.47	32.53	32.54	32.44	32.47	39.94	93.49	5.28
01-Dec-99 17:05:00	32.43	32.48	32.49	32.37	32.40	38.89	92.43	5.28
01-Dec-99 17:06:00	32.50	32.56	32.57	32.44	32.47	40.59	92.01	5.28
01-Dec-99 17:07:00	32.58	32.63	32.64	32.52	32.55	41.59	92.00	5.28
01-Dec-99 17:08:00	32.66	32.71	32.72	32.60	32.63	42.28	92.66	5.27
01-Dec-99 17:09:00	32.73	32.78	32.79	32.67	32.70	42.83	94.17	5.27
01-Dec-99 17:10:00	32.77	32.82	32.83	32.71	32.74	41.99	93.67	5.27
01-Dec-99 17:11:00	32.80	32.86	32.87	32.74	32.77	42.08	92.64	5.27
01-Dec-99 17:12:00	32.77	32.83	32.84	32.71	32.74	42.67	93.84	5.27
01-Dec-99 17:13:00	32.72	32.77	32.78	32.66	32.69	43.70	94.19	5.27
01-Dec-99 17:14:00	32.67	32.72	32.73	32.61	32.64	43.83	92.81	5.27
01-Dec-99 17:15:00	32.62	32.67	32.68	32.56	32.59	44.75	92.19	5.27
01-Dec-99 17:16:00	32.57	32.62	32.63	32.50	32.53	45.86	92.68	5.27
01-Dec-99 17:17:00	32.51	32.56	32.57	32.45	32.48	45.44	94.93	5.27
01-Dec-99 17:18:00	32.48	32.53	32.54	32.42	32.45	45.48	93.98	5.27
01-Dec-99 17:19:00	32.50	32.55	32.56	32.44	32.47	45.31	94.27	5.27
01-Dec-99 17:20:00	32.52	32.57	32.58	32.46	32.49	46.14	92.82	5.27
01-Dec-99 17:21:00	32.55	32.60	32.61	32.48	32.51	46.25	92.20	5.27
01-Dec-99 17:22:00	32.55	32.60	32.61	32.49	32.52	45.51	93.12	5.27
01-Dec-99 17:23:00	32.53	32.58	32.59	32.47	32.50	45.81	92.11	5.27
01-Dec-99 17:24:00	32.52	32.57	32.58	32.45	32.49	46.23	92.70	5.27
01-Dec-99 17:25:00	32.47	32.52	32.57	32.45	32.48	47.09	93.28	5.27
01-Dec-99 17:26:00	32.45	32.50	32.59	32.46	32.49	46.12	91.41	5.27
01-Dec-99 17:27:00	32.48	32.53	32.60	32.47	32.50	46.83	91.94	5.27
01-Dec-99 17:28:00	32.51	32.56	32.61	32.48	32.52	47.37	92.99	5.27
01-Dec-99 17:29:00	32.53	32.58	32.62	32.50	32.53	47.20	93.72	5.27
01-Dec-99 17:30:00	32.57	32.62	32.64	32.51	32.54	47.05	92.79	5.27
01-Dec-99 17:31:00	32.62	32.67	32.69	32.57	32.59	47.46	92.22	5.27
01-Dec-99 17:32:00	32.68	32.73	32.75	32.62	32.64	47.93	92.97	5.26
01-Dec-99 17:33:00	32.72	32.77	32.78	32.64	32.66	48.44	92.00	5.26
01-Dec-99 17:34:00	32.75	32.80	32.81	32.64	32.67	47.49	90.96	5.26
01-Dec-99 17:35:00	32.78	32.83	32.84	32.57	32.60	48.28	90.65	5.27
01-Dec-99 17:36:00	32.80	32.85	32.86	32.47	32.50	48.34	89.74	5.27
01-Dec-99 17:37:00	32.81	32.86	32.87	32.43	32.46	47.59	87.72	5.27
01-Dec-99 17:38:00	32.81	32.86	32.87	32.39	32.42	47.52	88.91	5.27
01-Dec-99 17:39:00	32.81	32.86	32.87	32.43	32.46	47.64	87.25	5.27
01-Dec-99 17:40:00	32.81	32.86	32.87	32.51	32.54	48.09	86.83	5.27
01-Dec-99 17:41:00	32.74	32.79	32.80	32.60	32.63	47.58	85.71	5.27
01-Dec-99 17:42:00	32.65	32.70	32.71	32.60	32.63	47.35	84.86	5.27
01-Dec-99 17:43:00	32.56	32.61	32.62	32.55	32.58	46.80	81.51	5.27
01-Dec-99 17:44:00	32.73	32.78	32.79	32.50	32.53	48.05	81.27	5.27
01-Dec-99 17:45:00	32.80	32.89	32.87	32.45	32.48	48.50	78.81	5.28
01-Dec-99 17:46:00	32.70	32.84	32.77	32.41	32.44	48.66	78.60	5.28
01-Dec-99 17:47:00	32.60	32.79	32.67	32.36	32.39	48.11	76.45	5.28
01-Dec-99 17:48:00	32.50	32.74	32.57	32.31	32.34	47.13	75.59	5.28
01-Dec-99 17:49:00	32.40	32.69	32.47	32.28	32.31	47.26	74.40	5.28
01-Dec-99 17:50:00	32.33	32.64	32.39	32.32	32.35	47.75	71.69	5.28
01-Dec-99 17:51:00	32.26	32.59	32.32	32.37	32.40	47.96	70.73	5.28
01-Dec-99 17:52:00	32.20	32.53	32.26	32.41	32.44	47.12	68.91	5.28
01-Dec-99 17:53:00	32.25	32.52	32.31	32.46	32.49	46.61	67.92	5.28
01-Dec-99 17:54:00	32.48	32.52	32.54	32.50	32.53	47.31	66.00	5.29
01-Dec-99 17:55:00	32.71	32.55	32.77	32.59	32.62	47.33	64.85	5.29
01-Dec-99 17:56:00	32.67	32.60	32.73	32.71	32.72	47.08	63.00	5.29
01-Dec-99 17:57:00	32.53	32.63	32.59	32.73	32.60	46.93	61.10	5.29

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Coal Feed Rate Feeder A tons/hr	Coal Feed Rate Feeder B tons/hr	Coal Feed Rate Feeder C tons/hr	Coal Feed Rate Feeder D tons/hr	Coal Feed Rate Feeder E tons/hr	Limestone Feed Rate A Vessel gal/min	Limestone Feed Rate C Vessel gal/min	Reagent pH A Vessel
01-Dec-99 17:58:00	32.54	32.67	32.60	32.39	32.41	46.57	60.20	5.29
01-Dec-99 17:59:00	32.59	32.70	32.65	32.49	32.51	46.12	59.13	5.29
01-Dec-99 18:00:00	32.64	32.73	32.70	32.65	32.61	46.76	56.83	5.29
01-Dec-99 18:01:00	32.69	32.76	32.75	32.74	32.67	46.94	55.98	5.29
01-Dec-99 18:02:00	32.73	32.78	32.79	32.68	32.63	46.61	54.69	5.29
01-Dec-99 18:03:00	32.69	32.74	32.75	32.61	32.57	46.25	53.50	5.30
01-Dec-99 18:04:00	32.61	32.66	32.67	32.54	32.52	45.52	51.76	5.30
01-Dec-99 18:05:00	32.54	32.59	32.60	32.46	32.46	44.50	49.94	5.30
Average	32.57	32.63	32.64	32.53	32.55	39.90	69.73	5.28

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kbs/hr
01-Dec-99 15:46:00	5.41	297.11	280.40	121.95	118.52	2.83	3.56	462.40	3326.80
01-Dec-99 15:47:00	5.41	297.11	280.40	121.95	118.54	2.83	3.45	462.56	3326.74
01-Dec-99 15:48:00	5.41	297.12	280.40	121.95	118.55	2.83	3.46	462.72	3326.69
01-Dec-99 15:49:00	5.41	297.13	280.41	121.95	118.56	2.83	3.44	462.89	3326.63
01-Dec-99 15:50:00	5.41	297.14	280.41	121.95	118.57	2.84	3.56	463.05	3326.57
01-Dec-99 15:51:00	5.42	297.14	280.41	121.95	118.58	2.84	3.50	463.20	3326.52
01-Dec-99 15:52:00	5.42	297.15	280.41	121.95	118.59	2.84	3.53	463.35	3326.46
01-Dec-99 15:53:00	5.42	297.16	280.41	121.95	118.61	2.84	3.49	462.49	3326.41
01-Dec-99 15:54:00	5.42	297.16	280.41	121.95	118.62	2.84	3.49	462.37	3326.35
01-Dec-99 15:55:00	5.42	297.17	280.41	121.95	118.63	2.84	3.48	461.31	3326.29
01-Dec-99 15:56:00	5.42	297.18	280.42	121.95	118.64	2.84	3.54	461.36	3326.24
01-Dec-99 15:57:00	5.42	297.19	280.42	121.95	118.65	2.84	3.58	461.95	3326.18
01-Dec-99 15:58:00	5.42	297.19	280.42	121.95	118.66	2.85	3.51	462.37	3326.13
01-Dec-99 15:59:00	5.42	297.20	280.42	121.95	118.68	2.85	3.55	462.47	3326.07
01-Dec-99 16:00:00	5.42	297.21	280.42	121.95	118.69	2.85	3.53	462.56	3326.01
01-Dec-99 16:01:00	5.42	297.22	280.42	121.95	118.70	2.85	3.54	462.52	3325.96
01-Dec-99 16:02:00	5.42	297.22	280.42	121.95	118.71	2.85	3.40	462.39	3325.90
01-Dec-99 16:03:00	5.42	297.23	280.43	121.95	118.72	2.85	3.43	462.26	3325.84
01-Dec-99 16:04:00	5.42	297.24	280.43	121.95	118.73	2.85	3.44	462.11	3325.79
01-Dec-99 16:05:00	5.42	297.24	280.43	121.95	118.75	2.85	3.44	461.71	3325.73
01-Dec-99 16:06:00	5.42	297.25	280.43	121.95	118.76	2.86	3.55	461.22	3325.68
01-Dec-99 16:07:00	5.42	297.26	280.43	121.95	118.77	2.86	3.56	460.74	3325.62
01-Dec-99 16:08:00	5.42	297.27	280.43	121.95	118.78	2.86	3.56	460.34	3325.56
01-Dec-99 16:09:00	5.42	297.27	280.43	121.95	118.79	2.86	3.53	460.52	3325.51
01-Dec-99 16:10:00	5.42	297.28	280.44	121.95	118.81	2.86	3.52	460.78	3325.45
01-Dec-99 16:11:00	5.42	297.29	280.44	121.95	118.82	2.86	3.61	461.06	3325.40
01-Dec-99 16:12:00	5.42	297.29	280.44	121.95	118.83	2.86	3.51	461.34	3325.34
01-Dec-99 16:13:00	5.42	297.30	280.44	121.95	118.84	2.86	3.54	461.62	3325.28
01-Dec-99 16:14:00	5.42	297.31	280.44	121.95	118.85	2.87	3.61	461.90	3325.23
01-Dec-99 16:15:00	5.42	297.32	280.44	121.95	118.86	2.87	3.41	462.19	3325.17
01-Dec-99 16:16:00	5.42	297.32	280.44	121.95	118.88	2.87	3.47	462.47	3325.12
01-Dec-99 16:17:00	5.42	297.33	280.45	121.95	118.89	2.87	3.57	462.75	3325.06
01-Dec-99 16:18:00	5.42	297.34	280.45	121.95	118.90	2.87	3.55	462.63	3325.00
01-Dec-99 16:19:00	5.42	297.35	280.45	121.95	118.91	2.87	3.51	462.12	3324.95
01-Dec-99 16:20:00	5.42	297.35	280.45	121.95	118.92	2.87	3.52	461.61	3324.89
01-Dec-99 16:21:00	5.42	297.36	280.45	121.95	118.93	2.88	3.47	461.29	3324.84
01-Dec-99 16:22:00	5.42	297.37	280.45	121.95	118.95	2.88	3.46	461.33	3324.78
01-Dec-99 16:23:00	5.42	297.37	280.45	121.95	118.96	2.88	3.49	461.39	3324.72
01-Dec-99 16:24:00	5.42	297.38	280.46	121.95	118.97	2.88	3.48	461.45	3324.67
01-Dec-99 16:25:00	5.42	297.39	280.46	121.95	118.98	2.88	3.50	461.49	3324.61
01-Dec-99 16:26:00	5.42	297.40	280.46	121.95	118.99	2.88	3.54	461.51	3324.55
01-Dec-99 16:27:00	5.42	297.40	280.46	121.95	119.00	2.88	3.51	461.53	3324.50
01-Dec-99 16:28:00	5.42	297.41	280.46	121.95	119.02	2.88	3.52	461.54	3324.44
01-Dec-99 16:29:00	5.42	297.42	280.46	121.95	119.02	2.89	3.48	461.56	3324.39
01-Dec-99 16:30:00	5.42	297.42	280.46	121.94	119.02	2.89	3.49	461.58	3324.33
01-Dec-99 16:31:00	5.42	297.43	280.47	121.94	119.01	2.89	3.47	461.60	3324.27
01-Dec-99 16:32:00	5.42	297.44	280.47	121.94	119.01	2.89	3.43	461.66	3324.22
01-Dec-99 16:33:00	5.42	297.45	280.47	121.94	119.01	2.89	3.63	461.78	3324.16
01-Dec-99 16:34:00	5.42	297.45	280.47	121.94	119.00	2.89	3.57	461.90	3324.11
01-Dec-99 16:35:00	5.42	297.46	280.47	121.94	119.00	2.89	3.53	462.03	3324.05
01-Dec-99 16:36:00	5.42	297.47	280.47	121.94	119.00	2.89	3.48	462.14	3323.99
01-Dec-99 16:37:00	5.42	297.47	280.47	121.94	118.99	2.90	3.50	462.19	3323.94
01-Dec-99 16:38:00	5.42	297.48	280.48	121.94	118.99	2.90	3.54	462.22	3323.88
01-Dec-99 16:39:00	5.42	297.49	280.48	121.94	118.99	2.90	3.56	462.25	3323.83
01-Dec-99 16:40:00	5.42	297.50	280.48	121.94	118.98	2.90	3.50	462.12	3323.77
01-Dec-99 16:41:00	5.42	297.50	280.48	121.94	118.98	2.90	3.42	461.85	3323.71
01-Dec-99 16:42:00	5.42	297.51	280.48	121.94	118.98	2.89	3.53	461.57	3323.66
01-Dec-99 16:43:00	5.42	297.52	280.48	121.94	118.97	2.89	3.52	461.29	3323.60
01-Dec-99 16:44:00	5.42	297.53	280.48	121.94	118.97	2.89	3.62	461.59	3323.54
01-Dec-99 16:45:00	5.42	297.53	280.49	121.94	118.97	2.89	3.61	462.06	3323.49
01-Dec-99 16:46:00	5.43	297.54	280.49	121.94	118.96	2.88	3.56	462.11	3323.43
01-Dec-99 16:47:00	5.43	297.55	280.49	121.94	118.96	2.88	3.66	462.16	3323.38
01-Dec-99 16:48:00	5.43	297.55	280.49	121.94	118.96	2.88	3.56	462.21	3323.32
01-Dec-99 16:49:00	5.43	297.56	280.49	121.94	118.95	2.88	3.63	462.25	3323.26
01-Dec-99 16:50:00	5.43	297.57	280.49	121.94	118.95	2.88	3.53	462.29	3323.21
01-Dec-99 16:51:00	5.44	297.58	280.49	121.94	118.95	2.87	3.51	462.43	3323.15

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kbs/hr
01-Dec-99 16:52:00	5.44	297.58	280.50	121.94	118.94	2.87	3.58	462.71	3323.10
01-Dec-99 16:53:00	5.44	297.59	280.50	121.94	118.94	2.87	3.55	462.33	3323.04
01-Dec-99 16:54:00	5.44	297.60	280.50	121.94	118.94	2.87	3.55	461.94	3322.98
01-Dec-99 16:55:00	5.44	297.60	280.50	121.94	118.93	2.86	3.60	461.53	3322.93
01-Dec-99 16:56:00	5.45	297.61	280.50	121.94	118.93	2.86	3.51	461.14	3322.87
01-Dec-99 16:57:00	5.45	297.62	280.50	121.94	118.93	2.86	3.59	461.04	3322.82
01-Dec-99 16:58:00	5.45	297.63	280.50	121.94	118.92	2.86	3.55	461.09	3322.76
01-Dec-99 16:59:00	5.45	297.63	280.51	121.94	118.92	2.85	3.55	461.12	3322.70
01-Dec-99 17:00:00	5.45	297.64	280.51	121.94	118.92	2.85	3.49	460.90	3322.65
01-Dec-99 17:01:00	5.45	297.65	280.51	121.94	118.91	2.85	3.55	461.11	3322.59
01-Dec-99 17:02:00	5.46	297.66	280.51	121.94	118.91	2.85	3.52	461.23	3322.54
01-Dec-99 17:03:00	5.46	297.66	280.51	121.94	118.91	2.84	3.52	460.70	3322.48
01-Dec-99 17:04:00	5.46	297.67	280.51	121.94	118.90	2.84	3.39	461.21	3322.42
01-Dec-99 17:05:00	5.46	297.68	280.51	121.94	118.90	2.84	3.46	461.96	3322.36
01-Dec-99 17:06:00	5.46	297.68	280.52	121.94	118.90	2.84	3.50	462.31	3322.24
01-Dec-99 17:07:00	5.47	297.69	280.53	121.94	118.89	2.84	3.63	462.38	3322.12
01-Dec-99 17:08:00	5.47	297.70	280.54	121.94	118.89	2.83	3.54	463.05	3322.00
01-Dec-99 17:09:00	5.47	297.71	280.56	121.94	118.89	2.83	3.48	462.45	3321.87
01-Dec-99 17:10:00	5.47	297.71	280.57	121.94	118.88	2.83	3.59	461.83	3321.75
01-Dec-99 17:11:00	5.47	297.72	280.58	121.94	118.88	2.83	3.50	461.89	3321.63
01-Dec-99 17:12:00	5.48	297.73	280.59	121.94	118.88	2.82	3.60	461.96	3321.50
01-Dec-99 17:13:00	5.48	297.73	280.60	121.94	118.87	2.82	3.50	462.03	3321.38
01-Dec-99 17:14:00	5.48	297.74	280.61	121.94	119.01	2.82	3.50	462.10	3321.26
01-Dec-99 17:15:00	5.48	297.75	280.62	121.94	119.01	2.82	3.53	462.17	3321.13
01-Dec-99 17:16:00	5.48	297.76	280.63	121.94	119.01	2.81	3.57	462.31	3321.01
01-Dec-99 17:17:00	5.48	297.76	280.64	121.94	119.01	2.81	3.54	462.32	3320.89
01-Dec-99 17:18:00	5.49	297.77	280.65	121.94	119.01	2.81	3.54	462.13	3320.76
01-Dec-99 17:19:00	5.49	297.78	280.66	121.94	119.01	2.81	3.53	461.94	3320.64
01-Dec-99 17:20:00	5.49	297.79	280.67	121.94	119.01	2.81	3.55	461.88	3320.52
01-Dec-99 17:21:00	5.49	297.79	280.68	121.94	119.01	2.80	3.52	462.18	3320.39
01-Dec-99 17:22:00	5.49	297.80	280.69	121.94	119.01	2.80	3.65	462.46	3320.27
01-Dec-99 17:23:00	5.50	297.81	280.70	121.94	119.00	2.80	3.61	462.68	3320.15
01-Dec-99 17:24:00	5.50	297.81	280.71	121.94	119.00	2.80	3.53	462.90	3320.02
01-Dec-99 17:25:00	5.50	297.82	280.72	121.94	119.00	2.79	3.62	463.11	3319.90
01-Dec-99 17:26:00	5.50	297.83	280.73	121.94	119.00	2.79	3.55	463.13	3319.78
01-Dec-99 17:27:00	5.50	297.84	280.74	121.94	119.00	2.79	3.46	463.06	3319.65
01-Dec-99 17:28:00	5.51	297.84	280.76	121.94	119.00	2.79	3.58	462.99	3319.53
01-Dec-99 17:29:00	5.51	297.85	280.77	121.94	119.00	2.78	3.44	462.92	3319.41
01-Dec-99 17:30:00	5.51	297.86	280.78	121.94	119.00	2.78	3.56	462.74	3319.28
01-Dec-99 17:31:00	5.51	297.86	280.79	121.94	119.00	2.78	3.44	461.89	3319.16
01-Dec-99 17:32:00	5.51	297.87	280.80	121.94	119.00	2.78	3.51	461.10	3319.04
01-Dec-99 17:33:00	5.52	297.88	280.81	121.94	119.00	2.77	3.54	461.81	3318.91
01-Dec-99 17:34:00	5.52	297.89	280.82	121.94	119.00	2.77	3.56	461.60	3318.79
01-Dec-99 17:35:00	5.52	297.89	280.83	121.94	119.00	2.77	3.60	461.29	3318.67
01-Dec-99 17:36:00	5.52	297.90	280.84	121.94	119.00	2.77	3.51	460.98	3318.54
01-Dec-99 17:37:00	5.52	297.91	280.85	121.94	119.00	2.78	3.48	460.67	3318.42
01-Dec-99 17:38:00	5.52	297.92	280.86	121.94	119.00	2.79	3.61	460.77	3318.30
01-Dec-99 17:39:00	5.53	297.92	280.87	121.94	119.00	2.79	3.64	461.72	3318.17
01-Dec-99 17:40:00	5.53	297.93	280.88	121.94	119.00	2.80	3.53	461.49	3318.05
01-Dec-99 17:41:00	5.53	297.94	280.89	121.94	119.00	2.81	3.48	461.55	3317.93
01-Dec-99 17:42:00	5.53	297.94	280.90	121.94	119.00	2.82	3.52	461.90	3317.80
01-Dec-99 17:43:00	5.53	297.95	280.91	121.94	119.00	2.83	3.52	462.11	3317.68
01-Dec-99 17:44:00	5.54	297.96	280.92	121.94	119.00	2.83	3.68	461.94	3317.56
01-Dec-99 17:45:00	5.54	297.97	280.93	121.94	119.00	2.84	3.54	461.74	3317.43
01-Dec-99 17:46:00	5.54	297.97	280.94	121.94	119.00	2.85	3.57	461.55	3317.31
01-Dec-99 17:47:00	5.54	297.98	280.96	121.94	119.00	2.86	3.61	461.49	3317.19
01-Dec-99 17:48:00	5.54	297.99	280.97	121.94	119.00	2.87	3.54	461.98	3317.06
01-Dec-99 17:49:00	5.55	297.99	280.98	121.94	119.00	2.88	3.68	462.52	3316.94
01-Dec-99 17:50:00	5.55	298.00	280.99	121.94	119.00	2.88	3.63	463.07	3316.82
01-Dec-99 17:51:00	5.55	298.01	281.00	121.94	119.00	2.89	3.59	463.62	3316.69
01-Dec-99 17:52:00	5.55	298.02	281.01	121.94	119.00	2.90	3.59	463.63	3316.57
01-Dec-99 17:53:00	5.55	298.02	281.02	121.94	119.00	2.91	3.51	462.86	3316.45
01-Dec-99 17:54:00	5.55	298.03	281.03	121.94	118.99	2.92	3.55	462.08	3316.32
01-Dec-99 17:55:00	5.56	298.04	281.04	121.94	118.99	2.92	3.46	461.36	3316.20
01-Dec-99 17:56:00	5.56	298.04	281.05	121.94	118.99	2.93	3.49	461.14	3316.08
01-Dec-99 17:57:00	5.56	298.05	281.06	121.94	118.99	2.94	3.52	461.05	3315.95

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Reagent pH C Vessel	Scrubber Inlet Temp A Vessel deg F	Scrubber Inlet Temp C Vessel deg F	Scrubber Outlet Temp A Vessel deg F	Scrubber Outlet Temp C Vessel deg F	Scrubber Pressure Drop A Vessel	Scrubber Pressure Drop C Vessel	Unit Load MW	Main Steam Flow kibs/hr
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01-Dec-99 17:58:00	5.56	298.06	281.07	121.94	118.99	2.95	3.59	460.95	3315.83
01-Dec-99 17:59:00	5.56	298.07	281.08	121.94	118.99	2.96	3.59	460.85	3315.71
01-Dec-99 18:00:00	5.57	298.07	281.09	121.94	118.99	2.97	3.67	460.75	3315.58
01-Dec-99 18:01:00	5.57	298.08	281.10	121.94	118.99	2.97	3.54	460.65	3315.46
01-Dec-99 18:02:00	5.57	298.09	281.11	121.94	118.99	2.98	3.44	460.55	3315.34
01-Dec-99 18:03:00	5.57	298.10	281.12	121.94	118.99	2.99	3.49	460.45	3315.21
01-Dec-99 18:04:00	5.57	298.10	281.13	121.94	118.99	3.00	3.53	460.60	3315.09
01-Dec-99 18:05:00	5.58	298.11	281.15	121.94	118.99	3.01	3.55	461.24	3314.97

Average 5.47 297.62 280.62 121.94 118.92 2.86 3.53 461.87 3321.95

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Main Steam Temp, deg F	Main Steam Press, psig	Exhaust Gas Flow, scfh	SO2 Inlet #/(mmBtu)	SO2 Inlet ppm	SO2 Outlet #/(mmBtu)	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 15:46:00	985.31	2519.85	67242128.00			0.07	22.98		10.51
01-Dec-99 15:47:00	985.69	2520.42	66686576.00			0.06	22.60		10.66
01-Dec-99 15:48:00	986.07	2520.98	66686468.00			0.06	22.76		10.61
01-Dec-99 15:49:00	986.46	2521.16	66506756.00			0.06	22.73		10.67
01-Dec-99 15:50:00	986.76	2521.16	66370324.00			0.07	23.03		10.56
01-Dec-99 15:51:00	986.35	2521.16	66441288.00			0.06	22.78		10.51
01-Dec-99 15:52:00	985.78	2520.98	66655548.00			0.06	22.56		10.48
01-Dec-99 15:53:00	985.20	2519.72	66932920.00			0.06	22.07		10.48
01-Dec-99 15:54:00	984.62	2518.27	67846496.00			0.06	22.04		10.55
01-Dec-99 15:55:00	984.05	2516.83	67846880.00			0.06	22.32		10.48
01-Dec-99 15:56:00	983.59	2515.92	68267192.00	1.79	857.50	0.06	22.38	14.36	10.53
01-Dec-99 15:57:00	983.82	2516.55	68384448.00	1.79	855.13	0.06	22.42	14.31	10.47
01-Dec-99 15:58:00	984.17	2517.32	69136656.00	1.78	853.08	0.06	21.99	14.31	10.42
01-Dec-99 15:59:00	984.52	2519.39	69388992.00	1.78	857.13	0.06	21.79	14.40	10.47
01-Dec-99 16:00:00	984.87	2521.65	69098192.00	1.78	858.97	0.06	21.67	14.42	10.54
01-Dec-99 16:01:00	985.22	2521.33	68888632.00			0.06	21.69		10.53
01-Dec-99 16:02:00	984.75	2520.59	68819568.00			0.06	21.09		10.38
01-Dec-99 16:03:00	983.46	2519.84	68575288.00			0.06	20.64		10.37
01-Dec-99 16:04:00	982.76	2519.09	6854808.00			0.06	20.32		10.43
01-Dec-99 16:05:00	983.28	2517.96	68167568.00			0.06	20.09		10.51
01-Dec-99 16:06:00	983.83	2515.25	68167904.00			0.06	19.86		10.46
01-Dec-99 16:07:00	984.38	2512.38	67927672.00			0.06	20.08		10.53
01-Dec-99 16:08:00	984.94	2509.53	67817008.00			0.06	20.06		10.47
01-Dec-99 16:09:00	985.64	2510.09	67958664.00			0.06	19.84		10.50
01-Dec-99 16:10:00	986.98	2513.01	68198120.00			0.06	19.99		10.51
01-Dec-99 16:11:00	988.39	2515.92	68197184.00	1.78	853.98	0.06	19.66	14.33	10.53
01-Dec-99 16:12:00	989.41	2518.83	68314408.00	1.78	848.48	0.06	19.28	14.25	10.42
01-Dec-99 16:13:00	988.82	2521.13	68322328.00	1.76	849.19	0.05	18.87	14.37	10.45
01-Dec-99 16:14:00	988.06	2521.64	68631448.00	1.78	854.33	0.05	18.73	14.38	10.46
01-Dec-99 16:15:00	987.30	2522.04	68825328.00	1.77	854.51			14.40	
01-Dec-99 16:16:00	986.54	2522.44	68767664.00						
01-Dec-99 16:17:00	985.77	2522.82	68512880.00						
01-Dec-99 16:18:00	985.01	2521.40	68506608.00						
01-Dec-99 16:19:00	984.25	2518.74	68199392.00						
01-Dec-99 16:20:00	983.48	2516.08	68198352.00						
01-Dec-99 16:21:00	983.30	2515.28	68154624.00						
01-Dec-99 16:22:00	983.70	2516.32	68136296.00			0.08	27.89		10.94
01-Dec-99 16:23:00	984.10	2517.36	68291184.00			0.08	26.89		10.67
01-Dec-99 16:24:00	984.50	2518.40	68511592.00			0.07	25.54		10.55
01-Dec-99 16:25:00	984.89	2519.20	68528264.00			0.07	25.13		10.49
01-Dec-99 16:26:00	985.01	2519.03	68576376.00	1.77	860.54	0.07	25.16	14.57	10.51
01-Dec-99 16:27:00	984.99	2518.76	68575056.00	1.77	862.73	0.07	24.94	14.53	10.55
01-Dec-99 16:28:00	984.97	2518.49	68659352.00	1.78	860.43	0.07	24.85	14.48	10.49
01-Dec-99 16:29:00	984.95	2518.21	68671696.00	1.77	861.40	0.07	24.77	14.52	10.52
01-Dec-99 16:30:00	984.99	2517.94	68433320.00	1.78	866.14	0.07	24.99	14.56	10.52
01-Dec-99 16:31:00	985.19	2517.67	68199088.00			0.07	24.88		10.47
01-Dec-99 16:32:00	985.41	2517.59	68255248.00			0.07	25.08		10.49
01-Dec-99 16:33:00	985.62	2517.79	68481544.00			0.07	25.58		10.48
01-Dec-99 16:34:00	985.83	2517.99	68475808.00			0.07	25.57		10.41
01-Dec-99 16:35:00	986.05	2518.19	68292512.00			0.07	26.25		10.52
01-Dec-99 16:36:00	986.26	2518.66	68293552.00			0.08	26.99		10.50
01-Dec-99 16:37:00	986.38	2521.51	68608152.00			0.08	27.59		10.56
01-Dec-99 16:38:00	985.95	2523.56	68765096.00			0.08	27.50		10.46
01-Dec-99 16:39:00	985.43	2522.76	68819536.00			0.08	26.64		10.42
01-Dec-99 16:40:00	984.91	2521.87	68888904.00			0.08	26.16		10.42
01-Dec-99 16:41:00	984.38	2520.76	69051160.00			0.07	26.12		10.45
01-Dec-99 16:42:00	983.86	2518.97	69236552.00			0.07	26.15		10.51
01-Dec-99 16:43:00	983.36	2518.23	69236440.00			0.08	26.39		10.48
01-Dec-99 16:44:00	983.24	2520.52	69235832.00			0.08	26.72		10.48
01-Dec-99 16:45:00	983.25	2521.09	69237352.00			0.08	26.46		10.41
01-Dec-99 16:46:00	983.25	2520.79	69290272.00			0.07	25.90		10.40
01-Dec-99 16:47:00	983.26	2520.47	69299032.00			0.07	25.36		10.42
01-Dec-99 16:48:00	983.26	2520.84	69040480.00			0.07	26.02		10.51
01-Dec-99 16:49:00	983.27	2522.63	68702328.00			0.07	26.16		10.49
01-Dec-99 16:50:00	983.28	2524.32	68537240.00			0.07	25.72		10.49
01-Dec-99 16:51:00	983.29	2523.83	68293096.00			0.07	25.29		10.48

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 16:52:00	983.33	2522.58	68293488.00			0.07	25.25		10.48
01-Dec-99 16:53:00	983.38	2521.33	67622672.00			0.07	25.13		10.46
01-Dec-99 16:54:00	983.43	2520.08	67598824.00			0.07	24.91		10.50
01-Dec-99 16:55:00	983.48	2519.05	67864168.00			0.07	24.64		10.50
01-Dec-99 16:56:00	983.54	2518.33	68007712.00	1.77	861.51	0.07	24.93	14.53	10.55
01-Dec-99 16:57:00	983.66	2517.62	68205720.00	1.78	862.93	0.07	25.03	14.46	10.53
01-Dec-99 16:58:00	984.25	2516.90	68419024.00	1.78	855.13	0.07	24.49	14.39	10.45
01-Dec-99 16:59:00	984.90	2516.19	68518176.00	1.77	857.80	0.07	23.84	14.44	10.42
01-Dec-99 17:00:00	985.54	2515.47	68735032.00	1.78	863.13	0.07	23.69	14.48	10.48
01-Dec-99 17:01:00	985.97	2514.75	68733776.00			0.07	23.82		10.49
01-Dec-99 17:02:00	986.35	2513.99	68380976.00			0.07	23.77		10.46
01-Dec-99 17:03:00	986.72	2513.26	68263560.00			0.07	23.39		10.39
01-Dec-99 17:04:00	987.27	2515.55	67821784.00			0.07	22.83		10.47
01-Dec-99 17:05:00	989.40	2519.93	67505952.00			0.06	22.72		10.57
01-Dec-99 17:06:00	991.42	2522.38	67643640.00			0.06	22.49		10.54
01-Dec-99 17:07:00	990.50	2520.87	67757432.00			0.06	22.03		10.49
01-Dec-99 17:08:00	989.09	2519.24	67792752.00			0.06	22.02		10.57
01-Dec-99 17:09:00	987.68	2517.60	67850752.00			0.06	21.99		10.49
01-Dec-99 17:10:00	986.26	2515.97	67850112.00			0.06	21.54		10.46
01-Dec-99 17:11:00	985.20	2514.40	68784400.00	1.77	862.89	0.06	20.99	14.57	10.43
01-Dec-99 17:12:00	985.58	2515.09	68889920.00	1.77	865.95	0.06	20.71	14.60	10.52
01-Dec-99 17:13:00	986.12	2516.88	68790088.00	1.78	866.93	0.06	20.57	14.57	10.52
01-Dec-99 17:14:00	986.66	2518.66	68702680.00	1.77	864.21	0.06	20.32	14.61	10.51
01-Dec-99 17:15:00	987.19	2520.44	68661224.00	1.78	864.73			14.55	
01-Dec-99 17:16:00	987.57	2520.98	68513904.00						
01-Dec-99 17:17:00	987.48	2520.68	68514312.00						
01-Dec-99 17:18:00	987.35	2520.37	68165992.00						
01-Dec-99 17:19:00	987.23	2520.07	67976920.00						
01-Dec-99 17:20:00	987.11	2519.76	67835664.00						
01-Dec-99 17:21:00	986.98	2519.46	67725296.00						
01-Dec-99 17:22:00	986.86	2519.71	67726944.00			0.08	28.24		11.04
01-Dec-99 17:23:00	986.74	2520.33	67582016.00			0.07	26.34		10.75
01-Dec-99 17:24:00	986.62	2520.95	67568016.00			0.07	25.26		10.59
01-Dec-99 17:25:00	986.46	2521.57	67180240.00			0.07	24.95		10.63
01-Dec-99 17:26:00	986.29	2522.19	67161232.00	1.77	857.80	0.07	24.44	14.48	10.63
01-Dec-99 17:27:00	986.11	2522.78	67197968.00	1.76	857.20	0.07	24.00	14.53	10.57
01-Dec-99 17:28:00	985.93	2522.39	67283984.00	1.76	861.81	0.07	24.21	14.60	10.62
01-Dec-99 17:29:00	985.76	2521.54	67189872.00	1.78	862.00	0.07	24.35	14.47	10.59
01-Dec-99 17:30:00	985.58	2520.68	66812480.00	1.78	857.33	0.07	23.86	14.42	10.56
01-Dec-99 17:31:00	985.38	2519.16	66812268.00			0.06	22.80		10.51
01-Dec-99 17:32:00	985.20	2516.98	67231496.00			0.06	22.87		10.52
01-Dec-99 17:33:00	985.91	2516.42	67314928.00			0.07	23.47		10.64
01-Dec-99 17:34:00	986.92	2518.00	67278272.00			0.07	23.42		10.59
01-Dec-99 17:35:00	987.76	2517.39	67254072.00			0.07	23.21		10.52
01-Dec-99 17:36:00	987.93	2516.24	67525832.00			0.06	22.44		10.46
01-Dec-99 17:37:00	988.02	2515.10	68418240.00			0.06	22.12		10.53
01-Dec-99 17:38:00	988.11	2514.19	68419296.00			0.06	22.27		10.57
01-Dec-99 17:39:00	988.20	2515.49	68310616.00			0.06	22.30		10.54
01-Dec-99 17:40:00	988.29	2517.13	68293720.00			0.06	22.16		10.53
01-Dec-99 17:41:00	988.39	2516.90	68648632.00			0.06	21.94		10.47
01-Dec-99 17:42:00	988.48	2516.21	68921936.00			0.06	22.38		10.52
01-Dec-99 17:43:00	988.57	2515.53	68739168.00			0.06	22.18		10.55
01-Dec-99 17:44:00	988.66	2514.92	67914600.00			0.06	21.40		10.45
01-Dec-99 17:45:00	988.75	2515.10	67913944.00			0.06	21.09		10.48
01-Dec-99 17:46:00	988.76	2515.47	68315472.00			0.06	21.25		10.55
01-Dec-99 17:47:00	988.26	2516.71	68450232.00			0.06	21.36		10.52
01-Dec-99 17:48:00	987.68	2519.22	68249656.00			0.06	21.14		10.49
01-Dec-99 17:49:00	987.09	2521.75	68105512.00			0.06	20.96		10.50
01-Dec-99 17:50:00	986.51	2524.43	68410424.00			0.06	20.66		10.49
01-Dec-99 17:51:00	985.93	2527.27	68826008.00			0.06	20.71		10.50
01-Dec-99 17:52:00	985.30	2530.08	68826528.00			0.06	20.58		10.49
01-Dec-99 17:53:00	983.95	2528.75	68132456.00			0.06	20.49		10.47
01-Dec-99 17:54:00	982.37	2524.59	68008704.00			0.06	20.12		10.46
01-Dec-99 17:55:00	980.78	2520.47	67904568.00			0.06	19.90		10.46
01-Dec-99 17:56:00	979.27	2516.42	67818864.00	1.77	854.41	0.06	19.48	14.44	10.45
01-Dec-99 17:57:00	980.40	2515.22	67862576.00	1.77	860.76	0.06	19.69	14.49	10.57

Clover Power Station Mercury Test Operational Data Collection Logsheet

Test conducted December 1, 1999 by ETSI
 Operational Data collected by Clover Power Station personnel
 Test Run #4

Start >>> 12/1/99 15:46
 Stop >>> 12/1/99 18:05
 Time Interval >>> 1 min

Date/Time	Main Steam Temp deg F	Main Steam Press psig	Exhaust Gas Flow scfh	SO2 Inlet #/mmBtu	SO2 Inlet ppm	SO2 Outlet #/mmBtu	SO2 Outlet ppm	Inlet CO2 %	Outlet CO2 %
01-Dec-99 17:58:00	982.82	2515.96	68007368.00	1.78	854.56	0.06	19.86	14.33	10.53
01-Dec-99 17:59:00	984.03	2516.70	68007920.00	1.77	848.74	0.06	19.44	14.31	10.47
01-Dec-99 18:00:00	984.04	2517.34	67980792.00	1.76	847.38	0.05	19.10	14.35	10.47
01-Dec-99 18:01:00	984.06	2517.02	67977824.00			0.05	18.71		10.41
01-Dec-99 18:02:00	984.07	2516.46	68374304.00			0.05	19.02		10.48
01-Dec-99 18:03:00	984.09	2515.92	68545280.00			0.05	19.02		10.51
01-Dec-99 18:04:00	984.10	2516.34	68554128.00			0.05	18.79		10.48
01-Dec-99 18:05:00	984.12	2517.44	68577384.00			0.05	18.46		10.49
Average	985.56	2518.83	68195302.12	1.77	858.31	0.07	22.91	14.45	10.51

