EVALUATION OF MERCURY EMISSIONS FROM COAL-FIRED FACILITIES WITH SCR AND FGD SYSTEMS

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ABSTRACT

CONSOL Energy Inc., Research & Development (CONSOL), with support from the U.S. Department of Energy, National Energy Technology Laboratory (DOE) and the Electric Power Research Institute (EPRI), is evaluating the effects of selective catalytic reduction (SCR) on mercury (Hg) capture in coal-fired plants equipped with an electrostatic precipitator (ESP) - wet flue gas desulfurization (FGD) combination or a spray dyer absorber – fabric filter (SDA-FF) combination. In this program CONSOL is determining mercury speciation and removal at 10 coal-fired facilities. The objectives are 1) to evaluate the effect of SCR on mercury capture in the ESP-FGD and SDA-FF combinations at coal-fired power plants, 2) evaluate the effect of catalyst degradation on mercury capture; 3) evaluate the effect of low load operation on mercury capture in an SCR-FGD system, and 4) collect data that could provide the basis for fundamental scientific insights into the nature of mercury chemistry in flue gas, the catalytic effect of SCR systems on mercury speciation and the efficacy of different FGD technologies for mercury capture.

This document, the fourth in a series of topical reports, describes the results and analysis of mercury sampling performed on a 1,300 MW unit burning a bituminous coal containing three percent sulfur. The unit is equipped with a SCR, ESP, and FGD to control NO_x, particulate, and SO_2 emissions, respectively. Four sampling tests were performed in June 2004. Flue gas mercury speciation and concentrations were determined at the SCR inlet, SCR outlet, air heater outlet (ESP inlet), ESP outlet (FGD inlet), and at the stack (FGD outlet) using the Ontario Hydro method. Process stream samples for a mercury balance were collected to coincide with the flue gas measurements.

The results show that the SCR/air heater combination converted more than 98% of the elemental mercury to the oxidized and particulate forms. Mercury removal, on a coal-to-stack basis, was 86%. The average Hg concentration in the stack gas was 0.97 $\mu g/m^3$. The average stack mercury emission was 0.93 lb/TBtu. The mercury material balance closures ranged from 94% to 112%, with an average of 105%.

These results show that the SCR had a positive effect on mercury oxidation. In earlier programs, CONSOL sampled mercury at six plants with wet FGDs for SO_2 control without SCR catalysts. At those plants, an average of 61±15% of the mercury was in the oxidized and particulate forms at the air heater outlet, and the average coal-to-stack mercury removal was 66±8%.

The principal purpose of this work is to develop a better understanding of the potential mercury removal "co-benefits" achieved by NOx, and SO_2 control technologies. It is expected that this data will provide the basis for fundamental scientific insights into the nature of mercury chemistry in flue gas, the catalytic effect of SCR systems on mercury speciation and the efficacy of different FGD technologies for mercury capture. Ultimately, this insight could help to design and operate SCR and FGD systems to maximize mercury removal.

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LIST OF ABBREVIATIONS

acfm	-	actual cubic feet per minute (wet)
am	-	morning
Btu	-	heating value in British Thermal Units
Ca/S	-	Calcium-sulfur ratio
cfm	-	cubic feet per minute
CO_2	-	carbon dioxide
CONSOL R&D	-	CONSOL Energy Inc., Research and Development
CVAA	-	cold vapor atomic absorption
DI	-	deionized water
dscf	-	dry standard cubic feet
dscfm	-	dry standard cubic feet per minute
EPA	-	U.S. Environmental Protection Agency
ESP	-	electrostatic precipitator
FGD	-	wet flue gas desulphurization
ft	-	feet
ft^2	-	square feet
ft^3	-	cubic feet
gm	-	grams
gpm	-	gallons per minute
gr	-	grains
HCl	-	hydrochloric acid
Hg	-	mercury
Hg^{part}	-	mercury in particulate form
Hg^{total}	-	total mercury in particulate, oxidized, and elemental forms
Hg^{++}	-	mercury in oxidized form
Hg^{o}	-	mercury in elemental form
HNO_3	-	nitric acid
H_2O	-	water
hr	-	hour
ICP-AES	-	inductively coupled plasma-atomic emission spectrometer
in	-	inch
KCl	-	potassium chloride
$KMnO_4$	-	potassium permanganate
L	-	liter
lb	-	pound
m	-	meter
m^3	-	cubic meter
mg	-	milligram, 10^{-3} gram

LIST OF ABBREVIATIONS (continued)

min	-	minute
mL	-	milliliter
M	-	molar, mol/L
MM	-	million
mol	-	mole
ng	-	nanogram, 10^{-9} gram
N_2	-	molecular nitrogen
NIST	-	National Institute of Standards and Technology
NO	-	nitric oxide
NO_2	-	nitrogen dioxide
O_2	-	molecular oxygen
O_3	-	ozone
pm	-	afternoon
PM	-	particulate matter
ppb	-	parts per billion
ppm	-	parts per million
ppmv	-	parts per million by volume
PRSD	-	percent relative standard deviation
QA	-	quality assurance
QC	-	quality control
rpm	-	revolutions per minute
scf	-	standard cubic feet (68EF and 29.92"Hg)
scfm	-	standard cubic feet per minute
SRM	-	Standard Reference Material
temp	-	temperature
tph	-	tons per hour
T Btu	-	trillion British thermal unit
wt	-	weight
v	-	volts
vs	-	versus
EF	-	temperature in degrees Fahrenheit
<	-	less than
>	-	more than
µg	-	microgram, 10^{-6} gram

INTRODUCTION

The CONSOL Energy Inc. Research and Development (CONSOL R&D) is determining mercury speciation and removal at 10 coal-fired facilities with SCR/FGD combinations (Table 1). CONSOL R&D's Exploratory and Environmental Research Group conducted a series of flue gas mercury (Hg), measurements on Unit 1 at Plant 5 during the week of June 21, 2004, under U. S. Department of Energy (DOE) Cooperative Agreement No. DE-FC26-02NT41589, and the Electric Power Research Institute (EPRI) Agreement No. EP-P13687/C6820. The test program consisted of four sets of measurements across the combustion emission control system that consists of a selective catalytic reduction (SCR) unit, electrostatic precipitator (ESP), and flue gas desulfurization (FGD) system.

The mercury measurements were made using the Ontario-Hydro Flue Gas Hg Speciation Method at the SCR inlet, SCR outlet, Air Heater Outlet (upstream from the ESP), FGD inlet, and the Stack of Unit Two. The testing conducted by CONSOL R&D is documented in this report.

Table 1. Coal-fired facilities in program

Site #	MW	Air Pollution Control Devices	Coal	Ozone Unit
1	330	SCR / Spray Dryer / Baghouse	Bit	year round
2	245	SCR / Spray Dryer / Baghouse	Bit	year round
3	550	SCR / Spray Dryer / Baghouse	Sub	year round
4	468	SCR / ESP/ Limestone FGD, natural oxidation	Bit	year round
5 Unit 1	1,300	SCR / ESP/ Limestone FGD, in-situ oxidation	Bit	Yes
5 Unit 2	1,300	ESP/ Limestone FGD, in-situ oxidation	Bit	Yes
6	544	SCR / ESP/ Limestone FGD, ex-situ oxidation	Bit	Yes
7	566	SCR / ESP/ Limestone FGD, ex-situ oxidation	Bit	Yes
8	684	SCR / ESP / Lime FGD, ex-situ oxidation	Bit	Yes
9	640	SCR / ESP/ Lime FGD, inhibited oxidation	Bit	Yes
10	1,300	SCR / ESP/ Lime FGD, natural oxidation	Bit	Yes

HOST UTILITY DESCRIPTION

Plant 5 is a 2,600 MW pulverized bituminous coal-fired generation facility operating two 1,300 MW units with an SCR unit, ESP, and FGD designed for 95% SO_2 reduction. The SCR is operated only during the ozone season. The plant typically burns bituminous coal containing three percent sulfur.

MERCURY SAMPLING RESULTS

I. Test Matrix

The mercury measurements consisted of a total of four tests over three days. The test matrix is shown in Table 2.

Table 2. Sampling test matrix

Date	Activity	Flue Gas Sampling					Process Sampling				
		SCR Inlet	SCR Outlet	Air Heater Outlet	FGD Inlet	Stack	Coal	Bottom Ash	Limestone Slurry	FGD Slurry	ESP Ash
6/22	Arrive, Setup	---	---	---	---	---	---	---	---	---	---
6/23	Setup, Test 1	X	X	X	X	X	X	X	X	X	X
6/24	Test 2	X	X	X	X	X	X	X	X	X	X
	Test 3	X	X	X	X	X	X	X	X	X	X
6/25	Test 4	X	X	X	X	X	X	X	X	X	X
	Pack, Demobilize	---	---	---	---	---	---	---	---	---	---

A total of 20 flue gas mercury measurements were conducted using ASTM Method D-6784-02 (Ontario Hydro Method). Mercury measurements were a maximum of 150 minutes in duration. Details of sampling conditions are provided later in this report.

To calculate a material balance, CONSOL R&D and plant personnel obtained process samples simultaneously during the gas sampling periods. Laboratory analyses were performed by CONSOL R&D and are included in this report.

II. Flue Gas Mercury Sampling Results

Figure 1 shows the mercury speciation for the four tests at each location. All tests were made isokinetically. A complete listing of mercury analyses is in Appendix C. The results at each location are discussed in the following sections. The associated tables list the measured Ontario Hydro sampling train concentrations and the mercury throughput for the respective location with the concentrations applied to the stack flow rate corrected to the locations' oxygen concentration. Adjusting the mercury throughput to the stack flow rate is more accurate as this is the only location where flow could be measured accurately.

A. SCR inlet

Four mercury measurements were conducted at the SCR inlet. Table 3 summarizes the mercury measurements at the SCR inlet. The results show that more than 98% of the mercury was in the gas phase. The high percentage of gas phase mercury is expected due to the gas temperature (642 °F) at this location. More than 60% of the total mercury was in the elemental form. The average concentrations of the gas phase

oxidized and elemental mercury were 2.70 and 4.62 µg/m^3, respectively. The average concentration of total mercury measured at this location was 7.43 µg/m^3.

Table 3. Flue gas mercury speciation at the SCR inlet

Date	Test No.	Hg Concentration, µg/m^3 (dry std conditions)				Hg Flow, mg/sec			
		Hg^{part}	Hg^{++}	Hg^0	Hg^{total}	Hg^{part}	Hg^{++}	Hg^0	Hg^{total}
6/23	1	0.14	3.25	4.42	7.81	0.18	4.13	5.62	9.92
6/24	2	0.07	3.50	3.31	6.88	0.09	4.47	4.22	8.78
6/24	3	0.08	2.56	4.11	6.76	0.11	3.27	5.24	8.61
6/25	4	0.15	1.48	6.62	8.25	0.19	1.84	8.20	10.2
Average		0.11	2.70	4.62	7.43	0.14	3.43	5.82	9.38
Standard Deviation		0.04	0.90	1.42	0.72	0.05	1.17	1.69	0.80
PRSD		37.1	33.5	30.7	9.73	35.7	34.2	29.1	8.5

B. SCR outlet

Four mercury measurements were conducted at the SCR outlet location. Table 4 summarizes the mercury measurements. Test One Hg^{++} results are much greater than those reported for the other three tests, possibly indicating contamination, although this could not be verified. Table 4 averages do not include Test One results. The majority (88.3%) of the mercury was vapor-phase Hg^{++}. The average concentrations of the particulate-bound, oxidized, and elemental mercury measured at this location were 0.13, 7.73, and 0.88 µg/m^3, respectively. The average concentration of total mercury was 8.75 µg/m^3.

Table 4. Flue gas mercury speciation at the SCR outlet

Date	Test No.	Hg Concentration, µg/m^3 (dry std conditions)				Hg Flow, mg/sec			
		Hg^{part}	Hg^{++}	Hg^{0}	Hg^{total}	Hg^{part}	Hg^{++}	Hg^{0}	Hg^{total}
6/23	1	0.13	18.2	2.07	20.4	0.18	24.6	2.81	27.6
6/24	2	0.13	7.92	0.75	8.81	0.17	10.6	1.00	11.8
6/24	3	0.13	8.62	0.48	9.23	0.17	11.4	0.64	12.3
6/25	4	0.14	6.66	1.41	8.22	0.18	8.58	1.82	10.6
Test 2-4 Average		0.13	7.73	0.88	8.75	0.17	10.2	1.15	11.6
Standard Deviation		0.01	0.99	0.48	0.51	0.01	1.45	0.60	0.87
PRSD		4.3	12.8	54.4	5.8	3.4	14.2	52.6	7.5

C. Air heater outlet

Four mercury measurements were conducted at the Air Heater outlet location. Table 5 summarizes the mercury measurements. The majority (96.5%) of the mercury was vapor-phase Hg^{++}. The average concentrations of the particulate-bound, oxidized, and elemental mercury measured at this location were 0.18, 9.10, and 0.17 µg/m^3, respectively. The average concentration of total mercury was 9.43 µg/m^3.

Table 5. Flue gas mercury speciation at the air heater outlet

Date	Test No.	Hg Concentration, µg/m^3 (dry std conditions)				Hg Flow, mg/sec			
		Hg^{part}	Hg^{++}	Hg^{0}	Hg^{total}	Hg^{part}	Hg^{++}	Hg^{0}	Hg^{total}
6/23	1	0.13	9.75	0.17	10.0	0.16	12.7	0.22	13.1
6/24	2	0.18	8.26	0.16	8.60	0.23	10.7	0.21	11.1
6/24	3	0.21	9.47	0.17	9.86	0.27	12.3	0.23	12.8
6/25	4	0.19	8.91	0.16	9.26	0.24	11.2	0.20	11.6
Average		0.18	9.10	0.17	9.43	0.23	11.7	0.22	12.2
Standard Deviation		0.03	0.66	0.01	0.64	0.05	0.93	0.01	0.95
PRSD		18.9	7.2	3.5	6.8	20.2	8.0	5.9	7.8

D. FGD inlet

Four mercury measurements were conducted at the FGD inlet location. Table 6 summarizes the mercury measurements. Nearly 100 percent of the flue gas mercury was in the gaseous phase. Ninety-four percent was oxidized. The average concentrations of the particulate-bound, oxidized, and elemental mercury measured at this location were 0.02, 7.31, and 0.42 μg/m^3, respectively. The average concentration of total mercury was 7.76 μg/m^3.

Table 6. Flue gas mercury speciation at the FGD inlet

Date	Test No.	Hg Concentration, μg/m^3 (dry std conditions)				Hg Flow, mg/sec			
		Hg^{part}	Hg^{++}	Hg^0	Hg^{total}	Hg^{part}	Hg^{++}	Hg^0	Hg^{total}
6/23	1	0.01	8.04	0.48	8.53	0.009	13.4	0.80	14.2
6/24	2	0.002	6.54	0.19	6.73	0.003	11.4	0.33	11.7
6/24	3	0.07	8.10	0.82	8.99	0.12	13.8	1.39	15.3
6/25	4	0.002	6.57	0.20	6.77	0.003	11.2	0.34	11.6
Average		0.02	7.31	0.42	7.76	0.03	12.5	0.72	13.2
Standard Deviation		0.03	0.88	0.30	1.18	0.06	1.34	0.50	1.85
PRSD		156.6	12.0	70.7	15.2	191.2	10.7	70.0	14.0

E. Stack

Four mercury measurements were conducted at the Stack. Table 7 summarizes the mercury measurements. The total mercury concentration averaged less than 1.0 μg/m^3, however the majority (59%) was present in the elemental form. Elemental mercury increased by 25%, from 0.72 to 0.90 mg/sec. This increase in elemental mercury concentration in wet scrubbers has been observed by CONSOL at other plants.[1,2] The mechanism causing this well-known phenomenon has not been explained in the general literature. The average concentrations of the particulate-bound, oxidized, and elemental mercury measured at this location were 0.002, 0.39, and 0.57 μg/m^3, respectively. The average concentration of total mercury was 0.97 μg/m^3.

[1] DeVito, M. S., Withum, J. A., and Statnick, R. M., "Flue Gas Measurements from Coal-Fired Boilers Equipped with Wet Scrubbers," Int. J. of Environ. Pollution 17 (1/2), 2002, p. 126-142

[2] Evaluation of Mercury Emissions from Coal-Fired Facilities with SCR and FGD Systems - Topical Report No. 1, U.S. DOE Cooperative Agreement DE-FC26-02NT41589

Table 7. Flue gas mercury speciation at the stack

Date	Test No.	Hg Concentration, µg/m^3 (dry std conditions)				Hg Flow, mg/sec			
		Hg^{part}	Hg^{++}	Hg^{0}	Hg^{total}	Hg^{part}	Hg^{++}	Hg^{0}	Hg^{total}
6/23	1	0.002	0.57	0.46	1.03	0.002	0.88	0.72	1.60
6/24	2	0.002	0.27	0.53	0.80	0.003	0.42	0.84	1.26
6/24	3	0.002	0.60	0.62	1.23	0.003	0.96	0.99	1.94
6/25	4	0.002	0.13	0.68	0.82	0.003	0.20	1.05	1.26
Average		0.002	0.39	0.57	0.97	0.003	0.62	0.90	1.52
Standard Deviation		0.0001	0.23	0.10	0.20	0.0002	0.36	0.15	0.33
PRSD		6.7	58.9	17.0	20.8	7.9	59.3	16.6	21.5

III. SCR/FGD System Hg Removal

Table 8 summarizes the flue gas mercury removal across the SCR/FGD system. The coal-to-stack average mercury removal was 85.8%. Comparing the mercury at the stack to the mercury at the air heater outlet, the average removal was 87.6%. The measured air heater outlet mercury throughput is higher than the coal feed input, which is likely due to biases resulting from sampling only one of the three air heater outlets, which may not have been representative of the total flue gas.

Table 8. Flue gas mercury removal

Date	Test No.	System Mercury Reduction					
		Ontario Hydro Results, mg Hg^{total} /sec			Coal Feed Based Reduction, mg Hg^{total} /sec		
		Air Heater Outlet	Stack Emissions	% Reduction	Coal Feed	Stack Emissions	% Reduction
6/23	1	13.1	1.60	87.8	10.2	1.60	84.4
6/24	2	11.1	1.26	88.6	10.6	1.26	88.1
6/24	3	12.8	1.94	84.8	11.1	1.94	82.5
6/25	4	11.6	1.26	89.1	10.7	1.26	88.2
Average		12.2	1.52	87.6	10.7	1.52	85.8
Standard Deviation		0.95	0.33	1.92	0.35	0.33	2.82
PRSD		7.8	21.5	2.2	3.3	21.5	3.3

IV. Mercury Material Balance

An important criterion to gauge the overall quality of the tests is to conduct a mass balance to account for the mercury entering and leaving the plant during the tests. The mercury material balance closure is the total mercury output from the plant divided by the total mercury input (expressed as %). The total mercury input is the sum of the amounts of mercury in the coal and lime slurry entering the plant. The total mercury output is the sum of the amounts of mercury leaving the plant through bottom ash, baghouse hopper ash, and stack flue gas. Table 9 shows the mercury material balance closure for the four tests conducted at the plant. The calculated mercury material balance closures ranged from 94% to 112%. The material balance closures for mercury for all four tests are within the QA/QC criterion of 70-130% for a single test and the average value is 105%, which is within the QA/QC criterion of 80-120% for multiple tests. The measurements, calculations, and assumptions for calculating the material balances are described later in this report.

Table 9. Material balance for mercury.

Test No.	1	2	3	4
Hg input from Coal (mg/sec)	10.24	10.6	11.1	10.65
Hg input from limestone slurry (mg/sec)	0.10	0.09	0.03	0.07
Hg input from FGD make-up water (mg/sec)	0.02	0.02	0.01	0.02
Hg input to the system (mg/sec)	**10.35**	**10.70**	**11.14**	**10.74**
Hg output from bottom ash (mg/sec)	0.05	0.05	0.04	0.05
Hg output from ESP hopper ash (mg/sec)	0.42	0.21	0.09	0.11
Hg output from FGD slurry (mg/sec)	9.56	10.11	8.38	9.89
Hg output from stack gas (mg/sec)	1.60	1.26	1.94	1.26
Hg output from the system (mg/sec)	**11.63**	**11.64**	**10.46**	**11.30**
Hg material balance closure	**112%**	**109%**	**94%**	**105%**
Average Hg Material Balance	**105%**			

EXPERIMENTAL AND SAMPLING METHODS

CONSOL R&D performed flue gas mercury determinations using the Ontario-Hydro sampling method. As a quality assurance/quality control (QA/QC) measure, samples of the coal, bottom ash, FGD slurry, limestone slurry, and ESP ash, were taken to determine a mercury balance across the system.

I. Flue Gas Sampling Locations and Sampling Points

Five sampling locations, the SCR inlet, SCR outlet, air heater outlet (upstream of the ESP), FGD inlet, and stack outlet, were tested. Figure 2 is a flow schematic indicating the sampling locations at Plant 5, Unit 1.

Flue gas exits the economizer through two ducts (designated Ducts A and B) and passes through the SCR. Upstream of the air heater, the two ducts split into three total ducts (designated Ducts A, B, and C). Flue gas from SCR Duct A enters air heater Ducts A and B; flue gas from SCR Duct B enters air heater Ducts B and C. Thus air heater Duct B consists of flue gas from both SCR Ducts A and B. After exiting the three air heater modules the flue gas is conveyed to the ESP modules. Three of the four total ESP modules are online, while one is held offline in reserve. The flue gas exits the ESP modules through induced draft fans and is merged into a single duct en-route to the FGD. The FGD inlet and stack locations are single duct locations.

The sampling ports on SCR outlet Duct A are inaccessible due to the close proximity of adjacent ductwork. Therefore, only SCR inlet and outlet Ducts B, and air heater outlet Duct C were sampled such that samples from these locations were collected at similar points in the process flue gas. Individual sampling locations are detailed in the following sections.

A. SCR inlet

Figure 3 is a schematic of the SCR inlet sampling location. The SCR inlet consists of two horizontal, rectangular ducts, each measuring 15 feet deep by 66 feet, 9 inches wide. Eight sample ports are spaced across the top of each duct.

Only Duct B was sampled in this program. Preliminary pitot surveys conducted on June 22, 2004, indicated that the gas flow was parallel to the duct walls. The flue gas was sampled through four of the eight test ports. A single point was sampled in each port for thirty minutes, with parametric readings every ten minutes. Total test duration was 120 minutes. Mercury measurements were conducted with the sampling nozzle oriented parallel to and directly into the flow.

Four mercury measurements were performed at the SCR inlet. The sample train was prepared in EPA Method 17 configuration using an in-stack 19 mm x 90 mm quartz-fiber thimble filter. The filter apparatus was attached to a heated probe that was connected to the impinger train with a flexible heated Teflon sample line. Figure 4 is a photograph of the mercury sampling train on the SCR inlet. Mercury measurements were conducted isokinetically.

B. SCR outlet

Figure 5 is a schematic of the SCR outlet sampling location. The SCR outlet consists of two vertical, rectangular ducts, each measuring 13 feet deep by 66 feet, 9 inches wide. Eight sample ports are spaced across the face of each duct.

Because Duct A is blocked by adjacent ductwork, only Duct B was sampled in this program. Preliminary pitot surveys conducted on June 22, 2004, indicated that the gas

flow was parallel to the duct walls. The flue gas was sampled through a single test port. A single point was sampled for the entire duration of 120 minutes, with parametric readings every ten minutes. Mercury measurements were conducted with the sampling nozzle oriented parallel to and directly into the flow.

Four mercury measurements were performed at the SCR outlet. The sample train was prepared in EPA Method 17 configuration using an in-stack 19 mm x 90 mm quartz-fiber thimble filter. The filter apparatus was attached to a heated probe that was connected to the impinger train with a glass filter bypass in a heated filter box. Figure 6 is a photograph of the mercury sampling train on the SCR outlet. Mercury measurements were conducted isokinetically.

C. Air heater outlet (ESP inlet)

Figure 7 is a schematic of the air heater outlet sampling location. The air heater outlet duct consists of three ducts, each approximately 14 feet deep and 43 feet-6 inches wide. Six test ports are located across the top of each duct. Preliminary pitot surveys conducted on June 22, 2004, indicated that the gas flow was parallel to the duct walls.

For consistency of results, only Duct C was sampled, as this duct contains only flue gas from SCR Duct B. The flue gas was sampled through three test ports; four traverse points were sampled in each, for a total of 12 sample points. Each point was sampled for ten minutes, for a total test time of 120 minutes. Mercury measurements were conducted with the sampling nozzle oriented parallel to and directly into the flow.

Four mercury measurements were performed at the air heater outlet. The sample train was prepared in EPA Method 17 configuration using an in-stack 19 mm x 90 mm quartz-fiber thimble filter. The filter apparatus was attached to a heated probe that was connected to the impinger train with a flexible heated Teflon sample line. Figure 8 is a photograph of the mercury sampling train on the air heater outlet. Mercury measurements were conducted isokinetically.

D. FGD inlet (ESP outlet)

Figure 9 is a schematic of the FGD inlet sampling location. The FGD inlet duct consists of a single duct measuring approximately 48 feet deep and 29 feet wide. Six test ports are located across the top of each duct; however, only three of these were able to be cleaned well enough to allow probe insertion. Preliminary pitot surveys conducted on June 22, 2004, indicated that the gas flow was parallel to the duct walls in the three ports.

The flue gas was sampled at a single sampling point in each of the three test ports. Given the 48-foot depth, a full traverse was not practical. Each point was sampled for forty minutes, for a total test time of 120 minutes. Mercury measurements were conducted isokinetically with the sampling nozzle oriented parallel to and directly into the flow.

Four mercury measurements were performed at the FGD inlet. The sample train was prepared in EPA Method 17 configuration using an in-stack 47-mm quartz-fiber disc filter. The filter apparatus was attached to a heated probe that was connected to the

impinger train with a flexible heated Teflon sample line. Figure 10 is a photograph of the mercury sampling train on the air heater outlet.

C. Stack (FGD outlet)

Figure 11 is a schematic of the stack sampling location. The stack is approximately 38.5 feet in diameter. Since mercury is considered to be well-mixed at this location, and the stack's large diameter made traversing difficult with a glass-lined probe, the flue gas was sampled at a single point in a single sample access port. Throughout the duration of the Ontario Hydro sampling period, velocity traverses were completed in four access ports, each with three traverse points, as determined by EPA Method 1.

Four sample runs were performed at the stack sampling location. Test 1 was 150 minutes, tests 2 and 4 were 140 minutes, and test 3 was 130 minutes in duration. A standard EPA Method 5 sample train configuration was utilized for this location.

Preliminary pitot surveys conducted on June 22, 2004, indicated that the gas flow was axial. Hg measurements were conducted with the nozzle oriented horizontally, directly into the flow.

Figure 12 is a photograph of the Hg sampling train on the stack. Hg measurements were conducted isokinetically.

II. Flue Gas Mercury Measurements

Flue gas mercury measurements were obtained using the Ontario-Hydro Hg speciation train. The sampling train schematic is shown in Figure 13.

Flue gas was extracted from the flue gas stream and pulled through a heated glass-lined probe and quartz filter. Total particulate matter mass loading was calculated from the solids collected prior to and on the filter. Probe temperatures were maintained at 325 $\pm$ 25 °F at the SCR inlet and outlet, the air heater outlet and the FGD inlet. Probe and filter temperatures were maintained at 255 ± 25 °F at the stack. Where particle loading is high, the probe and filter are maintained as close as practical to the flue gas temperature.

Mercury collected prior to and on the filter is assumed to be particulate Hg (Hg^{part}). The flue gas exits the quartz filter and passes through a series of chilled impingers. The first three impingers are filled with 100 ml of a 1M-potassium chloride (KCl) solution. It is assumed that these impingers capture oxidized forms of mercury in the flue gas (Hg^{++}). The next impinger is filled with 100 ml of a 5% nitric acid and 10% H_2O_2 solution. The purpose of this impinger is to remove SO_2 from the flue gas to preserve the oxidizing strength of the permanganate impingers. Mercury collected in this impinger is assumed to be the elemental form (Hg^0). The next two impingers are filled with 100 ml of an acidic potassium permanganate ($KMnO_4$) solution. It is assumed that these impingers collect elemental mercury (Hg^0). The next impinger is blank to catch any excess

moisture. The gas exits the impinger train through a silica gel-filled impinger that removes the moisture from the flue gas. The mercury species collected by the Ontario-Hydro sampling train component are listed in Table 10.

Table 10. Mercury speciation by train component

Train Component	Species Measured
Probe & Nozzle Rinse	Hg^{part}
Quartz Filter	Hg^{part}
KCl Impingers	Hg^{++}
HNO_3/H_2O_2 Impinger	Hg^{0}
$KMnO_4$ Impingers	Hg^{0}
HCl Rinse of $KMnO_4$ Impingers	Hg^{0}

The absorbing solutions were made fresh daily. The impingers were charged and the sampling components were transported to the required locations. The sampling trains were assembled, pre-heated, and checked for pitot and sample line leaks as detailed in EPA Methods 2 and 5, respectively. After passing the leak-check procedure, the sampling probes were inserted into their respective ducts, in-stack filters were allowed to heat to stack temperature, and sampling was initiated. Leak checks were also performed during port changes.

Oxygen readings were monitored at the outlet of the sampling train using a Teledyne Model Max 5 portable analyzer (electrochemical O_2 sensor). At the completion of the sampling period, the sample trains were checked for leaks, purged for 10 min, and then disassembled. The components were transported back to the lab trailer for recovery. The mercury concentration of the individual impinger solutions was determined by cold vapor atomic absorption (CVAA) as specified in the methodology. The concentration of mercury on the solids was determined by acid digestion followed by CVAA.

The amount of mercury collected in the impinger solutions was determined as outlined in EPA Method 29 and the Ontario-Hydro Draft Method. An aliquot of the impinger solution is acidified and the mercury is determined using cold vapor-atomic absorption spectroscopy. The atomic absorption spectrometer is calibrated with commercial mercury standard. The calibration is verified using NIST Standard 1641D. The calibration is reassessed periodically by analyzing a quality control standard. The instrument is recalibrated as required. Each sample matrix is analyzed as a set and an individual calibration curve is used for each set. Depending on sample type, selected samples are spiked with 2, 5, 10, or 15 ng/ml (ppb) of mercury and reanalyzed. Spike

recovery must be within ±30% or the sample is diluted and reanalyzed. Selected samples are analyzed in duplicate. The duplicates must be within ±30% or the analyses are repeated.

Where sufficient solids are collected, particulate mercury is analyzed using a 0.5-1.0 gm ash sample. In cases where the particulate catch is low (primarily stack filters) the filter sample is digested. The samples are digested with aqua-regia in pressure vessels prior to analysis by CVAA.

III. Coal Sampling and Analysis

A. Coal samples

Plant 5 personnel collected coal samples from Unit 1 coal feed bins. The coal sample was taken from a six-inch pipe welded to the bottom of the coal bin, as shown in Figure 14, using a device provided by the plant. This device was made of a four-inch PVC pipe that could hold about two-liters of coal.

B. Summary of the results of coal analyses

Coal Samples were analyzed using a direct mercury analyzer following the procedures of ASTM Method D6722. Detailed results of the coal analyses for each test are presented in Appendix D and summarized in Table 11.

Table 11. Coal sample analytical summary.

Sample ID	COAL-1	COAL-2	COAL-3	COAL-4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Analytical No.	20043185	20043186	20043187	20043188
Moisture (%, as det'd)	3.29	5.01	3.43	5.10
VM (%, dry)	19.10	18.90	18.92	19.10
Ash (%, dry)	10.04	9.77	9.37	9.88
Carbon (%, dry)	74.13	72.77	74.45	72.59
Hydrogen (%, dry)	5.07	5.02	5.01	4.99
Nitrogen (%, dry)	1.62	1.65	1.64	1.63
Total Sulfur (%, dry)	2.98	3.25	2.93	3.31
HHV (Btu/lbm, dry)	13,309	13,067	13,356	13,062
Chlorine (%, dry)	0.17	0.17	0.15	0.18
Hg (ppm, as det'd)	0.08	0.08	0.09	0.08
Major Ash Elements (%, dry)				
SiO_2	48.55	46.14	47.20	47.06
Al_2O_3	20.25	17.57	20.15	17.84
TiO_2	1.01	0.94	0.98	0.96
Fe_2O_3	17.78	19.53	18.97	18.48
CaO	4.50	7.04	5.16	6.09
MgO	0.92	0.86	0.86	0.94
Na_2O	0.66	0.75	0.76	0.77
K_2O	2.32	2.17	2.18	2.31
P_2O_5	0.37	0.15	0.35	0.14
SO_3	3.39	3.98	3.77	4.65

IV. Process Sample Collection

CONSOL R&D and plant personnel collected samples of bottom ash, limestone slurry, ESP hopper ash, scrubber sludge, and FGD make-up water. CONSOL R&D completed comprehensive analyses using a direct mercury analyzer and following the procedures of ASTM Method D6722. Detailed results of the process material analyses are presented in Appendix D.

A. Bottom ash

Plant operators collected a bottom ash sample from the Unit 1 bottom ash discharge pipe at the conclusion of each test period.

B. Limestone slurry samples

Plant operators collected limestone slurry samples from Unit 1 limestone slurry storage tank. Two approximately 500 ml samples were taken during each test. Figure 15 is an image of the limestone slurry flow and the bucket used to collect the samples.

Upon arrival at CONSOL R&D's analytical lab, the two samples were mixed together to generate a combined sample for subsequent analyses.

C. ESP hopper ash samples

There are four ESP modules for Unit 1. Each module is divided into four fields, each with a row of four ash hoppers, for a total of 16 ash hoppers per module. Since only Duct C flue gas was sampled, only ash from the corresponding ESP module, Module 1A3, was collected. A schematic of the layout of the ESP hoppers is shown in Figure 16. The first field (closest to the boiler) collects about 90% of the ash. Each consecutive field collects about 90% of the ash remaining from the previous field such that, theoretically, 99.99% of the ash is removed from the flue gas. All 16 Module 1A3 hoppers were sampled once per test.

One of the ESP hoppers sampled is shown in Figure 17. About 1-2 lb of ash was collected using an ash sampling thief which consisted of concentric tubes with openings as shown in Figure 18. After removing the screw caps of the rod-out ports, the thief was inserted into the ash hoppers through the ports. The inner tube was rotated to allow the ash to drop into the tube. The inner tube was then rotated to close the openings and the thief was then pulled out of the hopper. The thief was then tilted to allow the ash to fall into a one-gallon sized plastic bag through the opening at the end of the thief.

D. Scrubber sludge

Scrubber sludge samples were taken from Modules 1A, 1B, and 1C by CONSOL personnel. Figure 19 depicts the scrubber module layout.

Each module has one operating and one spare sludge-sampling pump. Both pumps are located at the ground level near the module. The operating pump draws the scrubber sludge from the base of the module and re-circulates the scrubber sludge back into the module at a higher location. A rubber hose is teed into the recirculation line at the FGD building's second level. The recirculation sludge was allowed to discharge into the sink (also at the second level) for at least 20 seconds before two 500 ml of samples were collected. Figure 20 is a photo of the FGD slurry and makeup water sampling location.

All sludge samples collected during each test were stored in a 2-gallon plastic bucket.

E. FGD make-up water samples

FGD make-up water samples were collected twice from each module at the same time and location as the sludge samples (see Fig. 20). About 250 mL of sample were collected each time. The pH of the water sample in each bottle was measured immediately at the CONSOL on-site analytical trailer. A drop of concentrated HCl was added to each sample and the samples were stored in the refrigerator for preservation.

V. Process Sample Analyses

Solid samples were analyzed using a direct mercury analyzer, following the procedures of ASTM D6722. Detailed results of the process material analyses are presented in Appendix D.

A. Bottom ash samples

Table 12 summarizes the results of the bottom ash analyses. Mercury was detected at a consistent concentration of 0.02 ppm.

Table 12. Bottom ash analytical summary.

Sample ID	Bottom Ash-1	Bottom Ash-2	Bottom Ash-3	Bottom Ash-4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Analytical No.	20043189	20043190	20043191	20043192
Moisture (%, as det'd)	0.27	1.32	0.10	1.33
Ash (%, dry)	100.16	99.30	99.69	100.06
Carbon (%, dry)	0.07	0.11	0.35	0.08
Hg (ppm, as det'd)	0.02	0.02	0.02	0.02
Major Ash Elements (%)				
SiO_2	49.28	49.64	49.07	49.55
Al_2O_3	18.90	19.10	19.09	18.87
TiO_2	0.98	0.97	0.96	0.96
Fe_2O_3	22.44	23.03	22.59	22.37
CaO	4.19	4.97	4.95	4.52
MgO	3.07	1.54	1.11	1.13
Na_2O	0.59	0.70	0.69	0.58
K_2O	2.55	2.53	2.40	2.14
P_2O_5	0.24	0.24	0.22	0.20
SO_3	0.16	0.22	0.23	0.24

B. Limestone slurry samples

The limestone slurry samples were filtered to generate residue (i.e., filter cake) and filtrate samples. Listed in Tables 13 and 14 are the results of analyses of the limestone slurry residue and filtrate samples.

Table 13. Results of analyses of limestone slurry residue samples

Sample ID	Limestone Slurry Solids -1	Limestone Slurry Solids - 2	Limestone Slurry Solids - 3	Limestone Slurry Solids - 4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Test No.	1	2	3	4
Analytical No.	20043193	20043194	20043195	20043196
% solids, original sample	25.5	25.0	22.0	22.6
Specific Gravity	1.19	1.18	1.16	1.18
Moisture (%, as det'd)	0.15	0.24	0.17	0.17
Ash (%, dry)	56.74	56.72	56.74	56.66
Carbon (%, dry)	11.55	11.62	12.00	12.01
Chlorine (ppm, dry)	43	31	34	36
Hg (ppm, as det'd)	0.004	0.003	0.002	0.002
Major Ash Elements (%)				
SiO_2	2.25	1.95	1.88	1.70
Al_2O_3	0.18	0.16	0.18	0.16
TiO_2	0.01	0.01	0.01	0.01
Fe_2O_3	0.16	0.15	0.15	0.14
CaO	52.69	52.60	52.29	52.95
MgO	2.42	2.43	2.42	2.48
Na_2O	0.01	0.01	0.01	0.01
K_2O	0.04	0.04	0.04	0.04
P_2O_5	0.03	0.03	0.04	0.04
SO_3	0.11	0.11	0.14	0.14

Table 14. Results of analyses of limestone slurry filtrate samples

Sample ID	Limestone Slurry Filtrate -1	Limestone Slurry Filtrate - 2	Limestone Slurry Filtrate- 3	Limestone Slurry Filtrate - 4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Test No.	1	2	3	4
Analytical No.	20043265	20043266	20043267	20043268
Ca (µg/mL)	56.7	48.2	48.5	56.3
Mg (µg/mL)	17.0	16.1	15.9	16.6
K (µg/mL)	4.89	4.55	4.11	4.29
Na (µg/mL)	33.0	30.1	26.1	28.6
Ammonia as NH_3 (µg/mL)	< 10	< 10	< 10	< 10
Cl (µg/mL)	26.0	26.0	28.0	25.0
NO_3 as N (µg/mL)	1.05	0.95	0.97	1.62
SO_4 (µg/mL)	108	95.5	91.5	91.0
Hg (µg/L)	1.5	1.3	1.5	1.1

C. ESP hopper ash samples

Listed in Tables 15, 16, 17, and 18 are the results of analyses of ESP hopper ash samples collected during Tests 1, 2, 3, and 4, respectively. Table 19 summarizes the averages of each test's samples. Data in Table 19 were used to calculate the material balance for mercury and three major oxides in the ash, SiO_2, Al_2O_3, and CaO.

Table 15. Results of analyses of the ESP ash samples collected during Test 1.

Analytical No.	Sample ID	Test Date	Moisture (%)	Ash (%, dry)	Carbon (%, dry)	Hg (ppm)	Major Ash Element (%, dry)									
							SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3
20043201	ESP ASH 1-A-3-1	6/23/2004	0.15	97.96	1.40	0.05	50.90	20.08	1.09	16.95	4.57	0.95	0.73	2.26	0.20	1.56
20043202	ESP ASH 1-A-3-2	6/23/2004	0.10	98.77	0.84	0.04	51.96	20.71	1.08	17.75	4.26	0.94	0.64	2.20	0.18	1.16
20043203	ESP ASH 1-A-3-3	6/23/2004	0.04	98.21	1.35	0.04	49.65	19.48	1.04	18.56	5.22	1.09	0.68	2.16	0.21	1.39
20043204	ESP ASH 1-A-3-4	6/23/2004	0.08	98.75	0.81	0.04	51.00	20.46	1.09	18.15	4.61	0.98	0.65	2.19	0.20	1.35
20043205	ESP ASH 1-A-3-5	6/23/2004	0.15	97.72	0.80	0.03	50.52	20.91	1.19	15.88	4.17	0.98	0.74	2.35	0.28	2.72
20043206	ESP ASH 1-A-3-6	6/23/2004	0.10	97.74	0.79	0.03	49.51	20.38	1.17	15.87	4.21	0.97	0.72	2.28	0.28	2.89
20043207	ESP ASH 1-A-3-7	6/23/2004	0.11	98.41	0.87	0.02	50.26	20.32	1.10	17.56	4.52	0.97	0.66	2.23	0.23	1.68
20043208	ESP ASH 1-A-3-8	6/23/2004	0.12	98.38	0.86	0.02	50.26	20.31	1.12	17.21	4.37	1.00	0.65	2.19	0.22	1.71
20043209	ESP ASH 1-A-3-9	6/23/2004	0.29	95.33	0.50	0.02	45.54	19.48	1.20	14.55	4.51	1.00	0.74	2.30	0.40	6.74
20043210	ESP ASH 1-A-3-10	6/23/2004	0.19	96.64	0.66	0.03	48.80	20.44	1.20	15.21	4.10	0.98	0.77	2.35	0.30	4.72
20043211	ESP ASH 1-A-3-11	6/23/2004	0.24	97.80	0.94	0.02	50.62	21.18	1.18	15.97	4.17	0.98	0.75	2.41	0.26	2.43
20043212	ESP ASH 1-A-3-12	6/23/2004	0.23	97.56	0.93	0.02	49.61	21.23	1.19	15.65	4.10	0.97	0.73	2.29	0.29	2.75
20043213	ESP ASH 1-A-3-13	6/23/2004	1.02	89.69	0.89	0.05	41.61	17.42	1.04	19.17	3.79	0.89	0.68	2.18	0.27	9.15
20043214	ESP ASH 1-A-3-14	6/23/2004	0.89	93.47	0.77	0.04	44.20	18.64	1.09	17.03	4.06	0.96	0.75	2.32	0.31	7.02
20043215	ESP ASH 1-A-3-15	6/23/2004	0.39	95.73	0.78	0.06	47.06	19.63	1.16	15.45	4.32	0.97	0.78	2.37	0.30	5.47
20043216	ESP ASH 1-A-3-16	6/23/2004	0.43	95.21	0.61	0.04	46.65	19.43	1.17	15.86	4.61	1.01	0.78	2.41	0.33	6.43
Average	Test #1	6/23/2004	0.12	98.19	1.07	0.041	50.58	20.16	1.08	17.70	4.62	0.99	0.68	2.21	0.21	1.68

Table 16. Results of analyses of the ESP ash samples collected during Test 2.

Analytical No.	Sample ID	Test Date	Moisture (%)	Ash (%, dry)	Carbon (%, dry)	Hg (ppm)	Major Ash Element (%, dry)									
							SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3
20043217	ESP ASH 2-A-3-1	06/24/04	0.13	99.24	0.53	0.02	48.93	18.83	0.99	20.08	5.89	1.04	0.68	2.23	0.20	1.29
20043218	ESP ASH 2-A-3-2	06/24/04	0.17	99.12	0.60	0.02	50.79	19.64	1.02	18.51	5.24	1.02	0.78	2.51	0.20	1.40
20043219	ESP ASH 2-A-3-3	06/24/04	0.17	99.02	0.70	0.02	50.02	19.48	1.02	19.10	5.27	1.00	0.72	2.24	0.25	1.34
20043220	ESP ASH 2-A-3-4	06/24/04	0.14	99.51	0.48	0.02	47.11	17.96	0.92	23.54	6.94	1.57	0.57	1.98	0.48	1.13
20043221	ESP ASH 2-A-3-5	06/24/04	0.24	98.31	0.64	0.02	49.14	20.18	1.09	16.47	4.47	0.98	0.85	2.56	0.26	2.56
20043222	ESP ASH 2-A-3-6	06/24/04	0.28	98.09	0.66	0.02	49.70	19.91	1.14	16.35	4.56	0.98	0.84	2.47	0.25	2.79
20043223	ESP ASH 2-A-3-7	06/24/04	0.15	98.69	0.78	0.02	49.72	19.16	1.05	18.65	5.47	0.98	0.74	2.30	0.21	1.72
20043224	ESP ASH 2-A-3-8	06/24/04	0.17	98.64	0.73	0.02	49.78	19.64	1.03	18.19	5.07	0.97	0.76	2.35	0.21	1.83
20043225	ESP ASH 2-A-3-9	06/24/04	0.13	91.45	1.78	0.18	43.94	18.14	1.09	14.91	4.47	0.92	0.81	2.31	0.28	7.66
20043226	ESP ASH 2-A-3-10	06/24/04	0.17	96.71	0.56	0.03	47.56	19.87	1.15	14.72	4.16	0.98	0.84	2.50	0.31	4.68
20043227	ESP ASH 2-A-3-11	06/24/04	0.01	98.14	0.78	0.02	48.51	19.38	1.06	16.55	4.77	0.97	0.77	2.32	0.24	2.41
20043228	ESP ASH 2-A-3-12	06/24/04	0.02	97.96	0.73	0.02	48.64	19.81	1.09	15.87	4.50	0.98	0.84	2.50	0.29	2.83
20043229	ESP ASH 2-A-3-13	06/24/04	0.51	89.45	0.64	0.03	40.21	17.09	1.05	16.11	3.86	0.89	0.74	2.12	0.32	10.88
20043230	ESP ASH 2-A-3-14	06/24/04	0.28	96.50	0.37	0.02	47.65	20.06	1.16	13.92	3.90	1.00	0.86	2.51	0.31	5.30
20043231	ESP ASH 2-A-3-15	06/24/04	0.28	96.37	0.54	0.01	46.87	19.45	1.13	14.97	4.06	0.97	0.82	2.43	0.31	5.00
20043232	ESP ASH 2-A-3-16	06/24/04	0.22	96.71	0.63	0.03	45.66	18.38	1.05	17.67	5.09	1.00	0.70	2.17	0.29	4.45
Average	Test #2	6/24/2004	0.16	98.94	0.59	0.022	49.02	19.01	1.00	19.90	5.70	1.14	0.70	2.25	0.28	1.60

Table 17. Results of analyses of the ESP ash samples collected during Test 3.

Analytical No.	Sample ID	Test Date	Moisture (%)	Ash (%, dry)	Carbon (%, dry)	Hg (ppm)	Major Ash Element (%, dry)									
							SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3
20043233	ESP ASH 3-A-3-1	06/24/04	0.01	99.13	0.60	0.01	49.90	19.27	1.03	18.08	4.91	0.91	0.73	2.15	0.18	1.32
20043234	ESP ASH 3-A-3-2	06/24/04	0.01	98.94	0.63	0.01	49.71	19.24	1.04	17.84	4.96	0.93	0.74	2.17	0.20	1.52
20043235	ESP ASH 3-A-3-3	06/24/04	0.07	99.17	0.57	0.01	48.14	18.60	0.98	19.65	5.88	1.05	0.67	2.06	0.25	1.30
20043236	ESP ASH 3-A-3-4	06/24/04	0.08	99.01	0.63	0.01	48.67	18.70	0.99	18.81	5.43	0.96	0.72	2.21	0.23	1.41
20043237	ESP ASH 3-A-3-5	06/24/04	0.19	98.28	0.63	0.01	49.02	20.48	1.11	15.64	4.31	0.94	0.91	2.61	0.27	2.49
20043238	ESP ASH 3-A-3-6	06/24/04	0.19	98.14	0.67	0.01	48.80	20.25	1.11	15.67	4.37	0.95	0.84	2.48	0.26	2.60
20043239	ESP ASH 3-A-3-7	06/24/04	0.08	98.99	0.65	0.01	48.02	19.46	1.01	17.93	5.25	0.92	0.77	2.34	0.21	1.69
20043240	ESP ASH 3-A-3-8	06/24/04	0.16	99.01	0.63	0.01	49.58	19.69	1.01	18.42	5.52	0.93	0.74	2.30	0.20	1.67
20043241	ESP ASH 3-A-3-9	06/24/04	0.48	96.31	0.64	0.02	46.54	19.93	1.14	14.64	4.22	0.96	0.89	2.57	0.31	5.10
20043242	ESP ASH 3-A-3-10	06/24/04	0.40	97.29	0.56	0.01	48.96	20.65	1.17	14.66	4.16	0.99	0.89	2.54	0.31	4.19
20043243	ESP ASH 3-A-3-11	06/24/04	0.30	98.12	0.74	0.01	48.45	20.21	1.09	15.83	4.54	0.95	0.86	2.56	0.25	2.56
20043244	ESP ASH 3-A-3-12	06/24/04	0.30	98.04	0.68	0.01	47.72	20.11	1.11	15.43	4.47	0.95	0.86	2.50	0.27	2.84
20043245	ESP ASH 3-A-3-13	06/24/04	0.47	98.12	0.74	0.02	47.37	18.92	0.99	18.49	5.37	0.98	0.73	2.26	0.22	2.18
20043246	ESP ASH 3-A-3-14	06/24/04	0.65	96.57	0.40	0.01	47.11	20.17	1.14	14.00	3.96	0.98	0.88	2.65	0.31	4.94
20043247	ESP ASH 3-A-3-15	06/24/04	0.30	96.81	0.61	0.02	47.34	20.12	1.13	15.20	4.34	0.97	0.85	2.56	0.28	4.22
20043248	ESP ASH 3-A-3-16	06/24/04	0.36	97.25	0.68	0.02	46.60	19.28	1.06	16.51	4.70	0.94	0.81	2.47	0.28	3.68
Average	Test #3	6/24/2004	0.071	98.93	0.61	0.010	48.99	19.05	1.02	18.34	5.23	0.96	0.73	2.18	0.22	1.57

Table 18. Results of analyses of the ESP ash samples collected during Test 4.

Analytical No.	Sample ID	Test Date	Moisture (%)	Ash (%, dry)	Carbon (%, dry)	Hg (ppm)	Major Ash Element (%, dry)									
							SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3
20043249	ESP ASH 4-A-3-1	06/25/04	0.01	99.12	0.43	0.01	51.64	19.73	1.05	18.49	4.60	1.05	0.70	2.60	0.21	1.41
20043250	ESP ASH 4-A-3-2	06/25/04	0.04	99.28	0.43	0.01	51.76	19.43	1.03	18.88	4.67	0.97	0.69	2.65	0.19	1.29
20043251	ESP ASH 4-A-3-3	06/25/04	0.02	99.61	0.28	0.01	48.20	18.04	0.94	22.27	6.09	1.36	0.56	2.24	0.40	1.04
20043252	ESP ASH 4-A-3-4	06/25/04	0.06	99.18	0.47	0.01	49.79	18.90	0.99	19.86	5.41	1.15	0.65	2.53	0.30	1.48
20043253	ESP ASH 4-A-3-5	06/25/04	0.11	98.27	0.58	0.01	50.32	20.38	1.13	17.02	4.20	1.08	0.78	2.91	0.30	2.48
20043254	ESP ASH 4-A-3-6	06/25/04	0.02	98.25	0.58	0.01	50.35	20.26	1.14	17.01	4.11	1.08	0.74	2.77	0.28	2.28
20043255	ESP ASH 4-A-3-7	06/25/04	0.14	98.81	0.58	0.01	49.97	19.47	1.05	18.93	4.89	1.11	0.65	2.54	0.25	1.67
20043256	ESP ASH 4-A-3-8	06/25/04	0.06	98.73	0.60	0.01	50.30	19.76	1.07	18.53	4.66	1.10	0.69	2.66	0.27	1.75
20043257	ESP ASH 4-A-3-9	06/25/04	0.28	96.36	0.45	0.01	47.82	19.85	1.19	15.61	4.20	1.07	0.75	2.64	0.36	5.05
20043258	ESP ASH 4-A-3-10	06/25/04	0.19	97.49	0.47	0.01	48.68	20.05	1.20	15.42	4.07	1.05	0.76	2.63	0.32	4.06
20043259	ESP ASH 4-A-3-11	06/25/04	0.04	98.21	0.67	0.01	49.61	20.02	1.12	16.98	4.35	1.08	0.75	2.80	0.29	2.43
20043260	ESP ASH 4-A-3-12	06/25/04	0.16	98.11	0.46	0.01	49.35	20.01	1.15	16.55	4.30	1.09	0.74	2.68	0.31	2.82
20043261	ESP ASH 4-A-3-13	06/25/04	0.16	99.38	0.36	0.01	48.34	18.43	0.92	22.13	6.06	1.12	0.56	2.40	0.31	1.28
20043262	ESP ASH 4-A-3-14	06/25/04	1.22	85.91	1.19	0.09	37.49	16.42	0.99	19.64	3.46	0.87	0.71	2.22	0.30	10.86
20043263	ESP ASH 4-A-3-15	06/25/04	0.16	96.35	0.50	0.02	47.79	20.26	1.18	14.72	4.12	1.03	0.82	2.72	0.33	5.04
20043264	ESP ASH 4-A-3-16	06/25/04	0.40	94.34	0.55	0.02	44.79	19.34	1.16	15.28	4.19	1.01	0.78	2.60	0.36	7.12
Average	Test #4	6/25/2004	0.054	99.04	0.42	0.011	50.10	19.07	1.01	19.62	5.11	1.13	0.66	2.52	0.28	1.56

Table 19. ESP ash sample summary.

Sample Description	ESP Hopper Ash			
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Test No.	1	2	3	4
Moisture (%, as det'd)	0.12	0.16	0.07	0.05
Ash (%, dry)	98.19	98.94	98.93	99.04
Carbon (%, dry)	1.07	0.59	0.61	0.42
Hg (ppm, as det'd)	4.14E-02	2.15E-02	1.03E-02	1.08E-02
Major Ash Elements (%, dry)				
SiO_2	50.58	49.02	48.99	50.10
Al_2O_3	20.16	19.01	19.05	19.07
TiO_2	1.08	1.00	1.02	1.01
Fe_2O_3	17.70	19.90	18.34	19.62
CaO	4.62	5.70	5.23	5.11
MgO	0.99	1.14	0.96	1.13
Na_2O	0.68	0.70	0.73	0.66
K_2O	2.21	2.25	2.18	2.52
P_2O_5	0.21	0.28	0.22	0.28
SO_3	1.68	1.60	1.57	1.56

Figure 21 shows the relationship between the mercury and the carbon concentration in the ESP hopper ash. Although the correlation coefficient was not very high (R^2 = 0.60), the amount of Hg measured in the ESP hopper ash sample increases with the amount of carbon measured in the ash sample, as indicated by the linearly-fitted straight line.

D. Scrubber sludge

The sludge samples were first filtered to generate separate residue or filtercake and liquid filtrate samples. The dried residue and filtrate samples were then analyzed separately. Listed in Tables 20 and 21 are the results of analyses of scrubber sludge solids residue and filtrate samples, respectively.

Table 20. Results of analyses of scrubber sludge solids samples.

Sample ID	FGD Slurry-1	FGD Slurry-2	FGD Slurry-3	FGD Slurry-4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Analytical No.	20043197	20043198	20043199	20043200
Filtercake/original sample (wt/wt)	18.86	20.57	20.40	20.96
Air-dired solids/original sample (wt/wt)	14.72	15.67	15.20	15.30
Residual moisture (%, as det'd)	1.36	1.31	1.41	1.54
Ash (%, dry)	79.67	79.63	79.71	79.74
Carbon (%, dry)	0.33	0.29	0.27	0.30
Chlorine (%, dry)	0.05	0.09	0.02	0.04
Hg (ppm, as det'd)	0.33	0.36	0.34	0.35
Major Ash Elements (%)				
SiO_2	1.23	1.12	1.11	1.10
Al_2O_3	0.15	0.13	0.14	0.14
TiO_2	0.01	0.01	0.01	0.01
Fe_2O_3	0.12	0.11	0.11	0.11
CaO	32.80	32.85	33.17	32.95
MgO	0.40	0.41	0.41	0.42
Na_2O	0	0	0	0
K_2O	0.03	0.02	0.03	0.02
P_2O_5	0	0	0	0
SO_3	43.01	42.88	43.10	43.07

Table 21. Results of analyses of scrubber sludge filtrate samples.

Sample ID	FGD Slurry Filtrate -1	FGD Slurry Filtrate - 2	FGD Slurry Filtrate- 3	FGD Slurry Filtrate - 4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Analytical No.	20043269	20043270	20043271	20043272
Ca (μg/mL)	759	734	763	737
Mg (μg/mL)	1,330	1,340	1,350	1,320
K (μg/mL)	4.78	5.26	4.74	5.37
Na (μg/mL)	25.8	28.5	26.0	28.3
Ammonia as NH_3 (μg/mL)	< 10	< 10	< 10	< 10
Cl (μg/mL)	2,180	2,160	2,190	2,210
NO_3 as N (μg/mL)	8.80	8.33	8.15	11.3
SO_4 (μg/mL)	4,040	4,080	4,130	4,020
Hg (μg/L)	29.8	21.5	22.4	19.2

E. FGD make-up water samples

Table 22 summarizes the analytical results for the make-up water samples.

Table 22. Results of analyses of FGD make-up water samples

Sample ID	FGD Makeup Water -1	FGD Makeup Water - 2	FGD Makeup Water- 3	FGD Makeup Water - 4
Sample Date	6/23/2004	6/24/2004	6/24/2004	6/25/2004
Analytical No.	20043273	20043274	20043275	20043276
Ca (μg/mL)	33.3	33.7	34.6	32.1
Mg (μg/mL)	6.44	6.35	6.29	6.3
K (μg/mL)	2.23	2.82	2.87	2.71
Na (μg/mL)	7.54	9.21	9.30	9.02
Ammonia as NH_3 (μg/mL)	< 10	< 10	< 10	< 10
Cl (μg/mL)	4.0	5.0	2.0	4.0
NO_3 as N (μg/mL)	0.41	0.37	0.44	0.38
SO_4 (μg/mL)	26.2	25.5	24.8	25.8
Hg (μg/L)	<1.0	<1.0	<1.0	<1.0

QUALITY ASSURANCE/QUALITY CONTROL

The sampling and analysis QA/QC procedures are described below.

- Personnel specifically trained and experienced in power plant sampling methods, including the Ontario-Hydro mercury sampling method, conducted all sampling,
- The sampling equipment was maintained and calibrated as required,
- Consistent sample preparation and recovery procedures were used,
- Samples were logged and tracked under the direction of sample team Group Leader,
- Individual calibration curves were developed for each sample matrix,
- NIST Standard Reference Material (SRM) and lab QC samples were analyzed to verify calibration curves,
- Duplicates of selected samples were analyzed to assure repeatability,
- Analyses of selected "spiked" samples were analyzed to assure sample recovery, and
- Interim data were reviewed to assure sample completeness.

All samples were obtained using the procedures described in EPA Method 5 and the Ontario-Hydro mercury speciation draft method. Data were recorded on standard forms, which are included in Appendix A. The field data were reduced using standard "in-house" spreadsheets. Copies of the summary sheets are included in Appendix A. To assure consistency, all of the Ontario-Hydro train components were prepared and recovered under the supervision of a senior technician experienced in

the Ontario-Hydro mercury speciation lab techniques. Copies of the recovery sheets are included in Appendix C.

The Ontario-Hydro sampling train analysis consisted of eight sub-samples. Each sub-sample analysis consisted of developing a calibration curve (absorbance versus mercury concentration in solution), checks of field and lab blanks, calibration checks with SRM and lab standards, selected duplicates and selected sample spikes. The laboratory summaries for each of these runs are contained in Appendix C.

A total of 207 individual Ontario-Hydro mercury determinations were completed. This included 14 blank samples, 30 NIST SRM or lab QC checks, 12 sample spikes, and 13 duplicate analyses.

I. Blank Samples

A total of 14 blank liquid samples were analyzed. The average blank value was <1.0 ng/mL (ppb in solution). The average blank value is much less than any individual Hg^{part}, Hg^{++}, or Hg^{0} determination in ng/mL and, more importantly, is much less than the mercury concentration detection limit (discussed later in this report). Consequently, in this report, blank concentrations were not subtracted out from any mercury determination.

II. NIST Standard Reference Material Checks

Thirty NIST Standard Reference Material (SRM) checks were conducted throughout the mercury determinations. Two standards were used in the determinations as detailed in Table 23.

Table 23. NIST SRM analyses

NIST SRM	Standard Value (ng/mL)	Sample Fraction	Samples Analyzed	Average Result (ng/mL)	Percent of Standard	Standard Deviation (%)	Percent Relative Standard Deviation
1641D	8.0	Ontario Hydro Liquids	22	7.9	98.8	0.26	3.3
		Ontario Hydro Filters	3	8.0	100.0	0.00	0.00
1633b	149.0	Ontario Hydro Filters	5	144	96.6	13.4	9.3

III. Spike Sample Recoveries

A total of 12 samples were spiked with a 2 or 10 μg/L mercury standard and then re-analyzed to determine the percent spike recovery. The result of this QA/QC procedure was an average spike recovery of 86.1% recovery with a ±4.8% standard deviation.

IV. Duplicate Analyses

A total of 13 duplicate analyses were conducted periodically throughout the mercury determinations. The result of this QA/QC procedure was an average mercury determination that was within 3.0% of the original mercury determination, with a ±7.4% standard deviation. One duplicate was reported at 25 percent less than the original result (0.3 ng/mL) at 0.2 ng/mL, however, as this is the detection limit, it was considered acceptable.

V. Flue Gas Mercury Concentration Detection Limits

For liquid samples, the flue gas mercury concentration was calculated using the following equation:

$$Hg\left[\mu g / m^3\right] = \frac{\left(C_{imp}\ x V_{imp}\right)}{\left(V_{gas}\ x 1000\right)}$$

where: C_{imp} = Mercury concentration of impinger solution [ng/mL (ppb)]
V_{imp} = Liquid volume of impinger solution [mL]
V_{gas} = Flue gas sample volume [dry standard m^3]
1000= Conversion factor [1000 ng per µg]

The flue gas mercury detection limit is reduced when the flue gas sample volume is increased or liquid volume of impinger solution is decreased. The CVAA is calibrated between 0 and 20 ng/mL. Over this range, the calibration curve between absorbance and concentration is linear. The lowest concentration standard used to develop the calibration curve is 0.500 ng/mL. In addition, the detection limit of the liquid CVAA analysis was <1.0 ng/mL. The prescribed sampling and recovery procedures result in final liquid volumes varying between 49 and 861 mL. The volume of flue gas collected varied between 1.047 and 3.218 dscm. The sampling variables result in sample-specific flue gas detection limit. The flue gas mercury detection limit for each sample matrix is listed in Table 24. Depending on the matrix, the flue gas mercury detection limit ranged from 0.1-0.8 µg/m^3.

Table 24. Flue gas mercury detection limits

Matrix	Maximum Liquid Volume (mL)	Minimum Gas Volume (dscm)	Flue Gas Detection Limit (µg/m^3)
Probe Rinse	216	1.047	0.2
KCl Impinger	861	1.047	0.8
HNO_3/H_2O_2 Impingers	180	1.047	0.2
$KMnO_4$ Impingers	248	1.047	0.2
HCl Rinse	100	1.047	0.1

VI. Mercury Material Balance Closure

One important criterion to gauge the overall quality of the tests is to conduct a mass balance to account for the mercury entering and leaving the plant during the time of the tests. Mercury entered the plant through coal, FGD reagent, and FGD make-up water. Mercury left the plant via bottom ash, ESP hopper ash, FGD sludge, and stack flue gas. The calculation of each process stream's contribution to the mercury balance is described in the following sections.

A. Mercury input from coal

The coal feed rates were recorded and provided by the plant. A coal sample was collected for each test and the results of the analyses were used for material balance calculations. The average values of the analyses for the coal samples are summarized in Table 11. The mercury input from coal was calculated, and the results are summarized in Table 25.

Table 25. Mercury input from coal

Test No.	1	2	3	4
Coal feed rate (kpph)	1,016.2	1,051.4	978.5	1,056.8
Coal moisture content (as det'd, %)	3.29	5.01	3.43	5.10
Coal mercury content (ppm)	0.08	0.08	0.09	0.08
Mercury input from the coal (mg/sec)	10.24	10.60	11.10	10.65

B. Limestone slurry mercury input

Samples of the FGD reagent were collected during each test. The results of the analyses of the limestone solids and filtrates were provided previously in Tables 13 and 14, respectively.

The limestone slurry feed rate can be determined from the measured sulfur contents of the feed coal, bottom ash, and ESP ash, and the stack flue gas sulfur dioxide concentration. By applying the limestone slurry mercury concentrations to the calculated slurry feed rate, the total mercury input from limestone slurry can be determined. Table 26 summarizes the results.

Table 26. Mercury input from limestone slurry

Test No.	1	2	3	4
Coal feed rate (kpph)	1,016.2	1,051.4	978.5	1,056.8
Coal moisture content (as det'd, %)	3.29	5.01	3.43	5.1
Coal sulfur content, (dry, wt%)	2.98	3.25	2.93	3.31
FGD sulfur input from coal (kpph)	28.74	31.94	27.23	32.69
Ca/S ratio	1.01			
Limestone slurry density (lb/gal)	10.55			
Limestone slurry required (kpph)	354.5	403.8	389.3	454.5
Slurry mercury content, (ppb)	2.14	1.73	0.52	1.3
Mercury input from slurry (mg/sec)	0.10	0.09	0.03	0.07

C. Mercury output via bottom ash

The rates of bottom ash leaving the plant were calculated based on the assumption that 20 percent of the coal ash ended up as bottom ash. The results of analyses of the four bottom ash samples collected at the end of each test were previously summarized in Table 12. The mercury output via the bottom ash from each test was calculated and the results are summarized in Table 27.

Table 27. Mercury output from bottom ash.

Test No.	1	2	3	4
Coal feed rate (kpph)	1,016.2	1,051.4	978.5	1,056.8
Coal moisture content (as det'd, %)	3.29	5.01	3.43	5.1
Coal ash content (%, dry)	10.04	9.77	9.37	9.88
Bottom Ash/Coal Ash (wt/wt)	0.2[a]			
Bottom ash mass flow rate (kpph)	19.73	19.51	17.71	19.82
Bottom ash Hg content (ppm, as det'd)	0.02	0.02	0.02	0.02
Hg output via bottom ash (mg/sec)	0.05	0.05	0.04	0.05

[a] – value provided by plant personnel

D. Mercury output via ESP ash

For material balance calculations, the average ESP ash mercury value was employed. The hoppers were arranged in a 4 x 4 pattern (four field x 4 hoppers in each field). About 90 percent of the ash was collected in the four hoppers from the first field hoppers (A-3-1, A-3-2, A-3-3, and A-3-4) and the balance (ten percent of the

ash) was collected from the other 12 hoppers (A-3-5 to A-3-16). The average value was calculated as follows:

0.90 x (average value of the four hoppers in the first field) + 0.10 x (average value of the other 12 hoppers)

Table 19 summarizes the average values of the results of analyses of ESP hopper ash samples collected in each test. The mercury output via the ESP ash from each test was calculated and the results are summarized in Table 28.

Table 28. Mercury output via ESP ash.

Test No.	1	2	3	4
Coal feed rate (kpph)	1,016.2	1,051.4	978.5	1,056.8
Coal moisture content (as det'd, %)	3.29	5.01	3.43	5.10
Coal ash content (%, dry)	10.04	9.77	9.37	9.88
Coal ash fraction going to ESP	0.80[a]			
Coal ash going to ESP (kpph)	78.94	78.06	70.83	79.27
Total mass captured in ESP (kpph)	79.89	78.65	71.31	79.65
ESP ash moisture content (as det'd, %)	0.12	0.16	0.07	0.05
ESP ash carbon content (%, dry)	1.07	0.59	0.62	0.42
ESP ash Hg content (ppm as det'd)	0.04	0.02	0.01	0.01
Hg output via ESP ash (mg/sec)	0.42	0.21	0.09	0.11

[a] – value provided by plant personnel

E. Mercury output via FGD sludge

Table 29 summarizes the Hg output via the FGD sludge.

Table 29. Mercury output via FGD sludge.

Test No.	1	2	3	4
FGD sludge blowdown rate (kpph)	1,042.7	1,092.2	956.9	1,141.7
FGD sludge Hg content (ppm as det'd)	0.07	0.07	0.07	0.07
Hg output via FGD sludge (mg/sec)	9.56	10.11	8.38	9.89

F. Mercury output via stack flue gas

The amount of Hg in the stack flue gas was calculated based on the Ontario-Hydro data and the results of the mercury output via the stack flue gas are summarized in

Table 30. The heat input from coal was calculated and the mercury emissions, on a heat input basis, are also listed in this table.

Table 30. Mercury output via stack flue gas

Test No.	1	2	3	4
Hg concentration in stack gas (μg/m^3)	1.03	0.80	1.23	0.82
Stack gas flow rate (Nm^3/min)	93,200	95,000	94,900	92,400
Hg flow rate at stack (mg/sec)	1.60	1.26	1.94	1.26
Hg output via stack gas (lb/hr)	0.013	0.01	0.015	0.01
Hg emissions (lb/T Btu)	0.99	0.77	1.19	0.76

G. Mercury material balance closure

The mercury material balance closure is the total mercury output from the plant divided by the total mercury input, expressed in percent. The total mercury input is the sum of the amounts of mercury in the coal, makeup water, and limestone slurry entering the plant. The total mercury output is the sum of the amounts of mercury leaving the plant through bottom ash, ESP hopper ash, FGD sludge, and stack flue gas. Table 31 shows the results of the mercury material balance closure calculations. For the four tests conducted at the plant, the calculated mercury material balance closures ranged from 94% to 112%. The material balance closures for mercury for all four tests are within the QA/QC criterion of 70-130% for a single test and the average value is 105%, which is within the QA/QC criterion of 80-120% for multiple tests.

Table 31. Summary of material balance closure for mercury.

Test No.	1	2	3	4
Hg input from Coal (mg/sec)	10.24	10.60	11.10	10.65
Hg input from limestone slurry (mg/sec)	0.10	0.09	0.03	0.07
Hg input from FGD make-up water (mg/sec)	0.02	0.02	0.01	0.02
Hg input to the system (mg/sec)	**10.35**	**10.70**	**11.14**	**10.74**
Hg output from bottom ash (mg/sec)	0.05	0.05	0.04	0.05
Hg output from ESP hopper ash (mg/sec)	0.42	0.21	0.09	0.11
Hg output from FGD slurry (mg/sec)	9.56	10.11	8.38	9.89
Hg output from stack gas (mg/sec)	1.60	1.26	1.94	1.26
Hg output from the system (mg/sec)	**11.63**	**11.64**	**10.46**	**11.30**
Hg material balance closure	**112%**	**109%**	**94%**	**105%**
Average Hg Material Balance	**105%**			

H. Material balance closure for SiO_2, Al_2O_3 and CaO

By following the above procedures, the material balance closure for three major ash oxides, SiO_2, Al_2O_3, and CaO can also be calculated. Summarized in Tables 32 to 34 are the results of the material balance closure calculations for these three oxides. The material balance closures for SiO_2, Al_2O_3 and CaO range from 102% to 105%, 94% to 108%, and 105% to 110% respectively. The average values of the material balance closures for SiO_2, Al_2O_3 and CaO are 104%, 102% and 107% respectively. The material balance closures for SiO_2, Al_2O_3 and CaO are within the QA/QC criteria.

The fact that the material balance closures for mercury, SiO_2, CaO, and Al_2O_3 fall in the acceptable range of 80-120% indicate that the overall data quality is acceptable.

Table 32. Summary of material balance closure for SiO_2.

Test No.	1	2	3	4
SiO_2 input from coal (kpph)	47.91	45.02	41.79	46.63
SiO_2 input from limestone slurry (kpph)	2.03	1.96	1.61	1.74
Total SiO_2 input (kpph)	49.94	46.98	43.40	48.37
SiO_2 output via bottom ash (kpph)	9.78	9.95	8.71	10.09
SiO_2 output via ESP hopper ash (kpph)	39.63	38.08	34.54	39.5
SiO_2 output via FGD sludge (kpph)	1.53	1.38	1.39	1.38
Total SiO_2 output (kpph)	50.94	49.41	44.64	50.97
SiO_2 material balance closure (%)	102	105	103	105
Average SiO_2 material balance closure (%)	104			

Table 33. Summary of material balance closure for Al_2O_3.

Test No.	1	2	3	4
Al_2O_3 input from coal (kpph)	19.98	17.14	17.84	17.68
Al_2O_3 input from limestone slurry (kpph)	0.16	0.16	0.15	0.16
Total Al_2O_3 input (kpph)	20.14	17.3	17.99	17.84
Al_2O_3 output via bottom ash (kpph)	3.75	3.83	3.39	3.84
Al_2O_3 output via ESP hopper ash (kpph)	15.79	14.77	13.43	15.03
Al_2O_3 output via FGD sludge (kpph)	0.18	0.16	0.17	0.17
Total Al_2O_3 output (kpph)	19.72	18.76	16.99	19.04
Al_2O_3 material balance closure (%)	98	108	94	107
Average Al_2O_3 material balance closure (%)	102			

Table 34. Summary of material balance closure for CaO.

Test No.	1	2	3	4
CaO input from coal (kpph)	4.44	6.87	4.57	6.03
CaO input from limestone slurry (kpph)	47.71	53.25	44.88	54.51
CaO from FGD makeup water (kpph)	0.12	0.11	0.11	0.11
Total CaO input (kpph)	52.27	60.23	49.56	60.65
CaO output via bottom ash (kpph)	0.83	1.00	0.88	0.92
CaO output via ESP hopper ash (kpph)	3.62	4.43	3.69	4.03
CaO output via FGD sludge (kpph)	51.94	57.86	49.74	59.39
Total CaO output (kpph)	56.39	63.29	54.31	64.34
CaO material balance closure (%)	108	105	110	106
Average CaO material balance closure (%)	107			

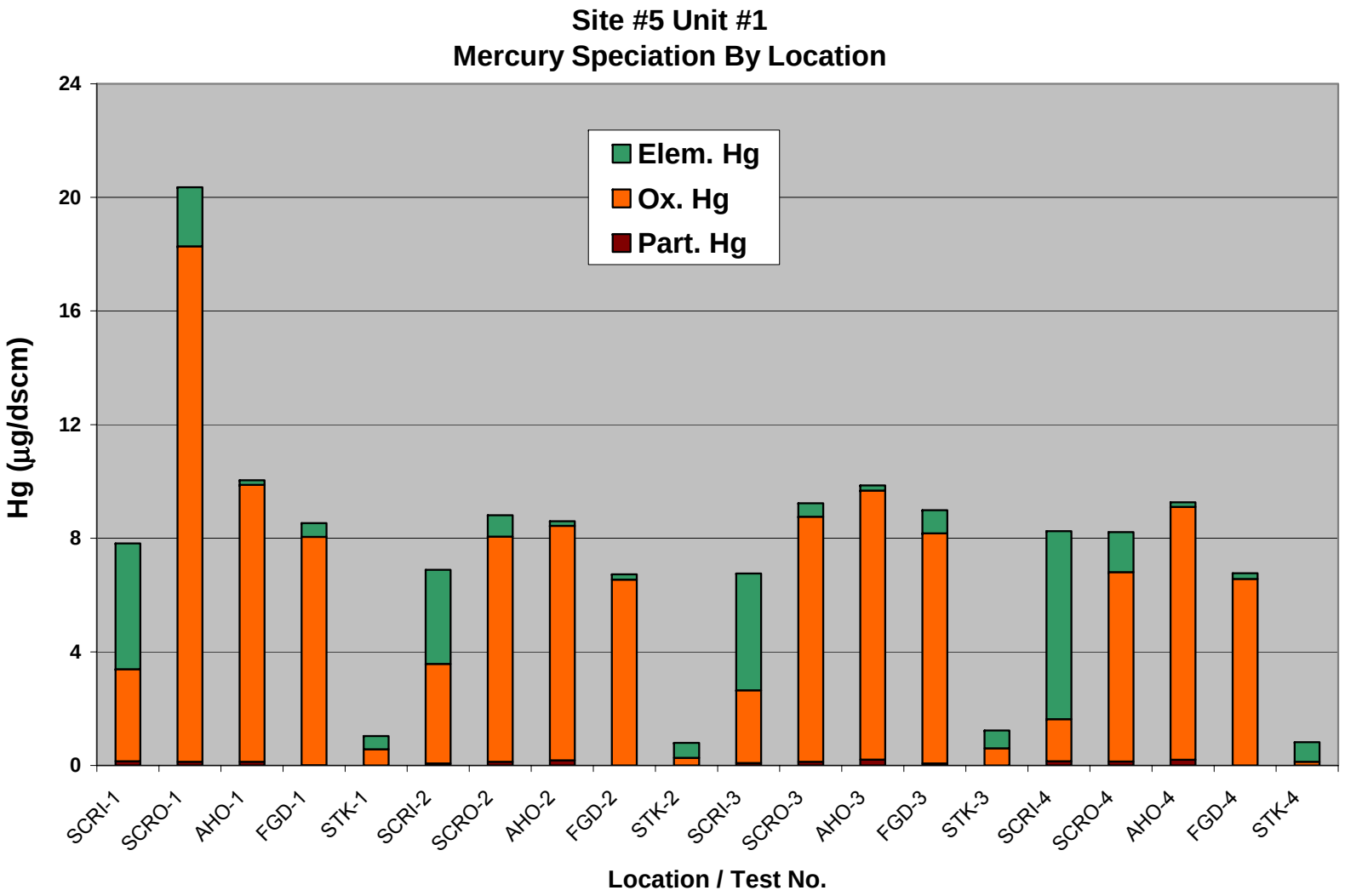


Figure 1. Mercury Speciation.

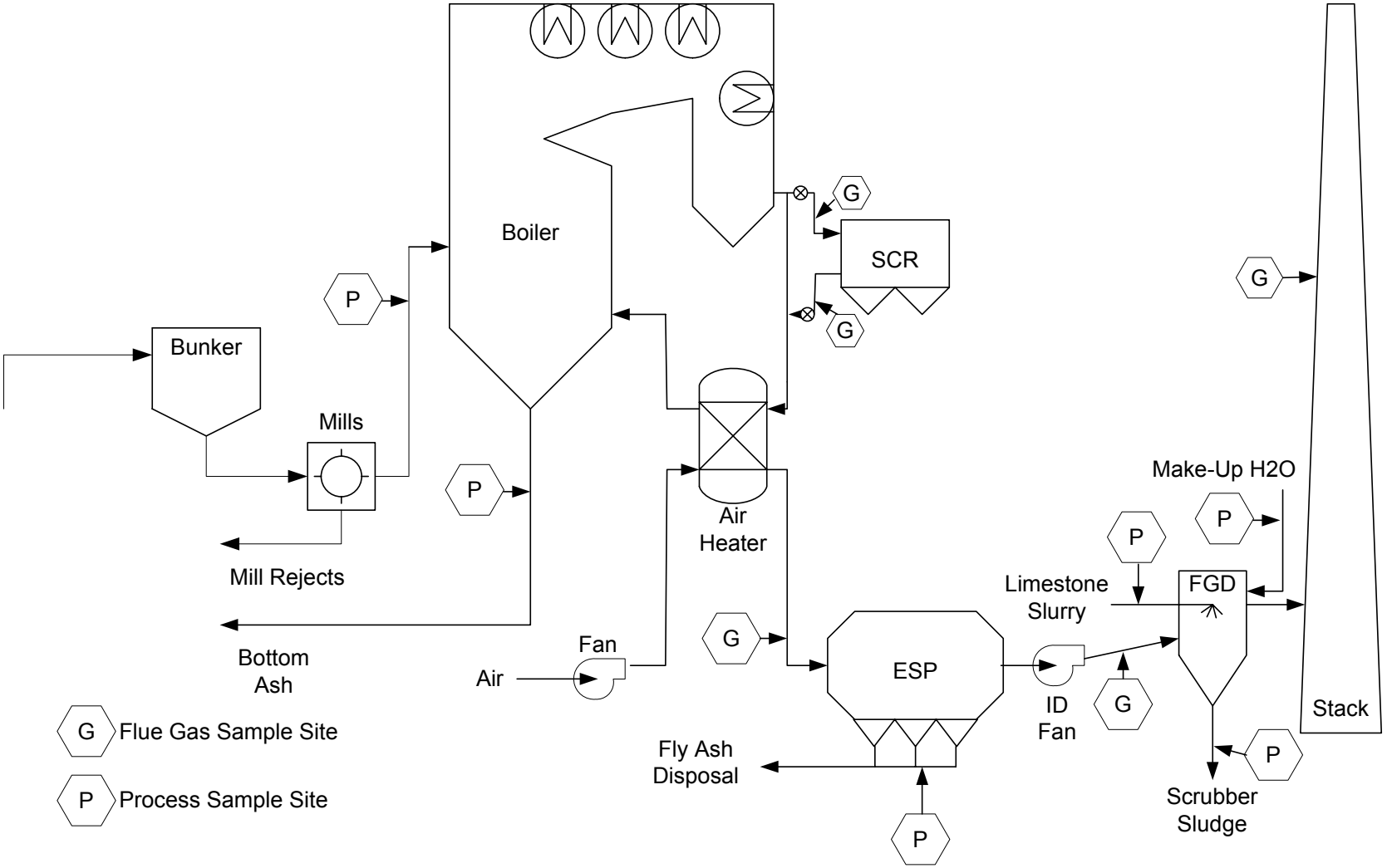
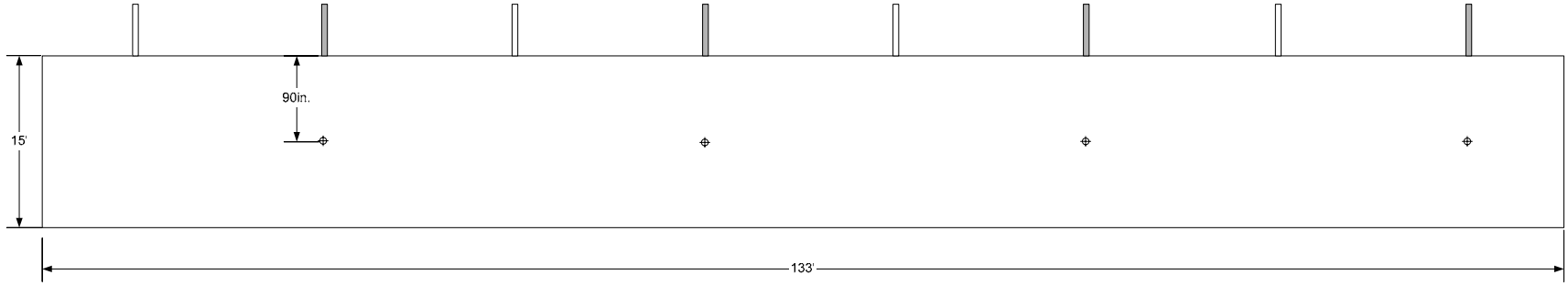


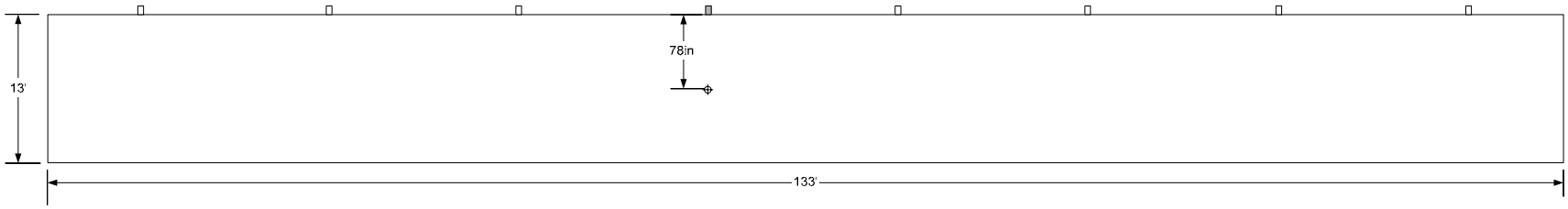
Figure 2. Process Flow Schematic



4 Sample Access Ports (shaded)
1 Sample Point per Access Port (center depth - 90")
4 Total Sample Points
Note: Flow out of page to SCR

Figure 3. SCR Inlet Sampling Location

Figure 4. SCR Inlet Mercury Sampling Train

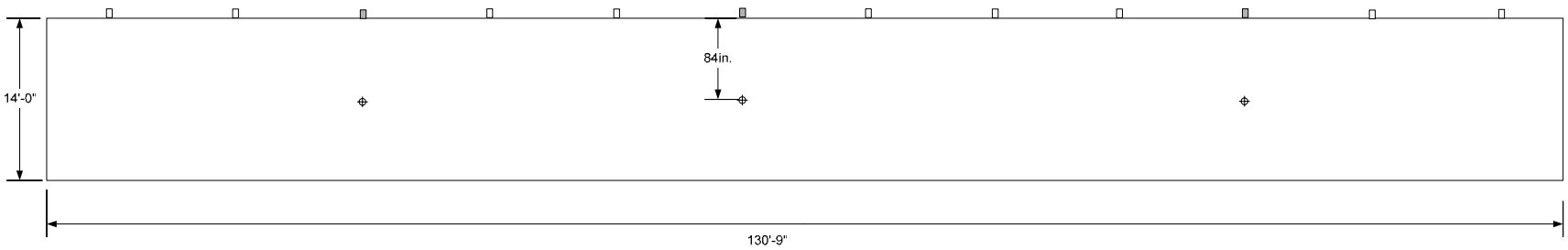


1 Sample Access Port (shaded)
1 Sample Point (depth - 78")

Note: Flow into page to air heater

Figure 5. SCR Outlet Sampling Location

Figure 6. SCR Outlet Mercury Sampling Train

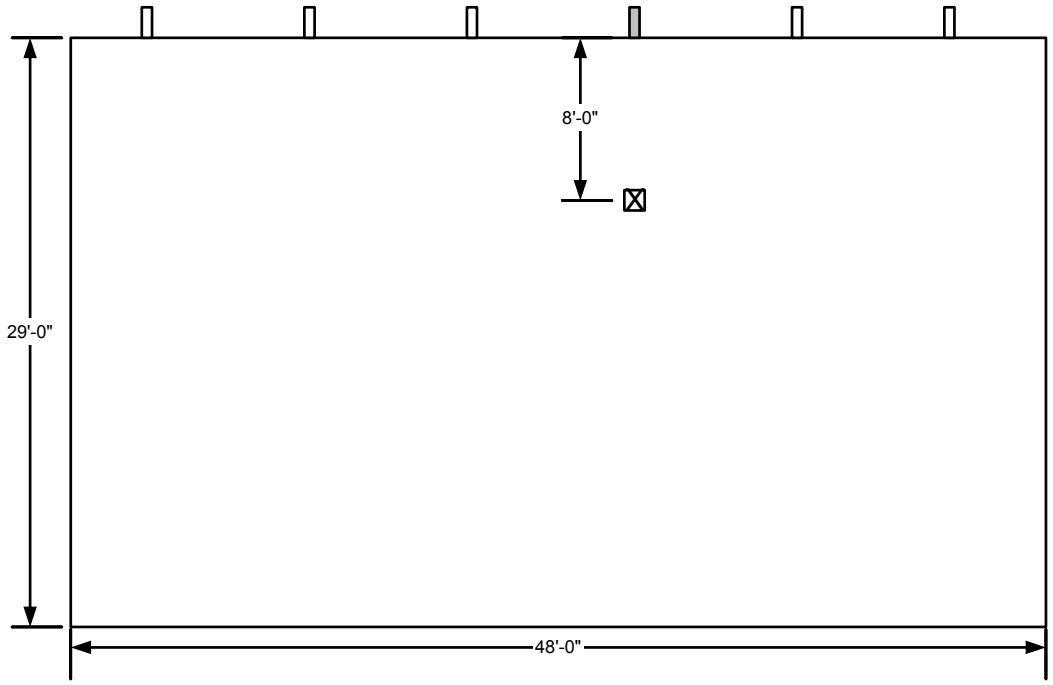


3 Sample Traverse Access Ports
1 Sample Point per Access Port (depth - 84")
3 Total Sample Traverse Points

Note: Flow out of page from air heater

Figure 7. Air Heater Outlet Sampling Location

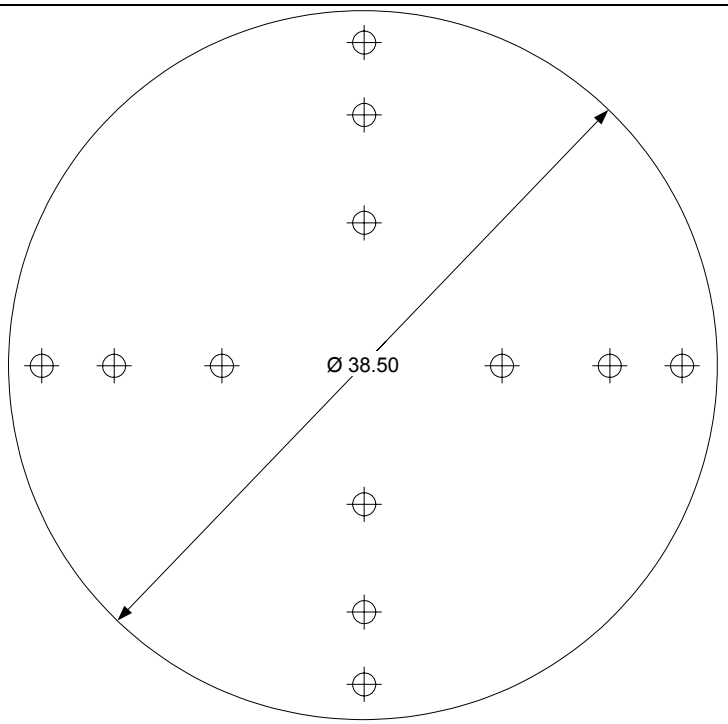
Figure 8. Air Heater Outlet Mercury Sampling Train



Single Sampling Port (shaded)
Single Sampling Point (8 ft.)

Figure 9. FGD Inlet Sampling Location.

Figure 10. FGD Inlet Mercury Sampling Train.



Sampling Platform – 475 ft. level

Velocity Traverse Point Locations

Point	Location
1	20.33
2	67.45
3	136.75

4 Access Ports
3 Velocity Points per Port
12 Total Velocity Points

Single point mercury sampling conducted

Figure 11. Stack Sampling Location.

Figure 12. Stack Mercury Sampling Train.

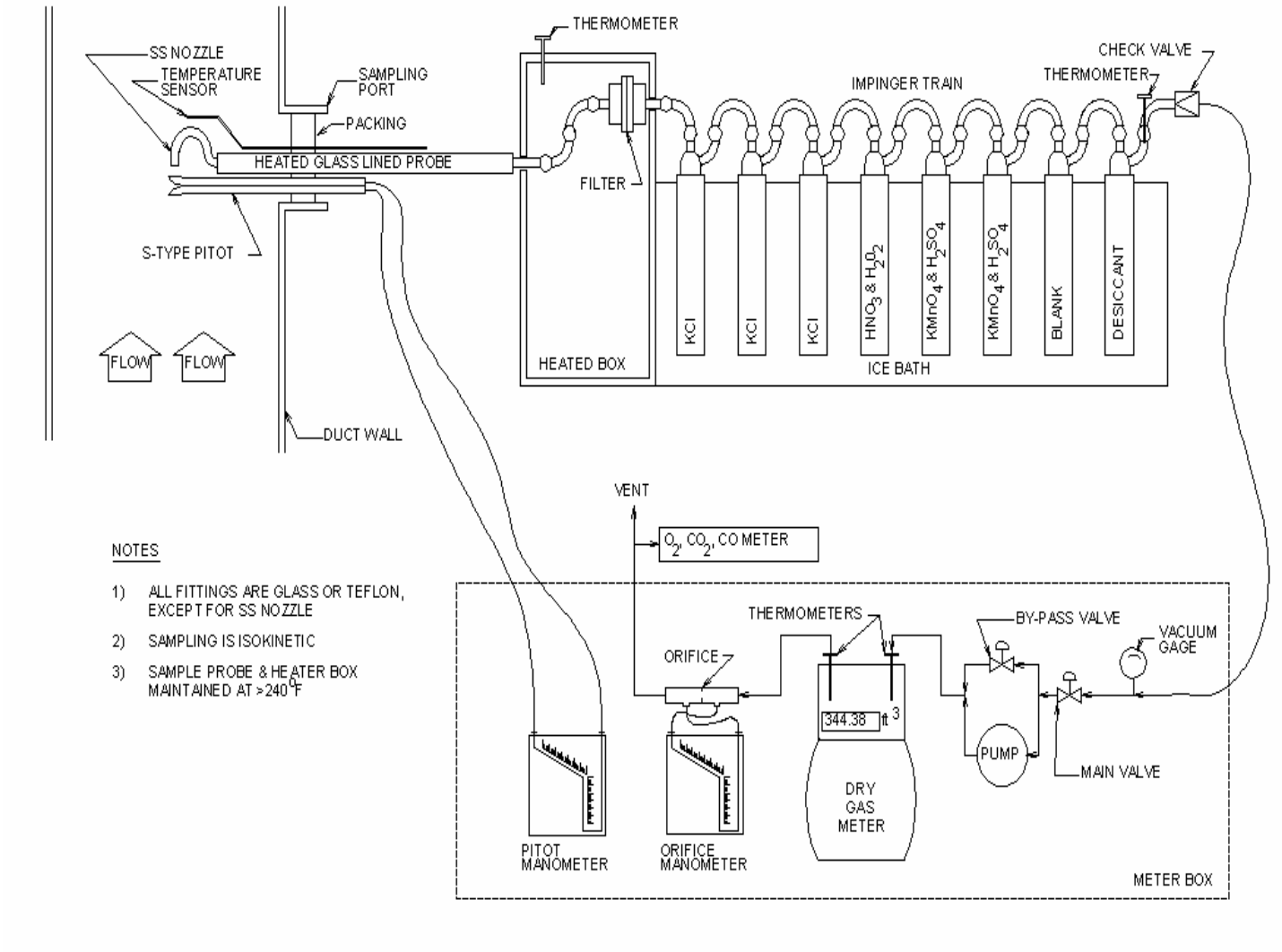


Figure 13. Ontario Hydro Sampling Train Schematic.

Figure 14. Coal Sampling Location.

Figure 15. Limestone Slurry Sampling.

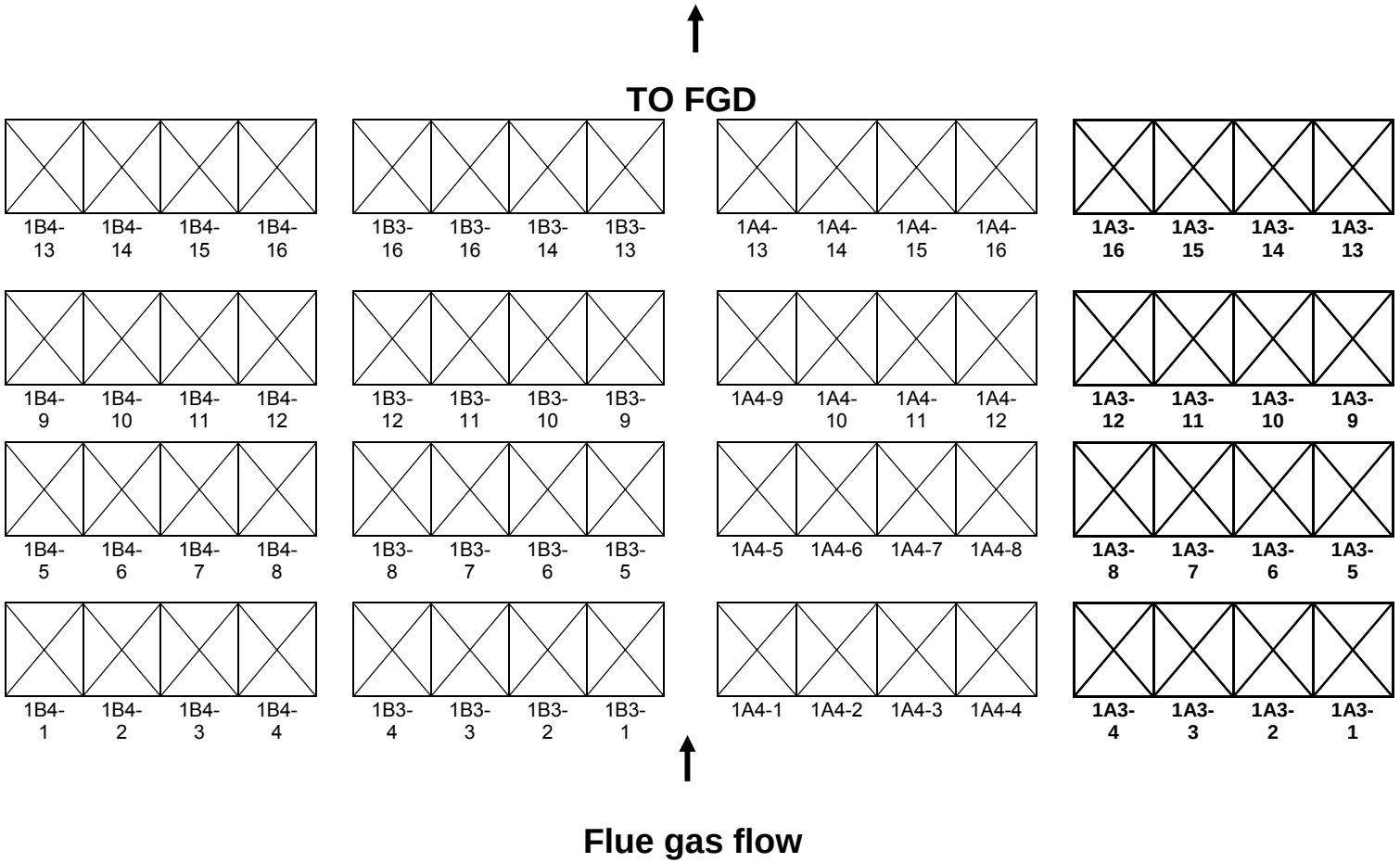


Figure 16. ESP Hopper Arrangement Schematic.

Figure 17. ESP Ash Hoppers.

Figure 18. Ash Sampling Thief.

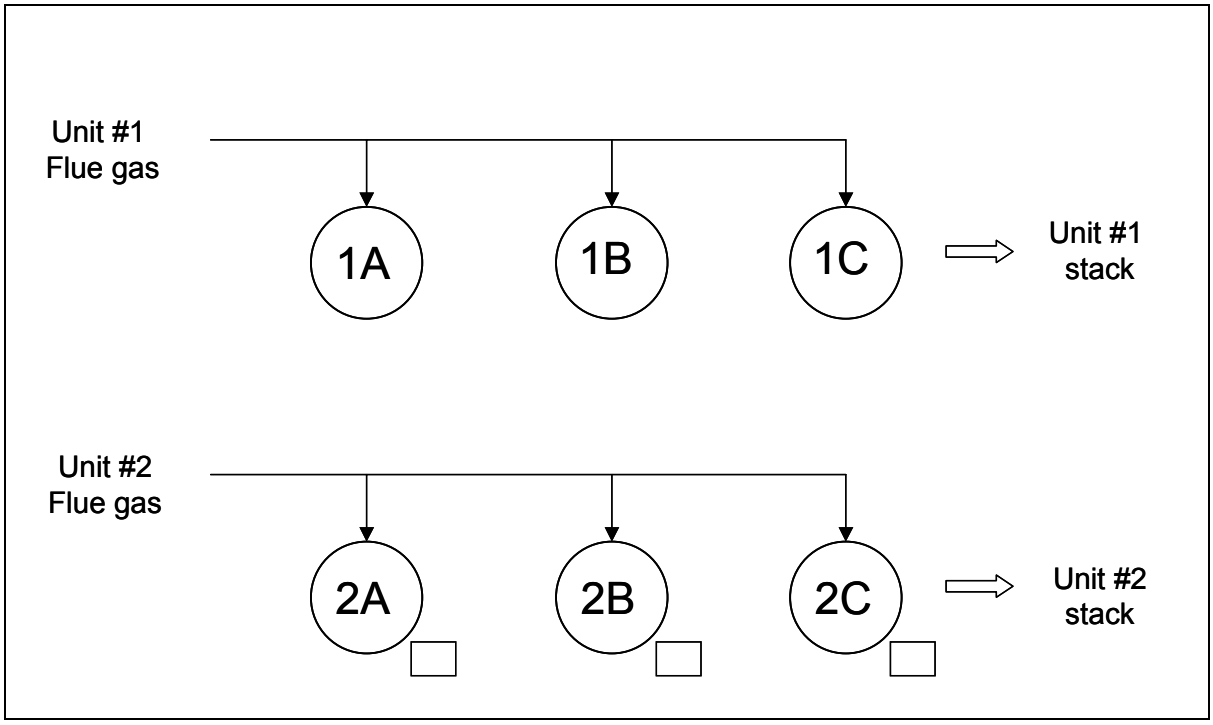


Figure 18. Scrubber Module Layout.

Figure 19. Scrubber sludge and make-up water sampling location.

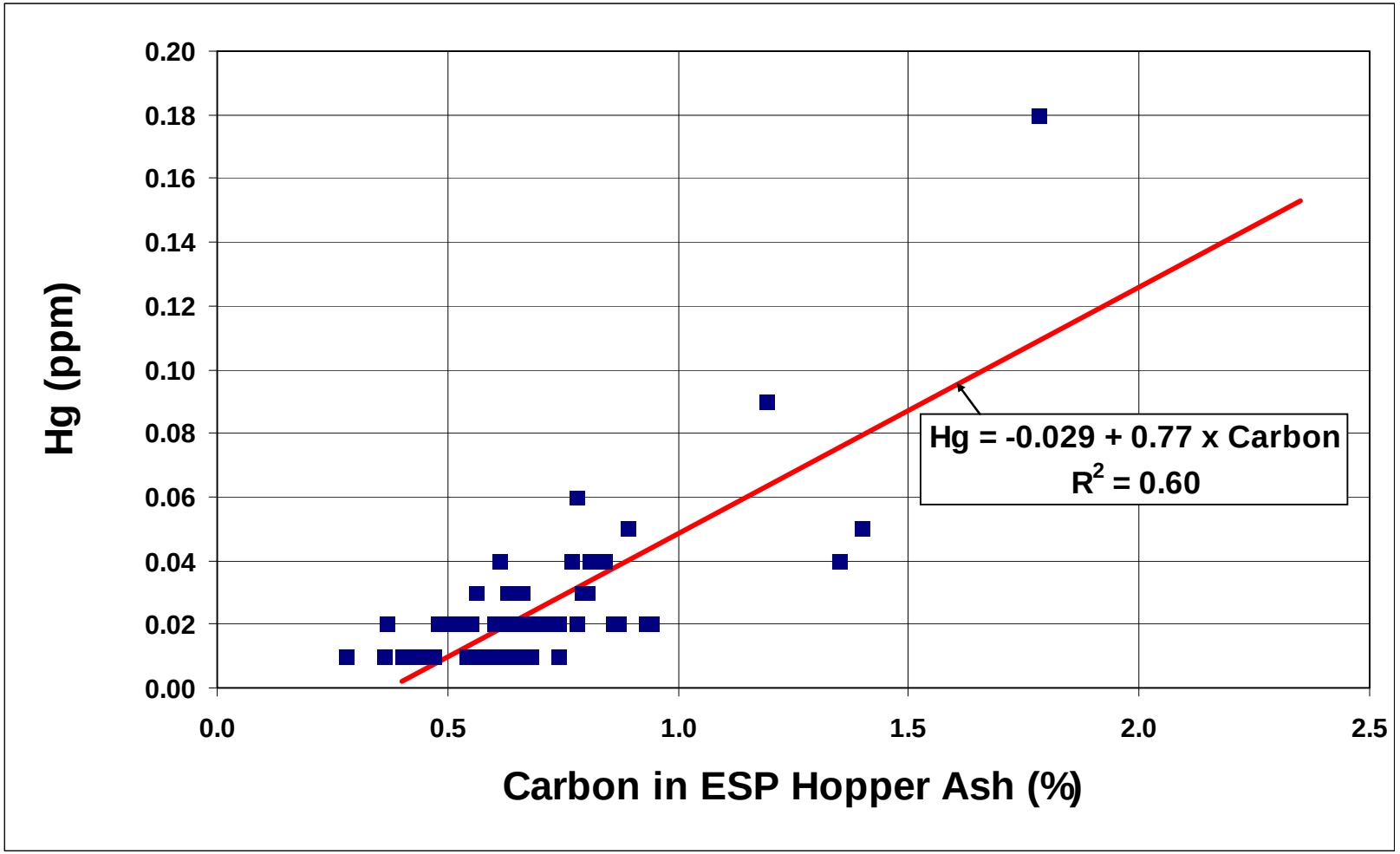


Figure 20. ESP Ash Mercury vs. Carbon Concentration.

APPENDIX A

Mercury Sampling Data

- Field Data Sheets
- Mercury Measurement Data Sheets

Site #5 Unit #1 Hg SAMPLING PROGRAM - ONTARIO HYDRO SAMPLING TRAIN DATA

Location		SCR Inlet	SCR Out	AirHtr Out	FGD Inlet	Stack	SCR Inlet	SCR Out	AirHtr Out	FGD Inlet	Stack	SCR Inlet	SCR Out	AirHtr Out	FGD Inlet	Stack	SCR Inlet	SCR Out	AirHtr Out	FGD Inlet	Stack
Unit		Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1	Unit 1
Date		6/23/2004	6/23/2004	6/23/2004	6/23/2004	6/23/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/25/2004	6/25/2004	6/25/2004	6/25/2004	6/25/2004
Start Time		1340	1340	1340	1340	1350	940	940	940	940	940	1420	1420	1420	1420	1420	940	940	940	940	940
Stop Time		1608	1540	1545	1540	1610	1159	1140	1143	1140	1200	1636	1620	1623	1620	1640	1159	1208	1142	1140	1200
Test Number		1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4
Sample Type		OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg	OH-Hg
Y factor of dry gas meter	-	0.984	1.038	0.966	0.976	1.006	0.984	1.038	0.966	0.976	1.006	0.984	1.038	0.966	0.976	1.006	0.984	1.038	0.966	0.976	1.006
Gas Volume	ft^3	42.89	41.75	45.88	120.98	121.18	40.01	40.35	44.09	120.93	113.59	41.03	40.20	44.82	121.44	102.97	39.30	40.65	44.84	121.74	115.89
Delta H of dry gas meter	$"H_2O$	0.42	0.42	0.46	3.40	2.32	0.36	0.40	0.41	3.40	2.31	0.38	0.39	0.44	3.40	2.20	0.36	0.40	0.42	3.40	2.40
Meter Temperature	°F	98.6	110.3	89.6	100.0	107.0	92.9	107.9	91.0	93.4	111.0	98.0	109.5	94.4	101.4	106.6	84.9	107.1	89.9	88.8	106.0
C Factor of pitot tube		0.846	0.838	0.838	0.835	0.806	0.846	0.838	0.838	0.835	0.806	0.846	0.838	0.838	0.835	0.806	0.846	0.838	0.838	0.835	0.806
Nozzle Diameter	inches	0.213	0.183	0.188	0.248	0.214	0.213	0.183	0.188	0.248	0.214	0.213	0.183	0.188	0.248	0.214	0.213	0.183	0.188	0.248	0.214
A n (area of nozzle)	ft^2	0.00025	0.00018	0.00019	0.00034	0.00025	0.00025	0.00018	0.00019	0.00034	0.00025	0.00025	0.00018	0.00019	0.00034	0.00025	0.00025	0.00018	0.00019	0.00034	0.00025
Area of Stack (Single of Dual)	ft^2	2000.0	1733.3	1827.0	1392.0	1164.2	2000.0	1733.3	1827.0	1392.0	1164.2	2000.0	1733.3	1827.0	1392.0	1164.2	2000.0	1733.3	1827.0	1392.0	1164.2
H_2O Weight	gm	91.8	79.2	88.8	190.2	430.2	91.9	78.1	82.1	176.1	393.8	95.2	88.8	95.5	203.0	380.7	92.3	96.1	90.9	200.4	422.4
Sample Time	minutes	120	120	120	120	150	120	120	120	120	140	120	120	120	120	130	120	120	120	120	140
Barometric Pressure	" Hg	29.47	29.47	29.47	29.47	29.47	29.58	29.58	29.58	29.58	29.58	29.57	29.57	29.57	29.57	29.57	29.50	29.50	29.50	29.50	29.50
Static Pressure	$"H_2O$	-10.12	-14.50	-25.00	7.07	-0.81	-10.05	-15.00	-24.90	7.41	-0.90	-10.14	-15.00	-25.10	7.27	-0.79	-10.02	-14.75	-25.00	7.28	-0.99
% Oxygen	-	4.9	5.9	5.3	8.7	7.8	4.7	5.4	4.9	9.0	7.8	4.7	5.4	5.0	8.8	7.9	4.5	5.1	4.7	9.0	7.7
% Carbon Dioxide		15.2	14.2	14.8	11.6	12.4	15.4	15.0	15.3	11.4	12.5	15.4	15.0	15.1	11.5	12.4	15.6	15.0	15.4	11.3	12.5
% N_2 + CO	-	79.9	79.9	79.9	79.7	79.8	79.9	79.6	79.8	79.6	79.7	79.9	79.6	79.9	79.7	79.7	79.9	79.9	79.9	79.7	79.8
Stack Temp (Dry Bulb)	°F	641	664	315	305	123	643	665	315	304	124	643	666	315	305	125	641	663	314	307	125
Stack Temp (Wet Bulb)	°F																				
"S" sample (rms vel head)	$"H_2O$	0.364	0.748	0.525	1.200	1.178	0.350	0.751	0.505	1.200	1.216	0.358	0.750	0.533	1.200	1.233	0.362	0.750	0.524	1.200	1.170
Dust Wt.	gm	7.9580	7.2477	7.4737	0.0304	0.1126	7.3538	7.0605	6.7989	0.0314	0.0794	4.4700	7.1184	7.9295	0.0499	0.0804	7.8541	7.7244	7.5479	0.0357	0.1072
Sample Volume	DSCF	39.32	39.54	41.97	110.54	112.42	37.19	38.52	40.37	112.23	105.02	37.78	38.26	40.78	111.06	95.89	36.96	38.76	41.03	113.62	107.83
Sample Volume	dscm	1.113	1.120	1.189	3.131	3.184	1.053	1.091	1.143	3.178	2.974	1.070	1.083	1.155	3.145	2.715	1.047	1.098	1.162	3.218	3.054
ABS ST PRES	" Hg	28.73	28.40	27.63	29.99	29.41	28.84	28.48	27.75	30.12	29.51	28.82	28.47	27.72	30.10	29.51	28.76	28.42	27.66	30.04	29.43
ABS ST TEMP	°R	1101	1124	775	765	583	1103	1125	775	764	584	1103	1126	775	765	585	1101	1123	774	767	585
H_2O - % by Vol	vapor	9.9	8.6	9.1	7.5	15.3	10.4	8.7	8.7	6.9	15.0	10.6	9.9	9.9	7.9	15.8	10.5	10.5	9.4	7.7	15.6
Water Volume	std ft^3	4.32	3.73	4.18	8.96	20.26	4.33	3.68	3.87	8.29	18.55	4.48	4.18	4.50	9.56	17.93	4.35	4.53	4.28	9.44	19.90
Dry Molecular Weight	lb/lb-mole	30.63	30.51	30.58	30.20	30.30	30.66	30.62	30.64	30.18	30.31	30.65	30.62	30.62	30.19	30.30	30.68	30.60	30.65	30.17	30.31
Wet Molecular Weight	lb/lb-mole	29.38	29.43	29.44	29.29	28.42	29.34	29.52	29.54	29.35	28.46	29.31	29.37	29.36	29.23	28.36	29.34	29.29	29.46	29.23	28.39
% EXCESS AIR	-	30.1	38.8	33.6	70.5	58.8	28.4	34.6	30.3	74.9	59.1	29.0	34.5	31.1	71.9	60.0	27.1	31.9	28.7	74.7	57.6
Dry Mole Frac.	-	0.901	0.914	0.909	0.925	0.847	0.896	0.913	0.913	0.931	0.850	0.894	0.901	0.901	0.921	0.842	0.895	0.895	0.906	0.923	0.844
Wet Mole Frac.	-	0.099	0.086	0.091	0.075	0.153	0.104	0.087	0.087	0.069	0.150	0.106	0.099	0.099	0.079	0.158	0.105	0.105	0.094	0.077	0.156
Gas Velocity, Direct	- ft/sec	49.85	71.86	50.66	72.98	62.45	48.86	71.82	49.51	72.70	63.37	49.44	72.01	51.02	72.93	63.94	49.71	72.07	50.56	73.07	62.38
ACFM	-	5981422	7473115	5552934	6094995	4362123	5863018	7468819	5426907	6071506	4426653	5932860	7488751	5593073	6091178	4466308	5964722	7495251	5541994	6103216	4357438
DSCFM	-	2480461	3044524	3178444	3900463	3291399	2422883	3046298	3128916	3933995	3353545	2446620	3010993	3181346	3893201	3352027	2460048	2997101	3163373	3895138	3263928
DSCFM (rounded)		2480500	3044500	3178400	3900500	3291400	2422900	3046300	3128900	3934000	3353500	2446600	3011000	3181300	3893200	3352000	2460000	2997100	3163400	3895100	3263900
DSCMM		70247	86221	90014	110461	93212	68616	86271	88611	111411	94972	69288	85271	90096	110255	94929	69669	84878	89587	110310	92434
Stack-Based Flow Rate	- DSCFM	2691469	2874488	2763931	3534207	3291399	2702672	2829959	2741523	3686081	3353545	2698630	2811726	2742759	3604121	3352027	2627064	2726826	2659497	3620492	3263928
Excess Air Free DSCFM	-	1901291	2185065	2372427	2276825	2063030	1881502	2259216	2395343	2239930	2098773	1891741	2234474	2420258	2253959	2086596	1930373	2265751	2451992	2217806	2061429
CALCULATED FIRING RATE:																					
Dry	- lb/min	14517	16684	18115	17385	15752	14673	17619	18681	17469	16368	14440	17056	18474	17205	15927	15099	17723	19179	17348	16124
Wet	- lb/min	15011	17252	18731	17976	16288	15447	18548	19666	18390	17231	14953	17662	19130	17816	16493	15911	18675	20210	18280	16991
Dry	- lb/hr	871050	1001057	1086894	1043095	945148	880400	1057141	1120838	1048117	982066	866389	1023356	1108442	1032280	955630	905958	1063357	1150763	1040855	967465
Wet	- lb/hr	900682	1035112	1123869	1078581	977301	926834	1112897	1179954	1103397	1033863	897162	1059704	1147812	1068944	989573	954645	1120503	1212606	1096792	1019457
CALCULATED FIRING RATE:																					
Dry	- tons/hr	435.5	500.5	543.4	521.5	472.6	440.2	528.6	560.4	524.1	491.0	433.2	511.7	554.2	516.1	477.8	453.0	531.7	575.4	520.4	483.7
Wet	- tons/hr	450.3	517.6	561.9	539.3	488.7	463.4	556.4	590.0	551.7	516.9	448.6	529.9	573.9	534.5	494.8	477.3	560.3	606.3	548.4	509.7
HEAT INPUT:																					
MM Btu/hr	-	11593	13323	14465	13883	12579	11504	13814	14646	13696	12833	11571	13668	14804	13787	12763	11834	13890	15031	13596	12637
PARTICULATE LOADING:																					
Grains/DSCF	-	3.1231	2.8280	2.7476	0.0042	0.0155	3.0512	2.8282	2.5984	0.0043	0.0117	1.8258	2.8711	3.0003	0.0069	0.0129	3.2786	3.0753	2.8383	0.0048	0.0153
lb/hr	-	66426	73825	74881	142	436.17	63389.3	73874	69711	146	335.43	38302	74126	81843	231.4	371.86	69156	79030	76987	161.9	429.31
lb/MM Btu	-	5.73	5.54	5.18	0.01	0.03	5.51	5.35	4.76	0.01	0.03	3.31	5.42	5.53	0.02	0.03	5.84	5.69	5.12	0.01	0.03
Ash Production	lb/hr	87453	100506	109124	104727	94893	86015	103283	109506	102401	95948	81181	95888	103861	96725	89543	89509	105060	113695	102836	95586
Bagouse Ash		66426	73825	74881	142	436.17	63389	73874	69711	146	335.43	38302	74126	81843	231	371.86	69156	79030	76987	162	429.31
Bottom Ash		21028	26681	34243	104585	94457	22626	29409	39795	102255	95612	42878	21763	22018	96493	89171	20353	26030	36708	102675	95156
Percent Fly Ash		76.0%	73.5%	68.6%	0.1%	0.5%	73.7%	71.5%	63.7%	0.1%	0.3%	47.2%	77.3%	78.8%	0.2%	0.4%	77.3%	75.2%	67.7%	0.2%	0.4%
% ISOKINETIC	-	106.9	102.8	104.4	98.1	106.2	103.5	100.1	102.0	98.8	104.4	104.1	100.6	101.4	98.8	102.7	101.3	102.4	102.6	101.0	110.1

Note: Stack isokinetics are high due to using separate flow measurements from all ports. OH measurement was only conducted in one port.

04 18 05

ppm Hg in Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08
ug Hg/dscm	7.50	7.02	7.30	5.71	6.13	7.76	7.41	7.65	5.69	6.25	8.51	8.16	8.37	6.37	6.85	7.86	7.58	7.77	5.71	6.33

Hg flow [mg/dscm]

Date	6/23/2004	6/23/2004	6/23/2004	6/23/2004	6/23/2004	38162	6/24/2004	38162	38162	38162	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/24/2004	6/25/2004	6/25/2004	6/25/2004	6/25/2004	6/25/2004
COAL DATA																				
% Carbon	74.13	74.13	74.13	74.13	74.13	72.77	72.77	72.77	72.77	72.77	74.45	74.45	74.45	74.45	74.45	72.59	72.59	72.59	72.59	72.59
% Hydrogen	5.07	5.07	5.07	5.07	5.07	5.02	5.02	5.02	5.02	5.02	5.01	5.01	5.01	5.01	5.01	4.99	4.99	4.99	4.99	4.99
% Nitrogen	1.62	1.62	1.62	1.62	1.62	1.65	1.65	1.65	1.65	1.65	1.64	1.64	1.64	1.64	1.64	1.63	1.63	1.63	1.63	1.63
% Sulfur	2.98	2.98	2.98	2.98	2.98	3.25	3.25	3.25	3.25	3.25	2.93	2.93	2.93	2.93	2.93	3.31	3.31	3.31	3.31	3.31
% Oxygen	6.16	6.16	6.16	6.16	6.16	7.54	7.54	7.54	7.54	7.54	6.60	6.60	6.60	6.60	6.60	7.60	7.60	7.60	7.60	7.60
% Ash	10.04	10.04	10.04	10.04	10.04	9.77	9.77	9.77	9.77	9.77	9.37	9.37	9.37	9.37	9.37	9.88	9.88	9.88	9.88	9.88
% Volatile Matter	19.10	19.10	19.10	19.10	19.10	18.90	18.90	18.90	18.90	18.90	18.92	18.92	18.92	18.92	18.92	19.10	19.10	19.10	19.10	19.10
Btu/lb	13,309	13,309	13,309	13,309	13,309	13,067	13,067	13,067	13,067	13,067	13,356	13,356	13,356	13,356	13,356	13,062	13,062	13,062	13,062	13,062
CARBON CONVERSION	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
CALCULATED FEED	935,924	1,071,065	1,165,425	1,120,940	1,011,138	943,514	1,153,223	1,208,190	1,131,849	1,054,561	927,033	1,114,137	1,185,019	1,104,440	1,026,164	970,942	1,137,413	1,232,527	1,113,593	1,032,229
F-Factor	9,840	9,840	9,840	9,840	9,840	9,813	9,813	9,813	9,813	9,813	9,809	9,809	9,809	9,809	9,809	9,788	9,788	9,788	9,788	9,788
Moisture	3.29%	3.29%	3.29%	3.29%	3.29%	5.01%	5.01%	5.01%	5.01%	5.01%	3.43%	3.43%	3.43%	3.43%	3.43%	5.10%	5.10%	5.10%	5.10%	5.10%
% Water Vapor Calculation:																				
Barometric Pressure, In Hg	29.47	29.47	29.47	29.47	29.47	29.58	29.58	29.58	29.58	29.58	29.57	29.57	29.57	29.57	29.57	29.5	29.5	29.5	29.5	29.5
DUCT Static Pressure, In H2O	-10.12	-14.5	-25	7.07	-0.8105	-10.05	-15	-24.9	7.41	-0.9013	-10.14	-15	-25.1	7.27	-0.79	-10.02	-14.75	-25	7.28	-0.987
DRY Bulb Temp	641.3	664.3	314.7	305	122.8	643.2	664.7	315.1	304	124.3	642.6	666.3	314.7	305.3	124.6	641.2	662.9	314.4	306.8	125.3
WET Bulb Temp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Press, ATMS	14.10	13.95	13.57	14.73	14.44	14.16	13.98	13.62	14.79	14.49	14.15	13.98	13.61	14.78	14.49	14.12	13.95	13.58	14.75	14.45
Intermediate result	11.21	11.05	10.67	11.83	11.55	11.27	11.09	10.73	11.90	11.60	11.26	11.08	10.72	11.89	11.60	11.23	11.06	10.69	11.85	11.55
Intermediate result	641.30	664.30	314.70	305.00	122.80	643.20	664.70	315.10	304.00	124.30	642.60	666.30	314.70	305.30	124.60	641.20	662.90	314.40	306.80	125.30
Intermediate result	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80	-7.80
Intermediate result	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08
Intermediate result	2385.64	2471.20	1170.68	1134.60	456.82	2392.70	2472.68	1172.17	1130.88	462.40	2390.47	2478.64	1170.68	1135.72	463.51	2385.26	2465.99	1169.57	1141.30	466.12
Intermediate result	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08
Intermediate result	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89
Intermediate result	196.0	147.4	1541.0	1311.5	2049.6	176.0	137.4	1524.9	1301.6	2033.1	180.1	132.6	1529.5	1298.8	2032.2	192.2	151.3	1538.4	1300.2	2038.5
Intermediate result	7426	7278	10181	9994	11519	7397	7266	10164	9988	11496	7404	7254	10170	9980	11494	7422	7288	10180	9975	11497
Percent Water Vapor	2.64	2.03	15.14	13.12	17.79	2.38	1.89	15.00	13.03	17.68	2.43	1.83	15.04	13.01	17.68	2.59	2.08	15.11	13.03	17.73
% CO_2	15.2300	14.2000	14.8000	11.6000	12.4000	15.4300	15.0000	15.3000	11.4000	12.4600	15.3600	15.0000	15.1000	11.5000	12.4100	15.6000	15.0000	15.4000	11.3000	12.5000
ppm	152300	142000	148000	116000	124000	154300	150000	153000	114000	124600	153600	150000	151000	115000	124100	156000	150000	154000	113000	125000
lb/dscf	1.64E-02	1.54E-02	1.60E-02	1.27E-02	1.35E-02	1.66E-02	1.62E-02	1.65E-02	1.25E-02	1.36E-02	1.65E-02	1.62E-02	1.63E-02	1.26E-02	1.35E-02	1.68E-02	1.62E-02	1.66E-02	1.24E-02	1.36E-02
lb/hr	2441868	2805816	3045818	2966025	2667363	2414648	2955156	3093179	2941894	2729939	2427908	2920945	3106738	2936148	2718220	2477049	2908571	3146860	2888816	2665376
lb/hr Carbon	665964	765223	830678	808916	727463	658540	805952	843594	802335	744529	662157	796621	847292	800768	741333	675559	793247	858235	787859	726921
lb/hr Coal	898373	1032271	1120569	1091213	981334	904961	1107533	1159261	1102563	1023126	889398	1070009	1138069	1075578	995746	930650	1092777	1182304	1085355	1001406
ppm Hg in Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08
Gas Phase Hg Conc., ug/m^3	7.50	7.02	7.30	5.71	6.13	7.76	7.41	7.65	5.69	6.25	8.51	8.16	8.37	6.37	6.85	7.86	7.58	7.77	5.71	6.33
Gas Phase Hg Conc., ug/m^3	7.73	7.24	7.53	5.97	6.37	7.97	7.76	7.91	5.98	6.51	8.73	8.54	8.59	6.64	7.14	8.08	7.78	7.98	5.95	6.55

Impinger Components Wts & Volumes	SCRI-1	SCRO-1	AHO-1	FGD-1	STK-1	SCRI-2	SCRO-2	AHO-2	FGD-2	STK-2	SCRI-3	SCRO-3	AHO-3	FGD-3	STK-3	SCRI-4	SCRO-4	AHO-4	FGD-4	STK-4
Filter Wt., g	7.9580	7.2477	7.4737	0.0304	0.1126	7.3538	7.0605	6.7989	0.0314	0.0794	4.4700	7.1184	7.9295	0.0499	0.0804	7.8541	7.7244	7.5479	0.0357	0.1072
ppb or ng/filter Hg	20.00	20.00	20.00	17.4	<5.0	10	20	30	<5.0	<5.0	20	20	30	221	<5.0	20	20	30	<5.0	<5.0
total ug	0.16	0.14	0.15	0.02	5.00E-03	0.07	0.14	0.20	5.00E-03	5.00E-03	0.09	0.14	0.24	0.22	5.00E-03	0.16	0.15	0.23	5.00E-03	5.00E-03
ug/dscm	0.14	0.13	0.13	0.01	1.57E-03	0.07	0.13	0.18	1.57E-03	1.68E-03	0.08	0.13	0.21	0.07	1.84E-03	0.15	0.14	0.19	1.55E-03	1.64E-03
Probe Rinse volume, ml	128	152	205	177	168	99	124	91	126	129	58	155	103	118	171	49	197	127	138	145
Analytical Hg, ng/ml	<1.0	<1.0	<1.0	4.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	1.1	1.0	1.5	1.9	<1.0	<1.0	<1.0
ug/dscm	<0.11	<0.14	<0.17	0.23	<0.05	<0.09	<0.11	<0.08	0.07	<0.04	<0.05	<0.14	<0.09	0.04	0.06	0.07	0.34	<0.11	<0.04	<0.05
Heated Umbilical Line Rinse volume, ml	140	NA	81	216	NA	149	NA	132	177	NA	102	NA	127	170	NA	78	NA	200	161	NA
Analytical Hg, ng/ml	<1.0		<1.0	<1.0		<1.0		<1.0	<1.0		<1.0		<1.0	<1.0		<1.0		<1.0	3.8	
ug/dscm	<0.13		<0.07	<0.07		<0.14		<0.12	<0.06		<0.10		<0.11	<0.05		<0.07		<0.17	0.19	
KCl volume, ml	540	524	538	622	861	538	526	533	605	829	538	534	541	628	817	538	538	536	625	849
Analytical Hg, ng/ml	6.2	38.5	21	39.0	1.9	6.4	16.2	17.3	33.7	0.8	4.8	17.2	19.8	40.1	1.8	2.6	12.9	18.7	32.6	0.3
ug/dscm	3.01	18.01	9.51	7.75	0.51	3.27	7.81	8.06	6.41	0.22	2.41	8.48	9.28	8.01	0.54	1.34	6.32	8.63	6.33	0.08
Nitric/Peroxide volume, ml	175	175	175	175	177	175	174	174	175	178	178	175	175	175	177	175	177	175	175	180
Analytical Hg, ng/ml	3.4	2.1	0.3	3.2	<0.20	2.4	0.9	<0.2	2.5	0.2	2.3	0.7	0.3	4.9	<0.20	1.9	1.0	<0.2	2.7	<0.20
ug/dscm	0.53	0.33	0.04	0.18	<0.01	0.40	0.14	<0.03	0.14	0.01	0.38	0.11	0.05	0.27	<0.01	0.32	0.16	<0.03	0.15	<0.01
KMnO4 volume, ml	243	244	242	243	244	247	245	242	244	239	245	248	247	248	243	245	227	247	246	244
Analytical Hg, ng/ml	17.4	7.6	0.2	3.5	5.5	12.0	2.3	<0.2	0.3	6.0	15.8	1.2	<0.2	6.5	6.4	26.5	5.6	<0.2	<0.3	8.0
ug/dscm	3.80	1.66	0.04	0.27	0.42	2.81	0.52	<0.04	0.02	0.48	3.62	0.27	<0.04	0.51	0.57	6.20	1.16	<0.04	<0.02	0.64
KMnO4-Acid Rinse volume, ml	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Analytical Hg, ng/ml	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ug/dscm	<0.09	<0.09	<0.08	<0.03	<0.03	<0.09	<0.09	<0.09	<0.03	<0.03	0.11	<0.09	<0.09	<0.03	<0.04	<0.10	<0.09	<0.09	<0.03	<0.03
Elemental Fraction [ug/m3]	4.42	2.07	0.17	0.48	0.46	3.31	0.75	0.16	0.19	0.53	4.11	0.48	0.17	0.82	0.62	6.62	1.41	0.16	0.20	0.68
Percent of Total	56.60	10.19	1.68	5.66	44.96	48.06	8.54	1.86	2.85	66.32	60.84	5.20	1.77	9.09	50.66	80.22	17.17	1.71	2.97	83.76
Oxidized Fraction [ug/m3]	3.25	18.15	9.75	8.04	0.57	3.50	7.92	8.26	6.54	0.27	2.56	8.62	9.47	8.10	0.60	1.48	6.66	8.91	6.57	0.13
Percent of Total	41.57	89.18	97.06	94.28	54.89	50.92	89.99	96.06	97.12	33.47	37.92	93.38	96.14	90.13	49.19	17.96	81.12	96.18	97.01	16.03
Particulate Fraction [ug/m3]	0.14	0.13	0.13	0.01	1.57E-03	0.07	0.13	0.18	0.002	1.68E-03	0.08	0.13	0.21	0.07	1.84E-03	0.15	0.14	0.19	0.002	1.64E-03
Percent of Total	1.83	0.64	1.25	0.07	0.15	1.01	1.47	2.07	0.02	0.21	1.24	1.42	2.09	0.78	0.15	1.82	1.71	2.10	0.02	0.20
Total Hg [ug/m^3]	7.81	20.35	10.04	8.53	1.03	6.88	8.81	8.60	6.73	0.80	6.76	9.23	9.86	8.99	1.23	8.25	8.22	9.26	6.77	0.82
Elemental (mg/sec)	5.18	2.98	0.25	0.89	0.72	3.78	1.08	0.24	0.36	0.84	4.75	0.68	0.26	1.50	0.99	7.68	2.00	0.24	0.37	1.05
Oxidized (mg/sec)	3.80	26.08	14.62	14.81	0.88	4.01	11.39	12.20	12.14	0.42	2.96	12.25	14.23	14.89	0.96	1.72	9.43	13.30	12.07	0.20
Particulate (mg/sec)	0.17	0.19	0.19	1.02E-02	2.44E-03	0.08	0.19	0.26	2.92E-03	2.66E-03	0.10	0.19	0.31	0.13	2.91E-03	0.17	0.20	0.29	2.86E-03	2.52E-03
Total Hg flowrate [mg/sec]	9.15	29.25	15.06	15.71	1.60	7.87	12.66	12.70	12.50	1.26	7.81	13.12	14.80	16.52	1.94	9.58	11.62	13.83	12.44	1.26
Tot mg/sec, using stack flow rate, corr for O2	9.92	27.61	13.10	14.23	1.60	8.78	11.76	11.13	11.71	1.26	8.61	12.25	12.76	15.29	1.94	10.23	10.57	11.62	11.56	1.26
ppm Hg in Bottom Ash	0.02	0.003	0.003	0.02	0.02	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
ug/m^3	0.05	0.00	0.00	0.14	0.15	0.05	0.00	0.00	0.02	0.02	0.01	0.00	0.00	0.02	0.02	0.01	0.00	0.00	0.02	0.02
ppm Hg in Baghouse Ash	0.69	0.67	0.67	0.69	0.69	0.7	0.67	0.67	0.7	0.7	0.67	0.67	0.67	0.67	0.67	0.61	0.67	0.67	0.61	0.61
ug/m^3	1.56	0.00	0.00	4.94	5.28	1.62	0.00	0.00	4.86	5.33	3.13	0.00	0.00	4.70	4.76	1.35	0.00	0.00	4.27	4.75
	9.42	20.35	10.04	13.61	6.47	8.55	8.81	8.60	11.61	6.15	9.91	9.23	9.86	13.71	6.01	9.60	8.22	9.26	11.06	5.59
	21028			104585	94457	21028			102255	95612	42878			102255	89171	20353			102255	95156
Coal In ug/sec	8778.2			10512.1	9525.0	8872.5			10562.7	9897.0	9822.7			11703.5	10834.5	9130.0			10489.5	9749.9
Bottom Ash	53.0			263.5	238.0	7.9			38.6	36.1	16.2			38.6	33.7	7.7			38.6	36.0
	0.6%			2.5%	2.5%	0.1%			0.4%	0.4%	0.2%			0.3%	0.3%	0.1%			0.4%	0.4%
ESP Ash	5773.8			12.3	37.9	5589.7			12.8	29.6	3232.8			19.5	31.4	5314.1			12.4	33.0
	65.8%			0.1%	0.4%	52.9%			0.1%	0.3%	29.8%			0.2%	0.3%	54.5%			#DIV/0!	0.3%

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID		METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant X5	PITOT TUBE DESC		Y			
LOCATION	Unit 1 SCR Inlet	PROBE LENGTH [ft]		C(p)			
DATE		NOZZLE ID [inch]		FILTER BOX SETTING			
OPERATOR(S)		%H_2O (Assumed)		PROBE HTR SETTING			
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ? / rect ?	other:	
BAR. PRESS. [" Hg]		K FACTOR		DUCT DIMENSIONS	133.3x15	DUCT AREA	2000 ft²

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	13:40	0					232.60								
	13:50	10	-10.09	0.44	0.52	5.0	236.74	100	99	649	280		55	4.9	15.2
	14:00	20	-10.15	0.46	0.52	6.5	240.74	99	97	649	280		51	5.2	14.9
	14:10	30	-10.13	0.45	0.51	7.0	244.67	100	95	649	282		52	5.0	15.1
leak check	14:18						245.20	~~97~~	~~95~~	~~653~~	~~290~~		~~53~~		
	14:25	40	-10.3	0.44	0.50	5.5	248.52	97	95	643	277		53	4.7	15.4
	14:35	50	-10.14	0.41	0.46	10.0	252.56	100	97	646	280		52	4.5	15.3
	14:45	60	-10.11	0.41	0.46	11.0	256.31	99	96	645	280		49	4.7	15.1
leak check	14:56						257.20								
	15:06	70	-10.14	0.35	0.40	11.5	260.22	97	95	637	279		49	4.9	15.2
	15:16	80	-10.7	0.35	0.40	13.5	264.23	99	96	642	280		50	4.5	15.3
	15:26	90	-10.12	0.36	0.41	15.0	267.77	99	97	640	284		50	4.5	15.3
leak check	15:45			changed filter			268.50 / 268.20								
	15:55	100	-10.12	0.43	0.26	3.5	272.18	103	101	626	276		54	4.9	15.2
	16:05	110	-10.13	0.26	0.29	4.5	275.26	101	99	635	283		51	4.9	15.2
		120	-10.15	0.26	0.29	5.0	278.34	102	100	636	284		52	4.9	15.2
			-10.12	0.364	0.417		42.89		98.6	641.3				4.85	15.23

Sample Train Leak Checks: PreTest leak ok ft³ @ -12 in. Hg; Post Test leak ok ft³ @ -12 in. Hg

Pitot Tube Leak Checks: PreTest OK @ -9 in. H_2O; Post Test OK @ -9 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	1	METER BOX		CAL. DATA: delta H		Comments:			
PLANT	Plant 5	PITOT TUBE DESC		Y					
LOCATION	Unit 1 SCR Outlet	PROBE LENGTH [ft]		C(p)					
DATE	6/23/04	NOZZLE ID [inch]		FILTER BOX SETTING					
OPERATOR(S)	GLC	%H_2O (Assumed)		PROBE HTR SETTING					
AMBIENT TEMP [°F]	105	FILTER ID	9	DUCT X-SECTION	circ ?	(rect ?)	other:		
BAR. PRESS. [" Hg]	29.47	K FACTOR		DUCT DIMENSIONS	133.3x13	DUCT AREA	1733.33 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP (1) [oF] inlet	METER TEMP (1) [oF] outlet	STACK TEMP (2) [°F]	PROBE TEMP (2) [°F]	FILTER BOX (3) [°F]	LAST IMP TEMP (4) [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	1340	0					265.55								
		10		0.75	0.43	5.0	269.19	107	106	664	332	330	78	5.2	
		20		0.75	0.43	6.0	272.59	108	107	664	329	330	74	5.3	
		30		0.75	0.43	7.0	276.07	109	107	664	332	330	74	5.2	
		40		0.75	0.42	8.0	279.53	110	107	664	330	330	74	5.2	
		50	-14.5	0.75	0.43	9.5	283.03	111	108	663	333	328	72	5.2	
		60		0.75	0.43	11.0	286.53	112	109	664	332	329	71	5.3	
		70		0.73	0.42	13.0	290.02	112	110	664	330	328	72	5.5	
		80		0.75	0.43	14.0	293.50	113	110	664	330	328	72	5.8	
		90		0.75	0.43	15.0	297.08	114	111	665	329	330	74	6.2	
		100		0.75	0.42	16.5	300.46	114	111	665	326	330	76	6.8	
		110		0.75	0.41	17.5	303.89	114	111	665	327	330	75	7.0	
		120		0.75	0.39	18.0	307.30	114	111	666	330	331	75	7.6	

Sample Train Pre Test 0 ft^3 @ 18 in. Hg
Leak Checks: Post Test 0.038 ft^3 @ 12 in. Hg

Pitot Tube PreTest 0 @ 5 in. H_2O
Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	CJE	METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant 5	PITOT TUBE DESC		Y			
LOCATION	Unit 1 Air Heater Outlet	PROBE LENGTH [ft]		C(p)			
DATE	6-23-01	NOZZLE ID [inch]		FILTER BOX SETTING			
OPERATOR(S)	JC DC	%H_2O (Assumed)		PROBE HTR SETTING			
AMBIENT TEMP [°F]	83	FILTER ID	17	DUCT X-SECTION	circ ?	rect ?	other:
BAR. PRESS. [" Hg]	29.47	K FACTOR		DUCT DIMENSIONS	130.5x14	DUCT AREA	1827 ft²

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	1340	0					795.~~000~~								
J-1	1350	10	-25.0	0.50	0.44	5.0	799.100	88	87	290	264		62	5.2	14.7
↓	1400	20		0.50	0.44	5.0	802.950	90	87	277	238		55		
	1410	30		0.50	0.42	5.0	806.578	90	87	277	243		57		
↓	1420	40		0.50	0.44	6.0	810.302	91	87	297	240		55	5.2	14.7
	1422						810.300	~~91~~ 87							
5-1	1432	50		0.60	0.52	7.0	~~813.952~~	91	87	310	238		53	5.2	14.7
↓	1442	60	-24.7	0.60	0.52	8.0	819.168	92	87	317	245		54		
	1452	70		0.60	0.52	9.0	823.140	92	88	318	244		57		
↓	~~1502~~	80		0.60	0.52	11.0	827.340	92	88	322	244		58	5.2	14.7
	1505						828.000								
C-1	1515	90		0.48	0.41	11.0	831.500	92	87	327	240		62		
↓	1525	100		0.48	0.41	12.0	835.122	92	87	333	247		63	5.4	14.7
	1535	110	-25.1	0.48	0.41	14.0	838.720	92	87	333	253		63		
↓	1545	120		0.48	0.41	15.5	842.277	93	90	335	247		64	5.4	14.7
				RIN											
				0.525	0.457			92	89	314.7				5.3	14.7

Sample Train Pre Test 0.500 ft³ @ 11.0 in. Hg
Leak Checks: Post Test 0.502 ft³ @ 16.0 in. Hg

Pitot Tube PreTest OK @ 7 in. H_2O
Leak Checks: Post Test OK @ 7 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TEST # 1	METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant X5	PITOT TUBE DESC		Y			
LOCATION	Unit 1 FGD Inlet	PROBE LENGTH [ft]		C(p)			
DATE	6-23-04	NOZZLE ID [inch]		FILTER BOX SETTING	---		
OPERATOR(S)	BS, JS	%H_2O (Assumed)		PROBE HTR SETTING			
AMBIENT TEMP [°F]	~~~ 88°	FILTER ID	# 1	DUCT X-SECTION	circ ?	(rect ?)	other:
BAR. PRESS. [" Hg]	~~29.54~~ 29.47	K FACTOR		DUCT DIMENSIONS	48x29	DUCT AREA	1392 ft²

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [°F] (6) inlet	METER TEMP [°F] (7) outlet	STACK TEMP (1) [°F]	PROBE TEMP (3) [°F]	~~FILTER BOX [°F]~~	LAST IMP TEMP (4) [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	1340	0					671.00								
SINGLE		10		1.20	3.40	8	681.10	93	90	306	332	—	50	8.7	11.6
POINT		20		1.20	3.40	8	691.15	97	91	306	334		56	8.8	11.5
		30	7.142	1.20	3.40	8.5	701.22	102	93	305	330		58	8.7	11.6
CENTER		40		1.20	3.40	9.0	711.27	104	95	305	328		53	8.6	11.6
PORT								~~105~~	~~96~~	~~305~~	321		52		
		50		1.20	3.40	9.5	721.40	105	96	305	321		52	8.7	11.6
		60	7.083	1.20	3.40	10.0	731.39	106	96	305	331		52	8.6	11.6
		70		1.20	3.40	10.5	741.40	106	97	305	321		52	8.7	11.6
		80		1.20	3.40	11.0	751.58	106	97	304	319		54	8.7	11.6
		90	6.982	1.20	3.40	11.5	761.68	107	98	304	320		55	8.7	11.6
		100		1.20	3.40	12	771.78	107	98	305	321		56	8.7	11.6
		110		1.20	3.40	13	781.88	109	99	304	320		57	8.6	11.6
	1540	120	7.116	1.20	3.40	13.5	791.98	108	99	306	332		59	8.7	11.6

Sample Train Leak Checks: Pre Test OK ft^3 @ 10 in. Hg; Post Test OK ft^3 @ 10 in. Hg

Pitot Tube Leak Checks: PreTest OK @ 7 in. H_2O; Post Test OK @ 7 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

Axial Flow Check

Location	Stack	Duct Ht, "		Barometric	
Date		Duct ID,"		Static	
Time		Duct Area	ft^2	Dry Bulb	
Tube I.D.		% O_2		Wet Bulb	
C-Factor		% CO_2		% H_20	
Operator(s)		% N_2		W.M.Wt	

PORT/ POINT	DISTANCE [" From Wall]	TEMP [°F]	DELTA P [" H_2O]	VELOCITY [Ft/Sec]	Null Angle
A-1	20.33				
A-2	67.45				
A-3	136.75				
B-1	20.33				
B-2	67.45				
B-3	136.75				
C-1	20.33				
C-2	67.45				
C-3	136.75				
D-1	20.33				
D-2	67.45				
D-3	136.75				
Average					
Maximum					
Minimum					
SDEV					

DATA SUMMARY	
Velocity, [fps]	
acfm	
scfm	
dscfm	
Ex Air Free cfm	
Est. MM Btu/hr Heat Input	
Est. Firing Rate, lb/hr	

[redacted] ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	1	METER BOX		CAL. DATA: delta H		Comments:			
PLANT	Plant # 5	PITOT TUBE DESC		Y					
LOCATION	Unit 1 Stack	PROBE LENGTH [ft]		C(p)					
DATE		NOZZLE ID [inch]		FILTER BOX SETTING					
OPERATOR(S)		%H_2O (Assumed)		PROBE HTR SETTING					
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:		
BAR. PRESS. [" Hg]		K FACTOR		DUCT DIMENSIONS	38.5 ft	DUCT AREA	1164.16 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
		0													
		10													
		20													
		30													
		40													
		50													
		60													
		70													
		80													
		90													
		100													
		110													
		120													

Sample Train Pre Test _____ ft^3 @ _____ in. Hg
Leak Checks: Post Test _____ ft^3 @ _____ in. Hg

Pitot Tube PreTest _____ @ _____ in. H_2O
Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TL2	METER BOX	N-1	CAL. DATA: delta H	1.981	Comments:	In the move between points B-5 & B-7, the probe was bumped against the wall. This might have loosened the dust in the filter. Thus the reduced vacuum @ B-7.		
PLANT	Plant 5	PITOT TUBE DESC	E-3	Y	0.984				
LOCATION	Unit 1 SCR Inlet	PROBE LENGTH [ft]	12	C(p)	0.846				
DATE	6/24/14	NOZZLE ID [inch]	0.313 0.213	FILTER BOX SETTING	N/A				
OPERATOR(S)	JAH	%H_2O (Assumed)	9.9	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	72	FILTER ID	5	DUCT X-SECTION	circ ?	rect ?	other:		
BAR. PRESS. [" Hg]	29.58	K FACTOR	1.03	DUCT DIMENSIONS	133.3x15	DUCT AREA	2000 ft²		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]	
	09:40	0					289.90									
B-1	09:50	10	-10.1	0.28	0.26	3.0	292.79	90	90	636	294	N/A	55	4.4	15.7	21.1 Cal
	10:00	20	-10.05	0.25	0.26	4.0	295.64	90	90	638	294		54	4.4	15.7	
	10:10	30	-10.16	0.25	0.26	4.5	298.49	91	91	638	293		53	4.3	15.8	
leak check	10:15						298.90	~~92~~	~~91~~	~~639~~			~~55~~			
B-3	10:28	40	-10.03	0.32	0.33	5.5	302.05	92	91	639	287		55	4.4	15.7	21.0 CAL
	10:38	50	-10.04	0.34	0.35	6.0	305.38	94	92	641	294		55	4.4	15.7	
	10:48	60	-10.13	0.35	0.36	7.0	308.72	94	93	641	306		54	4.3	15.8	
leak check	10:54						309.15									
B-5	11:04	70	-10.07	0.39	0.40	9.0	312.61	95	94	645	292		55	4.6	15.5	
	11:14	80	-9.83	0.40	0.41	10.5	316.14	94	93	645	298		51	4.5	15.6	21.1 Recal
	11:24	90	-10.00	0.38	0.39	11.5	319.63	94	93	647	300		51	4.6	15.5	
leak check	11:29						320.86									
B-7	11:39	100	-10.02	0.45	0.46	8.5	324.03	95	93	649	285		53	5.4	14.7	
	11:49	110	-9.91	0.43	0.44	11.5	327.30	95	94	650	297		52	5.4	14.7	20.9 CAL
	11:59	120	-10.25	0.43	0.44	14.0	331.96	96	95	649			-	5.3	14.8	
			-10.05	0.350	0.363		40.01		92.9	6432				4.67	15.43	

Sample Train Pre Test Leak Chk ft³ @ -15" in. Hg — Pitot Tube PreTest OK @ — in. H_2O

Leak Checks: Post Test Leak Chk ft³ @ ≥15" in. Hg — Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

Air Purge 6:00 min @ ΔH = 1.0

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	2	METER BOX	N-3	CAL. DATA: delta H	1.916	Comments:			
PLANT	Plant # 5	PITOT TUBE DESC	E-4	Y	1.038				
LOCATION	Unit 1 SCR Outlet	PROBE LENGTH [ft]	8	C(p)	0.838				
DATE	6/24/09	NOZZLE ID [inch]	0.183	FILTER BOX SETTING	325				
OPERATOR(S)	CAC	%H_2O (Assumed)	6	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	90	FILTER ID	10	DUCT X-SECTION	circ ?	(rect ?)	other:		
BAR. PRESS. [" Hg]	29.58	K FACTOR	~~0.50~~ 0.53	DUCT DIMENSIONS	133.3x13	DUCT AREA	1733.33 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF] (6) inlet	METER TEMP [oF] (7) outlet	STACK TEMP (1) [°F]	PROBE TEMP (2) [°F]	FILTER BOX (3) [°F]	LAST IMP TEMP (4) [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	0940	0					315.15								
		10		0.76	0.41	4.5	318.65	101	99	663	326	315	71	5.5	
		20		0.75	0.40	5.5	322.05	103	101	665	325	322	68	5.4	
		30		0.75	0.40	6.5	325.44	106	102	664	328	327	69	5.4	
		40		0.75	0.40	7.5	328.81	108	104	664	324	328	69	5.4	
		50		0.75	0.40	8.5	332.19	109	105	664	325	329	66	5.5	
		60		0.75	0.40	9.5	335.54	110	107	665	325	327	66	5.5	
		70		0.75	0.40	11.0	338.90	111	108	665	325	328	66	5.4	
		80		0.75	0.40	12.5	342.24	112	109	665	325	328	67	5.4	
		90		0.75	0.40	14.0	345.60	112	110	665	327	330	65	5.4	
		100		0.75	0.40	16.0	348.95	113	110	665	328	327	65	5.4	
		110		0.75	0.39	17.5	352.27	113	111	665	327	327	66	5.5	
		120		0.75	0.35	18.5	355.50	114	111	666	322	328	66	5.5	
				RMS											
		120		0.751	0.375		48.3	107.7		664.5				5.5	

Sample Train Pre Test 0 ft^3 @ 10 in. Hg
Leak Checks: Post Test 0 ft^3 @ 16 in. Hg

Pitot Tube PreTest ~0 @ 5 in. H_2O
Leak Checks: Post Test ~0 @ 5 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID		METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant 5	PITOT TUBE DESC		Y			
LOCATION	Unit 1 Air Heater Outlet	PROBE LENGTH [ft]		C(p)			
DATE		NOZZLE ID [inch]		FILTER BOX SETTING	N/A		
OPERATOR(S)		$\%H_2O$ (Assumed)		PROBE HTR SETTING	325		
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:
BAR. PRESS. [" Hg]		K FACTOR		DUCT DIMENSIONS	130.5x14	DUCT AREA	1827 ft^2

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O_2 [% vol]	CO_2 [% vol]
		0													
		10													
		20													
		30													
		40													
		50													
		60													
		70													
		80													
		90													
		100													
		110													
		120													
															5

Sample Train Pre Test _____ ft^3 @ _____ in. Hg

Leak Checks: Post Test _____ ft^3 @ _____ in. Hg

Pitot Tube PreTest _____ @ _____ in. H_2O

Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TEST # 2	METER BOX		CAL. DATA: delta H		Comments:			
PLANT	Plant 5	PITOT TUBE DESC		Y					
LOCATION	Unit 1 FGD Inlet	PROBE LENGTH [ft]		C(p)					
DATE	6-24-04	NOZZLE ID [inch]		FILTER BOX SETTING					
OPERATOR(S)	B.S. J.S.	%H_2O (Assumed)		PROBE HTR SETTING					
AMBIENT TEMP [°F]	~85°	* → FILTER ID	#3	DUCT X-SECTION	circ ?	(rect ?)	other:		
BAR. PRESS. [" Hg]	29.59	K FACTOR		DUCT DIMENSIONS	48x29	DUCT AREA	1392 ft²		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP (6) [oF] (7) inlet	METER TEMP (6) [oF] (7) outlet	(1) STACK TEMP [°F]	(2) PROBE TEMP [°F]	FILTER BOX [°F]	(4) LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	0940	0					801.30								
SINGLE		10		.20	3.40	8	811.36	84	80	303	332		57	9.0	11.3
POINT		20		1.20	3.40	8.5	821.42	90	82	304	331		66	8.9	11.4
		30	7.431	1.20	3.40	9.0	831.50	95	85	304	320		61	8.9	11.4
CENTER		40		1.20	3.40	9.0	841.53	98	87	304	332		59	8.8	11.5
PORT															
		50		1.20	3.40	9.5	851.60	99	89	304	319		60	9.0	11.3
		60	7.398	1.20	3.40	10.0	861.65	100	90	303	320		59	9.0	11.3
		70		1.20	3.40	11.0	871.72	102	91	305	328		58	9.0	11.4
		80		1.20	3.40	12	881.82	103	93	304	321		60	8.9	11.4
		90	7.395	1.20	3.40	12.5	891.92	102	93	304	326		60	8.9	11.4
		100		1.20	3.40	13	902.02	101	93	304	329		61	9.0	11.4
		110		1.20	3.40	14	912.12	99	93	304	321		61	9.0	11.3
	1140	120	7.446	1.20	3.40	15	922.23	100	93	305	328		63	9.0	11.3
			7.41	1.20	3.40		932.33	104		304				9.0	11.4

Sample Train Leak Checks: Pre Test OK ft³ @ 10 in. Hg; Post Test OK ft³ @ 15 in. Hg

Pitot Tube Leak Checks: PreTest OK @ 7 in. H_2O; Post Test OK @ 7 in. H_2O

CONSOL ENERGY

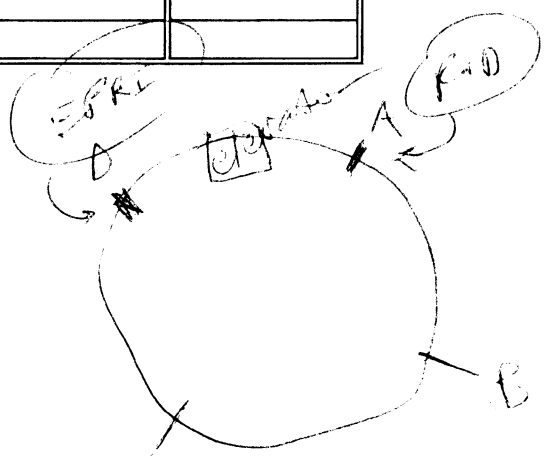
NOTE: Purge for 10 minutes at end of sampling.

Axial Flow Check

Location	Stack	Duct Ht, "		Barometric	29.59
Date	6/24/13	Duct ID,"		Static	
Time	1130 - 1215	Duct Area	ft²	Dry Bulb	
Tube I.D.	S-19A	% O_2		Wet Bulb	
C-Factor		% CO_2		% H_2O	
Operator(s)	VBC, PLC	% N_2		W.M.Wt	

PORT/ POINT	DISTANCE [" From Wall]	TEMP [°F]	DELTA P [" H_2O]	VELOCITY [Ft/Sec]	Null Angle
A-1	20.33	123	1.230		
A-2	67.45	123	1.402		
A-3	136.75	124	1.518		
B-1	20.33		1.148		
B-2	67.45				
B-3	136.75				
C-1	20.33	126	0.976		
C-2	67.45	126	1.174		
C-3	136.75	125	1.206		
D-1	20.33	126	0.919		
D-2	67.45	125	0.970		
D-3	136.75	123	1.224		
Average					
Maximum					
Minimum					
SDEV					

DATA SUMMARY	
Velocity, [fps]	
acfm	
scfm	
dscfm	
Ex Air Free cfm	
Est. MM Btu/hr Heat Input	
Est. Firing Rate, lb/hr	



ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID		METER BOX		CAL. DATA: delta H		Comments:			
PLANT	Plant 5	PITOT TUBE DESC		Y					
LOCATION	Unit 1 Stack	PROBE LENGTH [ft]		C(p)					
DATE		NOZZLE ID [inch]		FILTER BOX SETTING					
OPERATOR(S)		%H_2O (Assumed)	15	PROBE HTR SETTING					
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:		
BAR. PRESS. [" Hg]		K FACTOR	1.74	DUCT DIMENSIONS	38.5 ft	DUCT AREA	1164.16 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	9:10	0					774.20								
	9:20	10		1.5	1.66	-3.5	787.12	104	104	128	251	261	63	7.9	12.3
	9:30	20		1.3	2.20	-3.5	790.61	105	105	127	251	257	66	7.6	12.4
	9:40	30		1.3	2.20	-3.5	798.00	111	107	128	259	256	65	7.8	12.4
	9:50	40		1.3	2.22	-3.5	806.04	112	108	127	259	255	62	8.0	12.4
	10:00	50		1.3	2.22	-3.5	—	113	106	127	251	255	62	7.8	12.5
	10:10	60	9	1.3	2.22	-3.5	821.18	114	108	127	254	255	60	7.8	12.5
	10:20	70	9	1.3	2.22	-3.5	829.43	115	109	127	247	255	61	7.8	12.5
	10:30	80		1.4	2.40	-3.5	838.19	114	108	127	249	255	59	7.8	12.5
	10:40	90		1.4	2.40	-3.5	846.11	114	107	127	252	256	60	7.8	12.5
	10:50	100		1.4	2.4	-3.5	854.63	114	108	127	247	255	63	7.8	12.5
	11:00	110		1.4	2.4	-3.5	862.87	114	106	127	257	255	60	7.8	12.5
	11:10	120		1.4	2.40	-4.0	870.22	115	109	127	260	255	65	7.8	12.5
	11:20	130		~~1.4~~ 1.4	~~2.40~~ 2.40	-4.0	879.52	115	109	127	258	256	64	7.8	12.5
	11:30	140		1.4	2.40	-4.0	888.79	115	109	127	254	255	66	7.8	12.5
				PMS										7.82	12.46
		140		1.350	2.31		113.59	111.0		127.1					

Sample Train Pre Test 20.01 ft^3 @ 9 in. Hg
Leak Checks: Post Test 20.01 ft^3 @ 9 in. Hg

Pitot Tube PreTest OK @ 9 in. H_2O
Leak Checks: Post Test OK @ 9 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	THREE	METER BOX	N-1	CAL. DATA: delta H	1.98	Comments:			
PLANT	Plant 5	PITOT TUBE DESC	S-3	Y	0.75				
LOCATION	Unit 1 SCR Inlet	PROBE LENGTH [ft]	12	C(p)	0.846				
DATE	6/24/14	NOZZLE ID [inch]	7/32 0.213	FILTER BOX SETTING	248				
OPERATOR(S)	JAW	%H_2O (Assumed)	9.9	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	104	FILTER ID	4	DUCT X-SECTION	circ ?	(rect ?)	other:		
BAR. PRESS. [" Hg]	29.57	K FACTOR	1.07	DUCT DIMENSIONS	133.3x15	DUCT AREA	2000 ft²		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST 1st O_2 [% vol]	METER EXHAUST 1st CO_2 [% vol]	
	14:20	0					340.90									O₂ meter calibration check
3-7	14:30	10	-10.11	0.42	0.44	4.5	344.61	99	99	649	292	NA	55	5.7	14.7	
	14:40	20	-10.16	0.42	0.44	5.0	348.29	98	98	644	297		51	5.3	14.6	
	14:50	30	-10.15	0.41	0.43	6.0	351.93	98	99	650	303		52	5.5	14.6	21.0 OK
leak check	14:54						352.20									
5-5	15:04	40	-10.30	0.31	0.41	7.0	355.60	98	98	644	293		55	4.6	15.5	
	15:14	50	-10.15	0.40	0.42	8.0	359.35	98	98	647	299		54	4.6	15.5	
	15:24	60	-10.08	0.39	0.41	9.0	362.94	97	96	648	306		53	4.6	15.5	20.9 OK
leak check	15:32						363.40									
7-3	15:42	70	-10.18	0.36	0.37	9.5	366.81	98	97	638	277		56	4.6	15.5	
	15:52	80	-10.10	0.37	0.38	11.0	370.27	98	98	640	292		54	4.6	15.5	20.9 OK
	16:02	90	-10.12	0.38	0.40	12.0	373.84	99	98	640	297		55	4.4	15.7	
leak check	16:06						373.92									
8-1	16:16	100	-9.93	0.27	0.28	11.0	376.68	99	99	634	269		57	4.4	15.7	
	16:26	110	-10.13	0.26	0.27	12.0	379.80	98	98	636	271		56	4.5	15.6	20.9 OK
	16:36	120	-10.10	0.26	0.27	12.5	382.74	97	97	636	270		55	4.6	15.7	
			-10.14	0.355	0.377		41.93		95.0	642.6				4.74	15.36	

Sample Train Leak Check PreTest Leak check ft³ @ -15 in. Hg
Leak Checks: Post Test Leak check ft³ @ -15 in. Hg

Pitot Tube PreTest OK @ -6 in. H_2O
Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	3	METER BOX	N-3	CAL. DATA: delta H	1.916	Comments:			
PLANT	Plant 5	PITOT TUBE DESC	E-4	Y	1.038				
LOCATION	Unit 1 SCR Outlet	PROBE LENGTH [ft]	8	C(p)	0.838				
DATE	6/24/04	NOZZLE ID [inch]	0.183	FILTER BOX SETTING	325				
OPERATOR(S)	GLC	%H_2O (Assumed)	9	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	75	FILTER ID	11	DUCT X-SECTION	circ ?	(rect ?)	other:		
BAR. PRESS. [" Hg]	29.57	K FACTOR	0.53	DUCT DIMENSIONS	133.3x13	DUCT AREA	1733.33 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP (1) [°F]	PROBE TEMP (2) [°F]	FILTER BOX (3) [°F]	LAST IMP TEMP (4) [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	1420	0					359.80								
		10	-14.96	0.75	0.40	5.0	363.27	110	109	664	325	325	72	5.5	
		20		0.75	0.40	5.5	366.67	111	110	665	325	328	68	5.4	
		30	-14.91	0.75	0.40	6.5	370.07	113	111	665	327	327	68	5.4	
		40		0.75	0.40	8.0	373.47	114	112	665	325	327	68	5.3	
		50		0.75	0.40	9.0	376.86	115	112	665	328	326	67	5.4	
		60		0.75	0.40	10.0	380.25	115	113	667	328	327	66	5.3	
		70		0.75	0.40	11.5	383.63	116	114	668	324	327	67	5.3	
		80		0.75	0.40	13.5	387.01	116	114	669	326	327	65	5.4	
		90		0.75	0.39	15.0	390.37	117	114	667	326	327	66	5.5	
		100		0.75	0.38	16.5	393.70	117	114	666	328	328	68	5.4	
		110		0.75	0.36	18.0	396.93	116	114	667	328	327	69	5.4	
		120		0.75	0.31	19.0	400.00	117	115	667	327	327	71	5.4	
		120		0.75	0.381		40.2	109.5		666.3				5.39	

Sample Train Pre Test 0 ft^3 @ 10 in. Hg
Leak Checks: Post Test 0 ft^3 @ 17 in. Hg

Pitot Tube PreTest 0 @ 5 in. H_2O
Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID		METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant X	PITOT TUBE DESC		Y			
LOCATION	Unit 1 Air Heater Outlet	PROBE LENGTH [ft]		C(p)			
DATE		NOZZLE ID [inch]		FILTER BOX SETTING			
OPERATOR(S)		%H_2O (Assumed)		PROBE HTR SETTING			
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:
BAR. PRESS. [" Hg]		K FACTOR		DUCT DIMENSIONS	130.5x14	DUCT AREA	1827 ft^2

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O_2 [% vol]	CO_2 [% vol]
		0													
		10													
		20													
		30													
		40													
		50													
		60													
		70													
		80													
		90													
		100													
		110													
		120													

Sample Train Pre Test _____ ft^3 @ _____ in. Hg
Leak Checks: Post Test _____ ft^3 @ _____ in. Hg

Pitot Tube PreTest _____ @ _____ in. H_2O
Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TEST #3	METER BOX	~2	CAL. DATA: delta H	1.956	Comments:	
PLANT	Plant 5	PITOT TUBE DESC	E-6	Y	0.976		
LOCATION	Unit 1 FGD Inlet	PROBE LENGTH [ft]	10'	C(p)			
DATE	6-24-04	NOZZLE ID [inch]	1/4" E-0.248	FILTER BOX SETTING	~A		
OPERATOR(S)	B.S., J.S.	%H_2O (Assumed)	6	PROBE HTR SETTING	325		
AMBIENT TEMP [°F]	~90°	* → FILTER ID	#2	DUCT X-SECTION	circ ? (rect ?)	other:	
BAR. PRESS. [" Hg]	29.57	K FACTOR	2.857	DUCT DIMENSIONS	48x29	DUCT AREA	1392 ft²

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [°F] (6) inlet	METER TEMP [°F] (7) outlet	(1) STACK TEMP [°F]	(2) PROBE TEMP [°F]	FILTER BOX [°F]	(4) LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	1420	0					931.10								
SINGLE		10		1.20	3.40	8	941.20	92	88	306	330		48	8.8	11.5
POINT		20		1.20	3.40	8.5	951.30	98	91	306	321		53	8.8	11.5
		30	6.980	1.20	3.40	9.0	961.38	102	93	306	321		53	8.8	11.5
CENTER		40		1.20	3.40	9.5	971.46	104	94	305	324		54	8.8	11.5
PORT															
		50		1.20	3.40	10.5	981.58	107	97	305	333		56	8.7	11.5
		60	6.453	1.20	3.40	11	991.70	109	98	304	321		58	8.8	11.5
		70		1.20	3.40	11.5	001.82	109	99	304	328		58	8.8	11.5
		80		1.20	3.40	12.5	012.00	109	100	304	321		60	8.9	11.4
		90	8.185	1.20	3.40	13.5	022.13	109	100	306	330		58	8.8	11.5
		100		1.20	3.40	14.5	032.26	110	101	306	330		59	8.8	11.5
		110		1.20	3.40	15	042.38	110	103	306	332		60	8.8	11.5
	1620	120	7.473	1.20	3.40	16	052.54	109	102	306	333		61	8.8	11.5
			7.0	1.20	3.40		121.44	109		305				9.2	11.5

Sample Train Leak Checks: Pre Test OK ft³ @ 10 in. Hg; Post Test OK ft³ @ 16 in. Hg

Pitot Tube Leak Checks: PreTest OK @ 7 in. H_2O; Post Test OK @ 7 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

Axial Flow Check

Location	Stack	Duct Ht, "		Barometric	
Date		Duct ID,"		Static	
Time		Duct Area	ft^2	Dry Bulb	
Tube I.D.		% O_2		Wet Bulb	
C-Factor		% CO_2		% H_20	
Operator(s)		% N_2		W.M.Wt	

PORT/ POINT	DISTANCE [" From Wall]	TEMP [°F]	DELTA P [" H_2O]	VELOCITY [Ft/Sec]	Null Angle
A-1	20.33	123	1.230		
A-2	67.45	123	1.402		
A-3	136.75	124	1.518		
B-1	20.33				
B-2	67.45				
B-3	136.75				
C-1	20.33				
C-2	67.45				
C-3	136.75				
D-1	20.33				
D-2	67.45				
D-3	136.75				
Average					
Maximum					
Minimum					
SDEV					

DATA SUMMARY	
Velocity, [fps]	
acfm	
scfm	
dscfm	
Ex Air Free cfm	
Est. MM Btu/hr Heat Input	
Est. Firing Rate, lb/hr	

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID		METER BOX	5	CAL. DATA: delta H		Comments:			
PLANT	Plant 5	PITOT TUBE DESC		Y					
LOCATION	Unit 1 Stack	PROBE LENGTH [ft]		C(p)					
DATE		NOZZLE ID [inch]		FILTER BOX SETTING					
OPERATOR(S)		%H_2O (Assumed)		PROBE HTR SETTING					
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:		
BAR. PRESS. [" Hg]		K FACTOR		DUCT DIMENSIONS	38.5 ft	DUCT AREA	1164.16 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
		0													
		10		1.4	2.42	-3.5	905.11	105	104	126	261	257	57	8.0	12.3
		20		1.3	2.24	-3.5	913.14	107	104	127	258	257	55	7.9	12.4
		30		1.3	2.24	-3.5	921.11	110	105	126	250	256	60	7.9	12.4
		40	7.00	1.3	2.24	-3.5	929.10	110	105	127	253	255	63	7.7	12.4
		50		1.3	2.24	-3.5	937.09	110	104	127	250	257	65	7.9	12.4
		60		1.3	2.07	-3.5	944.87	110	104	127	260	257	59	7.9	12.4
		70		1.2	2.07	-3.5	952.60	108	103	127	242	257	59	7.9	12.4
		80		1.3	2.24	-3.5	960.48	109	104	127	257	256	59	7.9	12.4
		90		1.3	2.24	-3.5	968.48	110	104	127	251	257	61	7.9	12.4
		100		1.3	2.24	-3.5	976.44	109	104	127	262	256	68	7.9	12.4
		110		1.2	2.07	-3.5	—	110	104	128	250	255	59	7.5	12.5
		120		1.2	2.07	-3.5	991.81	~~110~~	104	127	259	256	66	7.2	12.5
		130		1.3	2.24	-3.5	999.77	110	105	128	254	256	61	7.9	12.4
		140													
				PTS											
				1.28	2.202		102.97	104.6		127.3				7.89	12.41

Sample Train Pre Test ____ ft^3 @ ____ in. Hg
Leak Checks: Post Test ____ ft^3 @ ____ in. Hg

Pitot Tube PreTest ____ @ ____ in. H_2O
Leak Checks: Post Test ____ @ ____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	FOUR	METER BOX	N-1	CAL. DATA: delta H	1.481	Comments:			
PLANT	Plant 5	PITOT TUBE DESC	S-3	Y	0.984				
LOCATION	Unit 1 SCR Inlet	PROBE LENGTH [ft]	12	C(p)	0.840				
DATE	6/25/09	NOZZLE ID [inch]	7/16 0.213	FILTER BOX SETTING	104				
OPERATOR(S)	JAM	%H_2O (Assumed)	9.9	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	82	FILTER ID	5	DUCT X-SECTION	circ ?	(rect ?)	other:		
BAR. PRESS. ["Hg]	29.50	K FACTOR	1.0 / 0.15	DUCT DIMENSIONS	133.3x15	DUCT AREA	2000 ft^2		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES ["H_2O]	PITOT HEAD ["H_2O]	METER DIFF PRESSURE ["H_2O]	METER VACUUM ["Hg]	METER READING [ft^3]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]	
	09:40	0					392.30									
B1	09:50	10	-10.02	0.27	0.27	3.0	395.30	84	83	631	274	NA	55	4.3	15.8	
	10:00	20	-10.08	0.26	0.26	4.0	398.13	85	83	636	288		52	4.3	15.8	
	10:10	30	-9.97	0.26	0.26	4.5	400.97	86	84	637	293		52	4.4	15.7	
leak check	10:14						401.30									
B3	10:24	40	-9.98	0.36	0.36	6.0	404.66	85	84	638	290		52	4.4	15.7	
	10:34	50	-9.99	0.35	0.35	6.5	407.96	86	84	639	292		51	4.4	15.7	
	10:44	60	-10.05	0.34	0.34	7.5	411.14	86	84	639	292		52	4.3	15.8	
leak check	10:56						411.60									
B5	11:06	70	-10.09	0.39	0.37	9.0	414.87	86	85	643	288		55	4.5	15.6	
	11:16	80	-10.10	0.40	0.38	10.5	418.26	83	83	643	294		51	4.5	15.6	
	11:26	90	-9.93	0.40	0.38	12.0	421.66	86	85	646	300		53	4.4	15.7	
leak check	11:29						422.90									
B7	11:39	100	-9.96	0.45	0.43	15.0	426.01	87	85	647	291		53	4.9	15.2	
	11:49	110	-10.03	0.45	0.43	17.0	429.64	87	85	648	291		54	4.8	15.3	
	11:59	120	-9.97	0.46	0.44	19.0	433.13	86	85	647	293		55	4.8	15.3	
			-10.02	0.367	0.356		397.30		84.9	641.2				4.5	15.6	

Sample Train Pre Test Leak chk/ ____ ft^3 @ -10 in. Hg
Leak Checks: Post Test ____ ft^3 @ ____ in. Hg

Pitot Tube PreTest OK @ 6" in. H_2O
Leak Checks: Post Test ____ @ ____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	4	METER BOX	N-3	CAL. DATA: delta H	1.916	Comments:			
PLANT	Plant 5	PITOT TUBE DESC	E-4	Y	1.038				
LOCATION	Unit 1 SCR Outlet	PROBE LENGTH [ft]	8	C(p)	0.836				
DATE	6/25/09	NOZZLE ID [inch]	0.183	FILTER BOX SETTING	325				
OPERATOR(S)	GLC	%H_2O (Assumed)	9	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	87	FILTER ID	12	DUCT X-SECTION	circ ?	rect ?	other:		
BAR. PRESS. [" Hg]	29.56	K FACTOR	0.53	DUCT DIMENSIONS	133.3x13	DUCT AREA	1733.33 ft²		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	1340	0					405.30								
		10		0.75	0.40	4.5	408.71	102	101	663	326	321	68	6.0	
		20		0.75	0.40	5.5	412.13	104	102	663	327	325	65	6.4	
START	1350	30		0.75	0.40	6.0	415.55	105	103	663	325	328	66	6.6	
		40		0.75	0.40	7.0	418.95	107	104	664	328	328	66	6.9	
[illegible]		50	+14.75	0.75	0.40	6.5	~~419.34~~	106	106	662	326	328	64	5.1	
		60		0.75	0.40	8.0	422.73	109	106	662	327	325	67	5.1	
		70		0.75	0.40	9.5	434.12	110	107	663	323	330	67	5.1	
		80		0.75	0.40	11.0	437.50	110	106	663	325	330	67	5.1	
		90		0.75	0.40	13.0	440.89	110	108	663	325	328	67	5.1	
		100		0.75	0.40	14.0	444.24	111	106	663	324	327	67	5.2	
		110		0.75	0.40	17.0	447.58	111	110	663	326	327	66	5.1	
		120		0.75	0.37	16.0	450.85	111	116	663	322	328	69	5.1	
END	1400														

1.91 × 5 = 11.4

Sample Train Pre Test 0 ft³ @ 10 in. Hg
Leak Checks: Post Test 0 ft³ @ 10 in. Hg

Pitot Tube PreTest 0 @ 5 in. H_2O
Leak Checks: Post Test 0 @ 5 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID		METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant 5	PITOT TUBE DESC		Y			
LOCATION	Unit 1 Air Heater Outlet	PROBE LENGTH [ft]		C(p)			
DATE		NOZZLE ID [inch]		FILTER BOX SETTING			
OPERATOR(S)		%H_2O (Assumed)		PROBE HTR SETTING			
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:
BAR. PRESS. [" Hg]		K FACTOR		DUCT DIMENSIONS	130.5x14	DUCT AREA	1827 ft²

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
		0													
		10					95.2								
		20					96 48	67	65						
		30					96 12								
		40					96 71								
		50					97 66								
		60					97 72	92	87						
		70					97 69	93	88						
		80					97 67	94	87						
		90					98 33	95	90						
		100						95	91						
		110					98 34								
		120					98 86								

Sample Train Pre Test _____ ft³ @ _____ in. Hg

Leak Checks: Post Test _____ ft³ @ _____ in. Hg

Pitot Tube PreTest _____ @ _____ in. H_2O

Leak Checks: Post Test _____ @ _____ in. H_2O

CONSOLENERGY

NOTE: Purge for 10 minutes at end of sampling.

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TEST # 4	METER BOX	2.2	CAL. DATA: delta H	1.956	Comments:			
PLANT	Plant 5	PITOT TUBE DESC	E-6	Y	0.976				
LOCATION	Unit 1 FGD Inlet	PROBE LENGTH [ft]	10'	C(p)					
DATE	6.25.04	NOZZLE ID [inch]	1/4"E-0.248	FILTER BOX SETTING	2A				
OPERATOR(S)	B.S. J.S	%H_2O (Assumed)	6	PROBE HTR SETTING	325				
AMBIENT TEMP [°F]	~75°	FILTER ID	# 4	DUCT X-SECTION	circ ? (rect ?)	other:			
BAR. PRESS. [" Hg]	29.50	K FACTOR	2.857	DUCT DIMENSIONS	48x29	DUCT AREA	1392 ft²		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft^3]	METER TEMP [oF] (6) inlet	METER TEMP [oF] (7) outlet	STACK TEMP (1) [°F]	PROBE TEMP (2) [°F]	FILTER BOX [°F]	LAST IMP TEMP (4) [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
	0940	0					261.90								
SINGLE		10		1.20	3.40	8	272.02	84	76	306	321		60	9.0	11.3
POINT		20		1.20	3.40	8.5	282.13	86	78	306	332		59	9.0	11.3
		30	7.259	1.20	3.40	9.0	292.26	90	80	307	328		60	9.0	11.3
CENTER		40		1.20	3.40	9.0	302.34	93	82	307	318		61	9.0	11.3
PORT															
		50		1.20	3.40	10.0	312.47	95	84	307	324		63	8.9	11.3
		60	7.326	1.20	3.40	10.5	322.60	96	85	308	320		61	8.9	11.4
		70		1.20	3.40	11.0	332.78	97	86	307	328		60	8.9	11.3
		80		1.20	3.40	11.5	342.93	97	87	307	319		60	8.9	11.4
		90	7.308	1.20	3.40	12	353.12	97	88	307	327		62	8.9	11.4
		100		1.20	3.40	13	363.28	96	88	307	320		63	9.0	11.3
		110		1.20	3.40	14	373.42	95	87	307	326		59	9.0	11.3
	1140	120	7.165	1.20	3.40	14.5	383.64	96	88	306	320		59	9.0	11.3

Sample Train Leak Checks: Pre Test OK ft^3 @ 10 in. Hg; Post Test OK ft^3 @ 15 in. Hg

Pitot Tube Leak Checks: PreTest OK @ 7 in. H_2O; Post Test OK @ 7 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

Axial Flow Check

Location	Stack	Duct Ht, "		Barometric	
Date		Duct ID,"		Static	
Time		Duct Area	ft^2	Dry Bulb	
Tube I.D.		% O_2		Wet Bulb	
C-Factor		% CO_2		% H_20	
Operator(s)		% N_2		W.M.Wt	

PORT/ POINT	DISTANCE [" From Wall]	TEMP [°F]	DELTA P [" H_2O]	VELOCITY [Ft/Sec]	Null Angle
A-1	20.33				
A-2	67.45				
A-3	136.75				
B-1	20.33				
B-2	67.45				
B-3	136.75				
C-1	20.33				
C-2	67.45				
C-3	136.75				
D-1	20.33				
D-2	67.45				
D-3	136.75				
Average					
Maximum					
Minimum					
SDEV					

DATA SUMMARY	
Velocity, [fps]	
acfm	
scfm	
dscfm	
Ex Air Free cfm	
Est. MM Btu/hr Heat Input	
Est. Firing Rate, lb/hr	

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	1	METER BOX		CAL. DATA: delta H		Comments:	
PLANT	Plant X	PITOT TUBE DESC		Y			
LOCATION	Unit 1 Stack	PROBE LENGTH [ft]		C(p)			
DATE		NOZZLE ID [inch]		FILTER BOX SETTING			
OPERATOR(S)		%H_2O (Assumed)		PROBE HTR SETTING			
AMBIENT TEMP [°F]		FILTER ID		DUCT X-SECTION	circ ?	rect ?	other:
BAR. PRESS. [" Hg]	29.50	K FACTOR		DUCT DIMENSIONS	38.5 ft	DUCT AREA	1164.16 ft²

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [" H_2O]	PITOT HEAD [" H_2O]	METER DIFF PRESSURE [" H_2O]	METER VACUUM [" Hg]	METER READING [ft³]	METER TEMP [oF] inlet	METER TEMP [oF] outlet	STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST O_2 [% vol]	METER EXHAUST CO_2 [% vol]
		0					1008.50								
		10	-1.134	1.3	2.44	-3.5	016.74	95	96	128	249	260	65	7.9	12.4
		20		1.3	2.44	-3.5	024.99	97	96	127	254	260	64	7.7	12.5
		30		1.3	2.44	-3.5	033.24	100	97	128	256	257	65	7.7	12.5
		40		1.3	2.44	-3.5	041.53	102	99	128	254	255	63	7.7	12.5
		50		1.3	2.44	-3.5	049.71	106	102	127	259	258	60	7.6	12.5
		60		1.3	2.44	-3.5	058.02	108	104	127	261	257	61	7.7	12.5
		70		1.3	2.44	-4.0	066.34	110	106	127	260	255	61	7.6	12.5
		80		1.3	2.44	-4.0	074.64	111	102(107)	127	257	255	61	7.6	12.6
		90		1.3	2.44	-4.0	082.95	112	108	127	252	256	65	7.8	12.4
		100		1.3	2.44	-4.0	091.15	114	107	127	251	255	64	7.8	12.5
		110		1.3	2.44	-4.0	—	114	106	127	251	255	63	7.8	12.5
		120		1.3	2.44	-4.0	107.60	114	106	127	248	255	63	7.8	12.4
		130		1.3	2.44	-4.0	116.00	115	109	127	248	257	63	7.7	12.5
		140		1.3	2.44	-4.0	124.34	115	109	127	251	256	63	7.7	12.5

Sample Train Pre Test _____ ft³ @ _____ in. Hg
Leak Checks: Post Test 2001 ft³ @ 10 in. Hg

Pitot Tube PreTest _____ @ _____ in. H_2O
Leak Checks: Post Test OK @ 5 in. H_2O

CONSOL ENERGY

NOTE: Purge for 10 minutes at end of sampling.

APPENDIX B

Plant Process Data

DataWare Excel Export: 23-Jun-2004 00:00:00 to 24-Jun-2004 23:59:00: Averaged every 10 Minutes

Average	9.25	66.13	45517.74	618.10	688.99	598.45	517.40	314.35	314.40	87.93	119.97		663.30
Maximum	9.76	70.73	47763.31	713.9	793.84	811.57	719.2	322.83	322.29	96.89	126.77		679.3
Minimum	7.68	54.89	38492.07	0.22	9.46	0.36	0.15	302.09	302.13	79.23	116.33		605.41

TimeTag	CU-1186: (CU:U1) Total Feedwater Flow (MMPPH)	CU-1256: (CU:U1) Total Fuel Flow (%)	CU-1329: (CU:U1) Main Steam Flow (kpph)	CU-6955: (CU:U1) SCR1A AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7009: (CU:U1) SCR1A AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-7119: (CU:U1) SCR1B AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7131: (CU:U1) SCR1B AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-1248: (CU:U1) Exit Gas Temperature - Actual (F)	CU-1327: (CU:U1) Exit Gas Temperature (F)	CU-1367: (CU:U1) Average Air Temperature Enterin (F)	CU-1368: (CU:U1) Average Air Temperature Leaving (F)	CU-1391: (CU:U1) Exit Gas Temperature - Act V Re ()	CU-6948: (CU:U1) ECON 1A OUTLET TEMPERATURE A (DEG F)
23-Jun-2004 00:00:00.000 CDT	9.65	67.48	47361.96	601.19	681.54	646.45	531.67	316.03	315.29	84.95	116.84	Omitted	671.51
23-Jun-2004 00:10:00.000 CDT	9.67	67.45	47344.66	607.06	683.91	628.82	527.54	316	315.37	84.9	116.79	Omitted	671.93
23-Jun-2004 00:20:00.000 CDT	9.66	67.46	47371.48	610.53	696.71	663.73	527.24	315.74	315.44	84.85	116.75	Omitted	672.35
23-Jun-2004 00:30:00.000 CDT	9.68	67.29	47510.13	611.34	683.27	658.22	537.58	315.48	315.52	84.8	116.69	Omitted	672.77
23-Jun-2004 00:40:00.000 CDT	9.68	67.52	47401.45	613.38	712.74	655.65	534.06	315.21	315.58	84.75	116.62	Omitted	673.18
23-Jun-2004 00:50:00.000 CDT	9.69	67.34	47472.45	618.18	698.13	649.99	528.06	314.95	315.64	84.72	116.54	Omitted	673.37
23-Jun-2004 01:00:00.000 CDT	9.67	67.55	47459.68	608.54	691.99	653.07	529.95	314.69	315.7	84.74	116.47	Omitted	673.46
23-Jun-2004 01:10:00.000 CDT	9.67	67.26	47412.84	602.69	695.07	640.08	533.27	314.66	315.77	84.78	116.4	Omitted	673.54
23-Jun-2004 01:20:00.000 CDT	9.7	67.05	47497.69	631.53	741.18	720.43	569.33	314.86	315.83	84.81	116.33	Omitted	673.63
23-Jun-2004 01:30:00.000 CDT	9.57	67.2	46936.27	636.55	731.45	710.68	571.38	315.07	315.65	84.84	116.42	Omitted	673.72
23-Jun-2004 01:40:00.000 CDT	9.65	67	47295.45	627.93	736.7	695.02	570.24	314.63	315.12	84.87	116.59	Omitted	673.95
23-Jun-2004 01:50:00.000 CDT	9.7	67.32	47509.52	634.23	728.77	685.52	586.65	312.96	314.58	84.85	116.75	Omitted	674.24
23-Jun-2004 02:00:00.000 CDT	9.68	66.96	47530.75	636.51	718.3	664.14	568.19	312.62	314.04	84.68	116.92	Omitted	674.53
23-Jun-2004 02:10:00.000 CDT	9.7	66.64	47561.98	642.02	721.15	649.06	558.78	312.77	313.51	84.5	117.08	Omitted	674.83
23-Jun-2004 02:20:00.000 CDT	9.68	66.89	47463.29	643.43	726.54	696.51	565.52	312.91	312.97	84.32	117.25	Omitted	675.12
23-Jun-2004 02:30:00.000 CDT	9.68	66.9	47487.39	648.52	702.54	671.05	549.07	313.05	312.68	84.13	117.56	Omitted	675.41
23-Jun-2004 02:40:00.000 CDT	9.67	66.91	47467.46	639.53	736.34	659.87	546.86	313.2	312.75	83.95	117.94	Omitted	675.53
23-Jun-2004 02:50:00.000 CDT	9.68	66.53	47517.47	652.43	733.52	670.73	560.36	313.35	312.82	83.73	118.32	Omitted	675.57
23-Jun-2004 03:00:00.000 CDT	9.63	66.16	47237.99	655.5	736.25	674.13	568.18	313.63	312.89	83.37	118.7	Omitted	675.61
23-Jun-2004 03:10:00.000 CDT	9.33	62.96	45880.55	647.28	720.99	650.41	565.24	313.96	312.96	83.01	119.08	Omitted	674.5
23-Jun-2004 03:20:00.000 CDT	8.97	60.56	44369.09	626.47	695.15	666.09	571.93	314.03	313.03	82.65	119.45	Omitted	671.02
23-Jun-2004 03:30:00.000 CDT	8.87	60.94	43914.42	629.38	667.3	638.61	562.38	313.57	313.04	82.29	119.65	Omitted	667.47
23-Jun-2004 03:40:00.000 CDT	8.86	61.67	43862.48	627.84	713.35	631.3	540.04	313.08	312.94	81.92	119.76	Omitted	664.81
23-Jun-2004 03:50:00.000 CDT	8.88	61.62	43929.41	628	702.7	639.83	548.18	312.6	312.83	81.63	119.88	Omitted	664.78
23-Jun-2004 04:00:00.000 CDT	8.89	61.53	44001.32	633.22	702.07	640.1	558.18	312.24	312.73	81.53	119.99	Omitted	664.92
23-Jun-2004 04:10:00.000 CDT	8.86	61.59	43929.38	634.8	708.59	628.06	559.85	312.38	312.63	81.45	120.11	Omitted	665.06
23-Jun-2004 04:20:00.000 CDT	8.87	61.72	43870.37	636.97	708.05	664.4	562.31	312.57	312.53	81.37	120.22	Omitted	665.19
23-Jun-2004 04:30:00.000 CDT	8.85	61.59	43858.99	633.18	680.42	648.73	566.21	312.76	312.53	81.28	120.25	Omitted	665.33
24-Jun-2004 04:40:00.000 CDT	8.9	61.19	44020.17	624.74	709.82	640.1	551.35	312.95	312.66	81.2	120.24	Omitted	665.36
24-Jun-2004 04:50:00.000 CDT	8.89	61.17	44019.27	615.91	694.79	639.96	552.76	313.15	312.8	81.11	120.24	Omitted	665.18
24-Jun-2004 05:00:00.000 CDT	8.89	61.39	44001.68	617.68	695.7	644.38	557.65	313.32	312.94	81.02	120.23	Omitted	664.99
24-Jun-2004 05:10:00.000 CDT	8.88	61.33	43932.24	622.18	697.48	631.51	560.54	313.48	313.08	80.94	120.22	Omitted	664.75
24-Jun-2004 05:20:00.000 CDT	8.88	61.38	43942.33	618.98	703.34	666.6	560.27	313.64	313.22	80.85	120.21	Omitted	664.53
24-Jun-2004 05:30:00.000 CDT	8.88	61.52	43902.12	635.72	683.99	657.65	562.47	313.79	313.36	80.76	120.15	Omitted	664.32
24-Jun-2004 05:40:00.000 CDT	8.87	61.5	43884.79	634.73	718.82	648.3	556.05	313.95	313.49	80.67	120.07	Omitted	664.07
24-Jun-2004 05:50:00.000 CDT	8.87	61.47	43892.16	638.47	712.31	653.43	561.54	314.1	313.62	80.65	119.98	Omitted	663.72
24-Jun-2004 06:00:00.000 CDT	8.85	61.56	43776.94	622.13	701.55	654.15	562.75	314.29	313.75	80.84	119.9	Omitted	663.37
24-Jun-2004 06:10:00.000 CDT	8.89	61.8	43944.18	629.99	702.73	637.93	565.58	314.52	313.89	81.03	119.81	Omitted	663.02
24-Jun-2004 06:20:00.000 CDT	9.19	64.62	45241.59	629.87	706.13	676.02	564.89	314.75	314.02	81.22	119.72	Omitted	663.28
24-Jun-2004 06:30:00.000 CDT	9.53	66.88	46785.99	639.19	703.26	680.9	570.38	314.99	314.22	81.42	119.57	Omitted	667.2
24-Jun-2004 06:40:00.000 CDT	9.69	67.65	47491.42	689.98	783.05	717.33	609.43	315.28	314.51	81.61	119.39	Omitted	671.72
24-Jun-2004 06:50:00.000 CDT	9.73	66.86	47649.3	705.05	793.21	745.49	635.22	315.63	314.81	81.76	119.2	Omitted	675.2
24-Jun-2004 07:00:00.000 CDT	9.72	66.84	47558.64	703.83	786.61	748.72	642.82	315.97	315.11	81.78	119.02	Omitted	675.65
24-Jun-2004 07:10:00.000 CDT	9.7	66.77	47565.45	692.42	768.33	712.84	635.99	316.16	315.4	81.79	118.83	Omitted	675.91
24-Jun-2004 07:20:00.000 CDT	9.67	66.76	47436.42	693.66	773.68	745.93	634.02	316.3	315.7	81.8	118.65	Omitted	676.16
24-Jun-2004 07:30:00.000 CDT	9.7	66.51	47544.34	695.02	753.9	740.41	646.94	316.44	315.8	81.81	118.58	Omitted	676.42
24-Jun-2004 07:40:00.000 CDT	9.69	66.54	47538.84	691.14	781.71	726.28	629.21	316.55	315.61	81.82	118.57	Omitted	676.56
24-Jun-2004 07:50:00.000 CDT	9.7	66.31	47587.86	696.11	774.33	723.22	630.89	316.65	315.42	81.85	118.56	Omitted	676.58
24-Jun-2004 08:00:00.000 CDT	9.58	64.92	46997.12	695.85	773.55	742.1	657.01	316.75	315.23	81.94	118.54	Omitted	674.33
24-Jun-2004 08:10:00.000 CDT	9.53	65.87	46852.33	683.77	767.29	712.57	624.13	316.68	315.04	82.04	118.53	Omitted	673.09
24-Jun-2004 08:20:00.000 CDT	9.51	66.95	46713.88	603.18	716.62	703.22	585.23	315.2	314.84	82.13	118.52	Omitted	671.97
24-Jun-2004 08:30:00.000 CDT	9.47	64.94	46568.11	690.3	687.45	699.08	591.86	313.8	314.56	82.22	118.54	Omitted	670.86

DatAWare Excel Export: 23-Jun-2004 00:00:0

Average	649.99	637.00	86.95	664.09	646.96	638.75	86.69	6.32	1658.19	60.23	
Maximum	665.93	653.43	95.32	681.23	663.36	655.58	95.4	7.77	1900.8	1434.99	
Minimum	592.32	574.39	77.37	606.75	588.07	577.11	76.6	5.27	551.27	18.92	

TimeTag	CU-6947 (CU:U1) ECON 1B OUTLET TEMPERATURE A (DEG F)	CU-6946: (CU:U1) ECON 1C OUTLET TEMPERATURE A (DEG F)	CU-6989: (CU:U1) SCR 1A VENT TEMPERATURE (DEG F)	CU-6997: (CU:U1) ECON 1A OUTLET TEMPERATURE B (DEG F)	CU-6996: (CU:U1) ECON 1B OUTLET TEMPERATURE B (DEG F)	CU-6995: (CU:U1) ECON 1C OUTLET TEMPERATURE B (DEG F)	CU-7110: (CU:U1) SCR 1B VENT TEMPERATURE (DEG F)	CU-5: (CU:U1) A171027 - U1 FLUE GAS O2 INLET (PCT)	CU-6: (CU:U1) A171004 - U1 FLUE GAS SO2 INLET (PPM)	CU-11: (CU:U1) A171022 - U1 STACK OUTLET SO2 (PPM)	CU-1091: (CU:U1) Furnace total O2 (%)	CU-1242: (CU:U1) Average O2 - Actual (%)
23-Jun-2004 00:00:00.000 CDT	658.81	645.33	79.88	673.57	654.87	647.77	79.61	5.33	1674.84	53.91	Omitted	Omitted
23-Jun-2004 00:10:00.000 CDT	658.86	646.28	80.06	673.62	654.87	647.78	79.98	5.31	1670.97	53.79	Omitted	Omitted
23-Jun-2004 00:20:00.000 CDT	658.91	646.23	80.23	673.66	654.88	647.79	80.25	5.3	1653.91	53.66	Omitted	Omitted
23-Jun-2004 00:30:00.000 CDT	658.96	646.17	80.4	673.71	654.87	647.8	80.43	5.29	1646.41	53.53	Omitted	Omitted
23-Jun-2004 00:40:00.000 CDT	658.94	646.13	80.57	673.36	654.76	647.84	80.6	5.29	1642.21	53.41	Omitted	Omitted
23-Jun-2004 00:50:00.000 CDT	658.85	646.11	80.74	672.6	654.58	647.9	80.78	5.28	1638.02	53.26	Omitted	Omitted
23-Jun-2004 01:00:00.000 CDT	658.76	646.09	80.99	671.84	654.41	647.97	80.95	5.28	1637.74	52.85	Omitted	Omitted
23-Jun-2004 01:10:00.000 CDT	658.67	646.07	81.48	671.08	654.24	648.03	81.13	5.27	1639.41	52.34	Omitted	Omitted
23-Jun-2004 01:20:00.000 CDT	658.58	646.05	81.98	670.32	654.07	648.1	81.46	5.27	1627.13	51.83	Omitted	Omitted
23-Jun-2004 01:30:00.000 CDT	658.49	646.03	82.48	669.56	653.9	648.16	81.94	5.32	1602.87	51.32	Omitted	Omitted
23-Jun-2004 01:40:00.000 CDT	658.54	645.99	82.98	670.83	654.01	648.11	82.42	5.38	1649.6	50.81	Omitted	Omitted
23-Jun-2004 01:50:00.000 CDT	658.73	645.88	83.48	674.11	654.24	647.94	82.9	5.44	1621.98	50.32	Omitted	Omitted
23-Jun-2004 02:00:00.000 CDT	658.92	645.77	83.9	675.79	654.48	647.78	83.36	5.5	1620.91	50.1	Omitted	Omitted
23-Jun-2004 02:10:00.000 CDT	659.1	645.67	84.07	676.38	654.71	647.61	83.87	5.56	1613.07	49.97	Omitted	Omitted
23-Jun-2004 02:20:00.000 CDT	659.29	645.56	84.22	676.97	654.95	647.45	84.11	5.63	1614.76	49.85	Omitted	Omitted
23-Jun-2004 02:30:00.000 CDT	659.48	645.46	84.38	677.56	655.17	647.28	84.13	5.72	1618.55	49.72	Omitted	Omitted
23-Jun-2004 02:40:00.000 CDT	659.55	645.16	84.53	678.16	654.92	646.91	84.14	5.82	1619.21	49.59	Omitted	Omitted
23-Jun-2004 02:50:00.000 CDT	659.49	644.47	84.69	678.73	654.44	646.32	84.15	5.92	1618.78	49.42	Omitted	Omitted
23-Jun-2004 03:00:00.000 CDT	659.43	643.77	84.78	677.47	653.96	645.74	84.17	6.02	1618.35	48.62	Omitted	Omitted
23-Jun-2004 03:10:00.000 CDT	658.75	643.06	84.69	674.94	653.42	645.16	84.18	6.12	1614.56	47.61	Omitted	Omitted
23-Jun-2004 03:20:00.000 CDT	655.51	641.74	84.58	672.3	650.92	643.19	84.12	6.22	1579.66	46.59	Omitted	Omitted
23-Jun-2004 03:30:00.000 CDT	651.99	638.62	84.48	669.24	647.46	639.85	83.98	6.26	1547.3	45.57	Omitted	Omitted
23-Jun-2004 03:40:00.000 CDT	649.39	635.82	84.37	666.12	645.48	637.39	83.84	6.27	1544.19	44.56	Omitted	Omitted
23-Jun-2004 03:50:00.000 CDT	649.44	635.61	84.26	664.04	645.62	637.51	83.7	6.28	1542.93	43.55	Omitted	Omitted
23-Jun-2004 04:00:00.000 CDT	649.66	635.83	84.13	664.1	645.78	637.79	83.57	6.29	1541.67	42.72	Omitted	Omitted
23-Jun-2004 04:10:00.000 CDT	649.88	636.06	83.91	664.22	645.95	638.06	83.43	6.3	1540.41	41.96	Omitted	Omitted
23-Jun-2004 04:20:00.000 CDT	650.09	636.28	83.69	664.34	646.11	638.34	83.31	6.31	1539.15	41.2	Omitted	Omitted
23-Jun-2004 04:30:00.000 CDT	650.31	636.5	83.47	664.46	646.27	638.62	83.22	6.32	1537.42	40.44	Omitted	Omitted
23-Jun-2004 04:40:00.000 CDT	650.48	636.68	83.25	664.58	646.36	638.77	83.13	6.33	1534.29	39.67	Omitted	Omitted
23-Jun-2004 04:50:00.000 CDT	650.48	636.56	83.03	664.68	646.32	638.54	83.03	6.34	1531.07	38.95	Omitted	Omitted
23-Jun-2004 05:00:00.000 CDT	650.48	636.4	82.83	664.75	646.29	638.29	82.94	6.34	1527.85	38.86	Omitted	Omitted
23-Jun-2004 05:10:00.000 CDT	650.48	636.23	82.71	664.82	646.25	638.04	82.85	6.35	1524.64	38.99	Omitted	Omitted
23-Jun-2004 05:20:00.000 CDT	650.47	636.07	82.59	664.89	646.22	637.79	82.73	6.36	1521.42	39.11	Omitted	Omitted
23-Jun-2004 05:30:00.000 CDT	650.47	635.9	82.48	664.96	646.19	637.54	82.58	6.34	1518.29	39.24	Omitted	Omitted
23-Jun-2004 05:40:00.000 CDT	650.48	635.84	82.36	665.03	646.34	637.53	82.44	6.31	1515.42	39.37	Omitted	Omitted
23-Jun-2004 05:50:00.000 CDT	650.54	636.38	82.24	664.91	646.75	638.22	82.29	6.29	1512.56	39.51	Omitted	Omitted
23-Jun-2004 06:00:00.000 CDT	650.59	637.02	82.14	664.43	647.17	638.95	82.15	6.26	1509.7	39.93	Omitted	Omitted
23-Jun-2004 06:10:00.000 CDT	650.65	637.66	82.09	663.93	647.59	639.68	82	6.23	1506.85	40.44	Omitted	Omitted
23-Jun-2004 06:20:00.000 CDT	650.71	638.31	82.05	663.8	648.01	640.41	81.91	6.21	1532.03	40.94	Omitted	Omitted
23-Jun-2004 06:30:00.000 CDT	652.42	639.69	82.01	667.08	649.96	642.12	81.87	6.18	1562.44	41.45	Omitted	Omitted
23-Jun-2004 06:40:00.000 CDT	656.54	643.21	81.96	671.19	654.16	645.86	81.83	6.15	1579	41.96	Omitted	Omitted
23-Jun-2004 06:50:00.000 CDT	660.49	646.87	81.92	675.13	658.02	649.66	81.79	6.12	1573.44	42.42	Omitted	Omitted
23-Jun-2004 07:00:00.000 CDT	661.49	648.67	81.89	676.29	658.6	651.46	81.75	6.09	1566.49	40.92	Omitted	Omitted
23-Jun-2004 07:10:00.000 CDT	661.46	648.63	81.9	676.49	658.39	651.28	81.71	6.06	1560.77	18.92	Omitted	Omitted
23-Jun-2004 07:20:00.000 CDT	661.44	648.58	81.91	676.7	658.18	651.09	81.76	6.04	551.27	106.6	Omitted	Omitted
23-Jun-2004 07:30:00.000 CDT	661.41	648.54	81.92	676.9	657.96	650.91	81.91	6.07	1900.8	1420.13	Omitted	Omitted
23-Jun-2004 07:40:00.000 CDT	661.39	648.49	81.94	676.96	657.63	650.72	82.06	6.14	1559.94	971.05	Omitted	Omitted
23-Jun-2004 07:50:00.000 CDT	661.02	648.45	81.95	676.11	656.95	650.54	82.21	6.2	1558.98	70.38	Omitted	Omitted
23-Jun-2004 08:00:00.000 CDT	659.96	648.15	82.01	675.11	656.24	650.2	82.36	6.26	1545.62	65.42	Omitted	Omitted
23-Jun-2004 08:10:00.000 CDT	658.87	647.59	82.2	674.11	655.53	649.7	82.5	6.32	1531.14	60.46	Omitted	Omitted
23-Jun-2004 08:20:00.000 CDT	657.79	647.03	82.41	673.12	654.83	649.2	82.63	6.38	1516.85	55.5	Omitted	Omitted
23-Jun-2004 08:30:00.000 CDT	656.7	646.48	82.61	672.05	654.12	648.71	82.73	6.46	1511.52	50.54	Omitted	Omitted

DatAWare Excel Export 23-Jun-2004 00:00:0

Average	0.58	0.56	359.69	341.59	0.59	0.57	308.87	337.61	0.59	0.57	0.59	0.54	186.74	174.38	188.60
Maximum	0.62	0.63	393.86	372.11	0.64	0.62	353.94	382.37	0.64	0.61	0.67	0.62	256.46	215.05	247.58
Minimum	0.53	0.46	322.91	312.86	0.54	0.52	254.53	277.3	0.54	0.52	0.49	0.43	150.22	132.02	125.98

TimeTag	CU-3532: (CU:U1) [U1] SCR A Avg NOx Inlet (lb/mmBtu)	CU-3533: (CU:U1) [U1] SCR B Avg NOx Inlet (lb/mmBtu)	CU-6982: (CU:U1) SCR 1A INLET ANALZ B NOx (PPM)	CU-6984: (CU:U1) SCR 1A INLET ANALZ A NOx (PPM)	CU-7055: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7056: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7100: (CU:U1) SCR 1B INLET ANALZ B NOx (PPM)	CU-7102: (CU:U1) SCR 1B INLET ANALZ A NOx (PPM)	CU-7190: (CU:U1) SCR 1A INLET NOx AIG-AB (lb/MBtu)	CU-7191: (CU:U1) SCR 1A INLET NOx AIG-AA (lb/MBtu)	CU-7194: (CU:U1) SCR 1B INLET NOx AIG-BA (lb/MBtu)	CU-7195: (CU:U1) SCR 1B INLET NOx AIG-BB (lb/MBtu)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
23-Jun-2004 00:00:00.000 CDT	0.53	0.52	352.22	329.8	0.55	0.52	286.09	328.36	0.55	0.52	0.56	0.49	175.99	163.54	173.99
23-Jun-2004 00:10:00.000 CDT	0.54	0.52	355.94	333.22	0.55	0.52	285.65	327.54	0.55	0.52	0.55	0.49	175.06	166.96	176.57
23-Jun-2004 00:20:00.000 CDT	0.54	0.52	359.8	334.07	0.56	0.52	284.86	328.29	0.56	0.52	0.55	0.48	178.84	171.03	179.5
23-Jun-2004 00:30:00.000 CDT	0.54	0.52	360.92	335.28	0.56	0.52	286.94	328.61	0.56	0.52	0.55	0.49	177.02	165.05	181.89
23-Jun-2004 00:40:00.000 CDT	0.54	0.52	360.48	336.12	0.56	0.52	286.08	330.38	0.56	0.52	0.56	0.49	167.45	175.34	156.91
23-Jun-2004 00:50:00.000 CDT	0.54	0.52	359.52	337.26	0.56	0.53	285.12	328.32	0.56	0.52	0.55	0.48	173.82	165.01	171.13
23-Jun-2004 01:00:00.000 CDT	0.54	0.52	358.55	335.41	0.56	0.52	286.24	330.96	0.56	0.52	0.55	0.49	172.28	159.86	170.84
23-Jun-2004 01:10:00.000 CDT	0.54	0.52	361.5	336.68	0.57	0.52	286.89	334.13	0.57	0.52	0.56	0.49	174.81	163.61	177.42
23-Jun-2004 01:20:00.000 CDT	0.56	0.55	376.4	341.63	0.6	0.53	297.61	346.66	0.6	0.53	0.59	0.51	169.76	161.11	177.93
23-Jun-2004 01:30:00.000 CDT	0.58	0.55	377.21	337.1	0.62	0.54	298.07	351.8	0.62	0.54	0.6	0.5	171.05	152.62	171.74
23-Jun-2004 01:40:00.000 CDT	0.58	0.55	382.89	345.87	0.61	0.55	303.2	351.13	0.61	0.55	0.59	0.51	168.45	163.79	184.92
23-Jun-2004 01:50:00.000 CDT	0.57	0.55	376.24	348.61	0.59	0.55	301.99	343.76	0.59	0.55	0.59	0.52	173.67	160.39	180.93
23-Jun-2004 02:00:00.000 CDT	0.57	0.55	371.69	350.7	0.58	0.55	299.99	340.61	0.59	0.55	0.57	0.52	172.9	160.3	166.09
23-Jun-2004 02:10:00.000 CDT	0.57	0.55	372.67	352.56	0.59	0.55	301.31	340.53	0.59	0.55	0.57	0.52	178.3	165.87	166.4
23-Jun-2004 02:20:00.000 CDT	0.57	0.55	376.49	353.25	0.59	0.55	304.85	345.29	0.59	0.55	0.58	0.53	176.25	160.94	181.3
23-Jun-2004 02:30:00.000 CDT	0.57	0.54	372.75	354.62	0.59	0.55	296.97	335.34	0.59	0.55	0.57	0.5	182.07	166.69	183.98
23-Jun-2004 02:40:00.000 CDT	0.57	0.54	375.22	354.25	0.58	0.55	299	336.06	0.58	0.55	0.57	0.51	182.16	169.54	187.45
23-Jun-2004 02:50:00.000 CDT	0.57	0.55	376.17	356.94	0.59	0.55	301.09	339.83	0.59	0.55	0.58	0.52	182.69	174.06	184.76
23-Jun-2004 03:00:00.000 CDT	0.58	0.55	377.05	358.38	0.6	0.56	302.15	340.06	0.6	0.56	0.59	0.52	187.88	162.89	185.43
23-Jun-2004 03:10:00.000 CDT	0.58	0.56	374.75	356.62	0.6	0.57	304.86	341.35	0.6	0.57	0.59	0.53	184.79	165.89	185.03
23-Jun-2004 03:20:00.000 CDT	0.59	0.58	367.74	351.83	0.61	0.58	309.35	339.67	0.61	0.58	0.6	0.56	177.96	163.46	171.69
23-Jun-2004 03:30:00.000 CDT	0.6	0.59	364.76	352.94	0.61	0.58	307.95	334.88	0.61	0.58	0.6	0.57	164	138.48	156.3
23-Jun-2004 03:40:00.000 CDT	0.6	0.58	370.67	356.79	0.62	0.58	307.05	334.71	0.61	0.58	0.6	0.56	163.1	139.44	156.3
23-Jun-2004 03:50:00.000 CDT	0.6	0.58	368.81	354.82	0.61	0.58	308.3	334.18	0.61	0.58	0.6	0.56	157.87	152.36	166.28
23-Jun-2004 04:00:00.000 CDT	0.6	0.58	369.44	355.2	0.61	0.58	308.36	335.4	0.61	0.58	0.6	0.57	162.77	157.07	176.34
23-Jun-2004 04:10:00.000 CDT	0.6	0.59	374.11	357.06	0.61	0.58	310.25	336.91	0.62	0.58	0.61	0.57	162.75	156.52	178.94
23-Jun-2004 04:20:00.000 CDT	0.6	0.59	370.35	357.35	0.62	0.58	311.36	339.02	0.62	0.59	0.61	0.57	163.88	153.66	171.21
23-Jun-2004 04:30:00.000 CDT	0.6	0.58	370.7	355.22	0.61	0.58	310.4	336.67	0.61	0.58	0.6	0.56	167.07	144.44	169.29
23-Jun-2004 04:40:00.000 CDT	0.59	0.58	368.05	349.77	0.61	0.58	307.87	335.03	0.61	0.58	0.6	0.56	167.01	169.08	160.36
23-Jun-2004 04:50:00.000 CDT	0.59	0.58	366.5	350.45	0.61	0.58	308.59	334.38	0.61	0.58	0.6	0.56	170.98	155.83	171.59
23-Jun-2004 05:00:00.000 CDT	0.6	0.58	367.78	351.29	0.61	0.58	308.05	338.09	0.61	0.58	0.6	0.56	165.71	152.37	173.52
23-Jun-2004 05:10:00.000 CDT	0.59	0.59	370.75	349.69	0.61	0.58	310.12	340.16	0.61	0.58	0.61	0.57	162.26	146.27	169.67
23-Jun-2004 05:20:00.000 CDT	0.6	0.59	371.39	351.69	0.62	0.58	309.03	339.71	0.61	0.58	0.61	0.56	166.42	157.27	175.83
23-Jun-2004 05:30:00.000 CDT	0.6	0.59	372.9	353.92	0.62	0.58	310.3	339.37	0.62	0.58	0.61	0.56	158.5	152.06	173.75
23-Jun-2004 05:40:00.000 CDT	0.6	0.58	373.46	353.74	0.62	0.58	309.55	339.95	0.61	0.58	0.61	0.56	158.4	153.45	183.64
23-Jun-2004 05:50:00.000 CDT	0.6	0.59	372.8	354.15	0.61	0.59	310.48	338.58	0.62	0.59	0.61	0.56	152.38	148.51	165.55
23-Jun-2004 06:00:00.000 CDT	0.6	0.59	370.96	354.36	0.61	0.59	309.43	340.82	0.61	0.59	0.61	0.56	156.76	151.95	162.49
23-Jun-2004 06:10:00.000 CDT	0.6	0.59	369.63	350.35	0.61	0.58	311.33	341.23	0.61	0.58	0.61	0.56	154.24	158.3	172.51
23-Jun-2004 06:20:00.000 CDT	0.58	0.57	368.29	348.29	0.6	0.57	308.46	339.57	0.6	0.57	0.6	0.55	158.28	146.79	179.41
23-Jun-2004 06:30:00.000 CDT	0.57	0.56	372.64	350.23	0.59	0.55	308.68	341.49	0.59	0.55	0.58	0.53	163.01	159.46	176.56
23-Jun-2004 06:40:00.000 CDT	0.59	0.57	383.02	362	0.61	0.57	317.43	351.45	0.61	0.57	0.6	0.54	173.88	179.37	200
23-Jun-2004 06:50:00.000 CDT	0.6	0.59	389.67	364.28	0.62	0.58	325.08	358.29	0.62	0.58	0.62	0.56	182.41	172.06	209.85
23-Jun-2004 07:00:00.000 CDT	0.61	0.6	393.86	368.59	0.63	0.59	327.71	365.68	0.63	0.59	0.63	0.57	187.13	173.25	203.21
23-Jun-2004 07:10:00.000 CDT	0.61	0.6	391.45	368.29	0.62	0.59	329.9	361.63	0.63	0.59	0.63	0.57	187.21	167.63	196.02
23-Jun-2004 07:20:00.000 CDT	0.61	0.6	391.23	372.11	0.63	0.59	331.17	361.61	0.63	0.59	0.63	0.57	194.62	160.07	182.04
23-Jun-2004 07:30:00.000 CDT	0.61	0.6	391.33	370.65	0.62	0.59	331.56	362.47	0.63	0.59	0.63	0.58	191.35	170.84	188.23
23-Jun-2004 07:40:00.000 CDT	0.6	0.6	386.34	367.5	0.62	0.59	331.48	358.67	0.62	0.59	0.63	0.58	192	169.82	185.2
23-Jun-2004 07:50:00.000 CDT	0.6	0.6	386.77	368.73	0.62	0.59	332.18	356.7	0.62	0.59	0.63	0.58	189.56	170.1	185.23
23-Jun-2004 08:00:00.000 CDT	0.61	0.62	387.89	369.62	0.63	0.59	338.63	368.53	0.63	0.59	0.64	0.6	183	154.63	177.84
23-Jun-2004 08:10:00.000 CDT	0.61	0.61	385.59	359.5	0.63	0.6	331.73	365.3	0.63	0.6	0.64	0.58	169.43	157.01	159.82
23-Jun-2004 08:20:00.000 CDT	0.59	0.57	369.11	333.14	0.62	0.55	320.52	355.41	0.62	0.55	0.6	0.54	166.6	153.43	154.86
23-Jun-2004 08:30:00.000 CDT	0.58	0.56	368.94	331.8	0.62	0.55	316.89	363.73	0.62	0.55	0.59	0.52	155	155.6	177.87

DataWare Excel Export: 23-Jun-2004 00:00:0

Average	14.98	14.97	15.00	325.40	311.49	327.38	5.80	14.98	5.80	14.97	5.80	15.00	186.74	174.38	188.60
Maximum	15.5	15.56	15.55	332.73	316.88	333.27	6.62	15.5	6.69	15.56	6.6	15.55	256.46	215.05	247.58
Minimum	9.04	7.28	8.07	315.24	303.41	319	5.73	9.04	5.77	7.28	5.73	8.07	150.22	132.02	125.98

TimeTag	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-37 (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-25: (CU:U1) T182001A - 1A ABS FLUGAS INLET T (DEGF)	CU-32: (CU:U1) T182001B - 1B ABS FLUGAS INLET T (DEGF)	CU-39: (CU:U1) T182001C - 1C ABS FLUGAS INL TMP (DEGF)	CU-29: (CU:U1) O016X371 - SELECTED 1A ABS PH (PH)	[illegible]: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-36: (CU:U1) O015X371 - SELECTED 1B ABS PH (PH)	[illegible]: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-43: (CU:U1) O014X371 - SEL 1C ABSORBER PH (PH)	[illegible]: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
23-Jun-2004 00:00:00.000 CDT	14.59	14.94	14.94	322.83	307.83	324.01	5.81	14.59	5.81	14.94	5.8	14.94	175.99	163.54	173.99
23-Jun-2004 00:10:00.000 CDT	14.68	15	14.96	322.87	308.06	324.22	5.79	14.68	5.79	15	5.8	14.96	175.06	166.96	176.57
23-Jun-2004 00:20:00.000 CDT	14.64	15.03	14.85	322.9	308.29	324.33	5.8	14.64	5.8	15.03	5.8	14.85	178.84	171.03	179.5
23-Jun-2004 00:30:00.000 CDT	14.68	15.13	14.92	322.92	308.52	324.43	5.8	14.68	5.81	15.13	5.8	14.92	177.02	165.05	181.89
23-Jun-2004 00:40:00.000 CDT	14.69	14.92	14.84	322.95	308.65	324.53	5.81	14.69	5.81	14.92	5.81	14.84	167.45	175.34	156.91
23-Jun-2004 00:50:00.000 CDT	14.71	15.01	14.81	322.97	308.65	324.64	5.8	14.71	5.78	15.01	5.81	14.81	173.82	165.01	171.13
23-Jun-2004 01:00:00.000 CDT	14.77	15.01	14.83	322.98	308.65	324.74	5.79	14.77	5.79	15.01	5.8	14.83	172.28	159.86	170.84
23-Jun-2004 01:10:00.000 CDT	14.67	14.93	14.87	322.9	308.65	324.78	5.8	14.67	5.8	14.93	5.79	14.87	174.81	163.61	177.42
23-Jun-2004 01:20:00.000 CDT	14.6	14.96	14.85	322.79	308.65	324.58	5.8	14.6	5.81	14.96	5.81	14.85	169.76	161.11	177.93
23-Jun-2004 01:30:00.000 CDT	14.85	14.99	14.94	322.69	308.65	324.35	5.81	14.85	5.8	14.99	5.8	14.94	171.05	152.62	171.74
23-Jun-2004 01:40:00.000 CDT	14.81	15.07	15.01	322.59	308.54	324.12	5.8	14.81	5.79	15.07	5.78	15.01	168.45	163.79	184.92
23-Jun-2004 01:50:00.000 CDT	14.83	15.15	15.02	322.49	308.26	323.89	5.8	14.83	5.82	15.15	5.82	15.02	173.67	160.39	180.93
23-Jun-2004 02:00:00.000 CDT	15.01	15.01	14.96	322.4	307.98	323.66	5.78	15.01	5.79	15.01	5.82	14.96	172.9	160.3	166.09
23-Jun-2004 02:10:00.000 CDT	15.14	15.2	14.95	322.36	307.7	323.48	5.8	15.14	5.8	15.2	5.79	14.95	178.3	165.87	166.4
23-Jun-2004 02:20:00.000 CDT	15.1	15.18	15.08	322.34	307.42	323.51	5.8	15.1	5.8	15.18	5.79	15.08	176.25	160.94	181.3
23-Jun-2004 02:30:00.000 CDT	15.05	15.3	15.24	322.31	307.14	323.56	5.79	15.05	5.79	15.3	5.79	15.24	182.07	166.69	183.98
23-Jun-2004 02:40:00.000 CDT	15.16	15.32	15.05	322.29	306.84	323.61	5.8	15.16	5.79	15.32	5.79	15.05	182.16	169.54	187.45
23-Jun-2004 02:50:00.000 CDT	15.38	15.19	15.23	322.26	306.51	323.66	5.79	15.38	5.8	15.19	5.81	15.23	182.69	174.06	184.76
23-Jun-2004 03:00:00.000 CDT	15.28	15.35	15.19	322.21	306.18	323.72	5.8	15.28	5.81	15.35	5.8	15.19	187.88	162.89	185.43
23-Jun-2004 03:10:00.000 CDT	15.32	15.36	15.13	321.98	305.85	323.69	5.8	15.32	5.8	15.36	5.8	15.13	184.79	165.89	185.03
23-Jun-2004 03:20:00.000 CDT	15.35	15.25	15.09	321.73	305.52	323.34	5.82	15.35	5.82	15.25	5.82	15.09	177.96	163.46	171.69
23-Jun-2004 03:30:00.000 CDT	15.12	15.32	15.09	321.47	305.19	322.96	5.83	15.12	5.83	15.32	5.82	15.09	164	138.48	156.3
23-Jun-2004 03:40:00.000 CDT	15.27	15.23	15.09	321.22	304.95	322.58	5.82	15.27	5.79	15.23	5.79	15.09	163.1	139.44	156.3
23-Jun-2004 03:50:00.000 CDT	15.36	15.25	15.04	320.96	304.85	322.2	5.81	15.36	5.78	15.25	5.78	15.04	157.87	152.36	166.28
23-Jun-2004 04:00:00.000 CDT	15.24	15.56	15.01	320.74	304.75	321.82	5.8	15.24	5.8	15.56	5.79	15.01	162.77	157.07	176.34
23-Jun-2004 04:10:00.000 CDT	15.26	15.55	15.14	320.68	304.65	321.53	5.79	15.26	5.8	15.55	5.79	15.14	162.75	156.52	178.94
23-Jun-2004 04:20:00.000 CDT	15.28	15.16	14.99	320.66	304.55	321.61	5.79	15.28	5.82	15.16	5.81	14.99	163.88	153.66	171.21
23-Jun-2004 04:30:00.000 CDT	14.99	15.22	15.27	320.63	304.44	321.74	5.79	14.99	5.79	15.22	5.8	15.27	167.07	144.44	169.29
23-Jun-2004 04:40:00.000 CDT	15.19	15.15	15.02	320.61	304.47	321.87	5.8	15.19	5.8	15.15	5.8	15.02	167.01	169.08	160.36
23-Jun-2004 04:50:00.000 CDT	15.33	15.18	15.19	320.58	304.67	321.99	5.79	15.33	5.79	15.18	5.8	15.19	170.98	155.83	171.59
23-Jun-2004 05:00:00.000 CDT	15.36	15.2	15.21	320.55	304.87	322.12	5.81	15.36	5.82	15.2	5.8	15.21	165.71	152.37	173.52
23-Jun-2004 05:10:00.000 CDT	15.48	15.22	15.15	320.51	305.07	322.23	5.81	15.48	5.8	15.22	5.8	15.15	162.26	146.27	169.67
23-Jun-2004 05:20:00.000 CDT	15.5	15.2	15.12	320.45	305.28	322.29	5.8	15.5	5.79	15.2	5.79	15.12	166.42	157.27	175.83
23-Jun-2004 05:30:00.000 CDT	15.44	14.97	15.04	320.4	305.48	322.34	5.81	15.44	5.8	14.97	5.79	15.04	158.5	152.06	173.75
23-Jun-2004 05:40:00.000 CDT	15.37	15.02	15.06	320.35	305.79	322.39	5.81	15.37	5.8	15.02	5.8	15.06	158.4	153.45	183.64
23-Jun-2004 05:50:00.000 CDT	15.17	15.08	15.1	320.3	306.24	322.44	5.81	15.17	5.81	15.08	5.82	15.1	152.38	148.51	165.55
23-Jun-2004 06:00:00.000 CDT	15.17	14.95	14.92	320.34	306.7	322.49	5.8	15.17	5.78	14.95	5.8	14.92	156.76	151.95	162.49
23-Jun-2004 06:10:00.000 CDT	15.18	14.91	15.07	320.89	307.16	322.69	5.8	15.18	5.81	14.91	5.79	15.07	154.24	158.3	172.51
23-Jun-2004 06:20:00.000 CDT	15.12	14.94	14.96	321.52	307.62	323.46	5.8	15.12	5.81	14.94	5.8	14.96	158.28	146.79	179.41
23-Jun-2004 06:30:00.000 CDT	15.04	14.92	14.92	322.16	308.07	324.3	5.77	15.04	5.78	14.92	5.8	14.92	163.01	159.46	176.56
23-Jun-2004 06:40:00.000 CDT	14.87	14.9	14.77	322.79	308.46	325.14	5.77	14.87	5.78	14.9	5.76	14.77	173.88	179.37	200
23-Jun-2004 06:50:00.000 CDT	14.96	14.8	15.03	323.43	308.74	325.98	5.78	14.96	5.81	14.8	5.79	15.03	182.41	172.06	209.85
23-Jun-2004 07:00:00.000 CDT	14.81	14.79	15.09	324.04	309.02	326.82	5.78	14.81	5.79	14.79	5.82	15.09	187.13	173.25	203.21
23-Jun-2004 07:10:00.000 CDT	14.73	14.83	15.08	324.5	309.3	327.5	5.79	14.73	5.81	14.83	5.82	15.08	187.21	167.63	196.02
23-Jun-2004 07:20:00.000 CDT	14.71	14.84	15.01	324.93	309.58	327.55	5.79	14.71	5.8	14.84	5.81	15.01	194.62	160.07	182.04
23-Jun-2004 07:30:00.000 CDT	14.68	14.94	15.04	325.36	309.86	327.52	5.8	14.68	5.8	14.94	5.81	15.04	191.35	170.84	188.23
23-Jun-2004 07:40:00.000 CDT	14.71	14.79	14.95	325.8	309.88	327.5	5.79	14.71	5.8	14.79	5.79	14.95	192	169.82	185.2
23-Jun-2004 07:50:00.000 CDT	14.73	14.66	15.02	326.23	309.53	327.47	5.81	14.73	5.81	14.66	5.81	15.02	189.56	170.1	185.23
23-Jun-2004 08:00:00.000 CDT	14.86	14.63	14.71	326.54	309.17	327.45	5.83	14.86	5.81	14.63	5.82	14.71	183	154.63	177.84
23-Jun-2004 08:10:00.000 CDT	14.63	14.83	14.97	326.1	308.82	327.35	5.82	14.63	5.8	14.83	5.83	14.97	169.43	157.01	159.82
23-Jun-2004 08:20:00.000 CDT	14.73	14.68	15.05	325.54	308.46	326.95	5.82	14.73	5.8	14.68	5.78	15.05	166.6	153.43	154.86
23-Jun-2004 08:30:00.000 CDT	14.8	14.73	15.06	324.98	308.11	326.52	5.82	14.8	5.79	14.73	5.76	15.06	155	155.6	177.87

TimeTag	CU-1186: (CU:U1) Total Feedwater Flow (MMPPH)	CU-1256: (CU:U1) Total Fuel Flow (%)	CU-1329: (CU:U1) Main Steam Flow (kpph)	CU-6955: (CU:U1) SCR1A AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7009: (CU:U1) SCR1A AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-7119: (CU:U1) SCR1B AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7131: (CU:U1) SCR1B AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-1248: (CU:U1) Exit Gas Temperature - Actual (F)	CU-1327: (CU:U1) Exit Gas Temperature (F)	CU-1367: (CU:U1) Average Air Temperature Enterin (F)	CU-1368: (CU:U1) Average Air Temperature Leaving (F)	CU-1391: (CU:U1) Exit Gas Temperature - Act V Re ()	CU-6948: (CU:U1) ECON 1A OUTLET TEMPERATURE A (DEG F)
23-Jun-2004 08:40:00.000 CDT	9.35	63.64	46031.94	604.34	710.93	711.19	608.36	312.64	314.27	82.32	118.59	Omitted	669.76
23-Jun-2004 08:50:00.000 CDT	9.33	64.05	45857.73	600.04	700.37	707.14	607.9	312.56	313.97	82.43	118.64	Omitted	668.66
23-Jun-2004 09:00:00.000 CDT	9.29	64.1	45750.82	604.54	704.58	700.78	598.33	312.65	313.68	82.59	118.69	Omitted	667.56
23-Jun-2004 09:10:00.000 CDT	9.29	63.87	45791.07	607.9	704.08	698.95	609.19	312.73	313.39	82.76	118.73	Omitted	666.9
23-Jun-2004 09:20:00.000 CDT	9.29	63.9	45799.14	605.41	703.46	717.33	610.39	312.81	313.24	82.93	118.79	Omitted	666.54
23-Jun-2004 09:30:00.000 CDT	9.29	63.91	45768.01	603.51	680.95	706.01	622.04	312.88	313.3	83.1	118.92	Omitted	666.18
23-Jun-2004 09:40:00.000 CDT	9.29	63.75	45723.13	609.94	716.05	706.49	614.76	312.95	313.36	83.27	119.09	Omitted	665.82
23-Jun-2004 09:50:00.000 CDT	9.29	63.62	45781.7	628.07	726.37	732.85	642.94	313.08	313.42	83.47	119.27	Omitted	665.61
23-Jun-2004 10:00:00.000 CDT	9.28	63.79	45719.41	629.64	721.55	736.9	638.15	313.29	313.48	83.77	119.44	Omitted	665.6
23-Jun-2004 10:10:00.000 CDT	9.28	63.72	45661.84	617.76	719.48	728.55	655.67	313.49	313.55	84.08	119.62	Omitted	665.59
23-Jun-2004 10:20:00.000 CDT	9.28	64	45644.37	623.32	729.28	762.53	675.86	313.7	313.66	84.38	119.8	Omitted	665.58
23-Jun-2004 10:30:00.000 CDT	9.25	64.19	45601.64	624.08	704.37	741.24	666.07	313.9	313.84	84.69	120.03	Omitted	665.58
23-Jun-2004 10:40:00.000 CDT	9.28	64.08	45709.21	621.18	742.46	736.98	656.9	314.11	314.03	85	120.3	Omitted	665.57
23-Jun-2004 10:50:00.000 CDT	9.27	63.99	45645.18	621.09	727.26	736.26	650.35	314.36	314.21	85.33	120.56	Omitted	665.48
23-Jun-2004 11:00:00.000 CDT	9.27	64.03	45661.54	615.63	715.2	732.57	637.3	314.68	314.4	85.76	120.83	Omitted	665.26
23-Jun-2004 11:10:00.000 CDT	9.28	64.22	45668.33	611.06	714.37	710.57	631.07	315.01	314.59	86.2	121.1	Omitted	665.04
23-Jun-2004 11:20:00.000 CDT	9.27	64.25	45640.16	605.29	708.12	735.27	631.43	315.33	315.08	86.63	121.36	Omitted	664.82
23-Jun-2004 11:30:00.000 CDT	9.32	63.98	45890.09	598.32	683.88	722.52	640.14	316.08	316.01	87.07	121.44	Omitted	664.61
23-Jun-2004 11:40:00.000 CDT	9.32	64.05	45877.14	598.75	719.33	733.29	617.81	318.05	316.95	87.51	121.45	Omitted	664.39
23-Jun-2004 11:50:00.000 CDT	9.32	64.8	45875.35	597.28	712.74	728.84	636.89	319.21	317.89	87.91	121.45	Omitted	664.63
23-Jun-2004 12:00:00.000 CDT	9.34	64.86	45960.79	595.18	711.57	721.12	616.98	319.09	318.83	88.22	121.46	Omitted	665.54
23-Jun-2004 12:10:00.000 CDT	9.34	64.91	45940.81	605.86	714.04	708.33	613.82	318.96	319.34	88.52	121.46	Omitted	666.45
23-Jun-2004 12:20:00.000 CDT	9.32	64.99	45844.79	596.04	711.61	768.85	617.44	318.83	318.95	88.83	121.47	Omitted	667.37
23-Jun-2004 12:30:00.000 CDT	9.34	64.94	45921.3	602.96	694.08	716.58	624.65	318.66	318.53	89.13	121.55	Omitted	668.29
23-Jun-2004 12:40:00.000 CDT	9.4	64.61	46105.48	653.9	768.21	692.87	643.29	317.91	318.12	89.44	121.68	Omitted	669.2
23-Jun-2004 12:50:00.000 CDT	9.52	66.97	46817.66	679.65	782.05	790.34	697.52	316.97	317.7	89.74	121.8	Omitted	670.61
23-Jun-2004 13:00:00.000 CDT	9.69	68.15	47472.11	675.19	780.48	750.65	687.23	316.24	317.28	90.02	121.93	Omitted	672.73
23-Jun-2004 13:10:00.000 CDT	9.72	67.53	47671.41	689.85	787.7	771.26	719.2	316.39	316.93	90.3	122.06	Omitted	674.86
23-Jun-2004 13:20:00.000 CDT	9.71	67.46	47613.87	681.11	785.62	811.57	702.64	316.64	316.69	90.58	122.17	Omitted	676.07
23-Jun-2004 13:30:00.000 CDT	9.76	67.55	47763.31	687.18	734.47	784.17	699.87	316.87	316.46	90.86	121.96	Omitted	675.95
23-Jun-2004 13:40:00.000 CDT	9.71	67.63	47598.24	679.81	765.37	772.2	679.54	316.69	316.23	91.14	121.59	Omitted	675.83
23-Jun-2004 13:50:00.000 CDT	9.71	67.69	47575.74	671.08	782.76	779.79	678.99	316.37	316	91.36	121.22	Omitted	675.7
23-Jun-2004 14:00:00.000 CDT	9.7	67.83	47504.4	667.85	777.42	774.23	665.94	316.05	315.77	91.41	120.85	Omitted	675.57
23-Jun-2004 14:10:00.000 CDT	9.72	67.62	47637.11	677.52	773.11	739.52	648.67	315.73	315.56	91.45	120.48	Omitted	675.44
23-Jun-2004 14:20:00.000 CDT	9.74	67.76	47673.65	675.01	773.11	775.6	655.75	315.41	315.39	91.49	120.11	Omitted	675.56
23-Jun-2004 14:30:00.000 CDT	9.71	67.77	47621.25	672.47	751.42	758.08	658.67	315.1	315.22	91.53	119.98	Omitted	676.03
23-Jun-2004 14:40:00.000 CDT	9.71	67.95	47585.21	665.91	779.58	750.07	650.88	315.08	315.05	91.57	119.95	Omitted	676.51
23-Jun-2004 14:50:00.000 CDT	9.69	67.98	47531.84	690.43	780.25	754.16	656.69	315.15	314.87	91.65	119.93	Omitted	676.99
23-Jun-2004 15:00:00.000 CDT	9.71	67.96	47559.52	702.88	793.84	767.98	668.63	315.23	314.7	91.81	119.91	Omitted	677.47
23-Jun-2004 15:10:00.000 CDT	9.7	67.94	47509.46	705	790.32	756.29	667.37	315.3	314.65	91.97	119.88	Omitted	677.95
23-Jun-2004 15:20:00.000 CDT	9.69	67.92	47535.7	692.65	782.59	788.86	670.19	315.38	314.85	92.14	119.86	Omitted	678.17
23-Jun-2004 15:30:00.000 CDT	9.7	67.89	47449.77	681	755.95	772.3	669.84	315.44	315.05	92.31	119.76	Omitted	678
23-Jun-2004 15:40:00.000 CDT	9.69	68	47533.1	682.91	785.21	756.4	654.63	315.37	315.26	92.47	119.63	Omitted	677.84
23-Jun-2004 15:50:00.000 CDT	9.7	68.11	47480.67	680.9	778.32	760.44	660.32	315.25	315.46	92.63	119.5	Omitted	677.67
23-Jun-2004 16:00:00.000 CDT	9.66	68.34	47362.75	684.06	773.83	762.46	652.61	315.12	315.67	92.74	119.36	Omitted	677.51
23-Jun-2004 16:10:00.000 CDT	9.68	68.58	47465.02	684.86	771.07	748.05	657.63	315	315.79	92.86	119.23	Omitted	677.34
23-Jun-2004 16:20:00.000 CDT	9.65	68.7	47358.82	690.51	776.98	777.28	656.07	314.88	315.76	92.97	119.1	Omitted	677.19
23-Jun-2004 16:30:00.000 CDT	9.62	68.75	47215.41	696.21	767.99	772.86	671.18	314.77	315.73	93.09	119.02	Omitted	677.06
23-Jun-2004 16:40:00.000 CDT	9.6	68.8	47125.93	674.19	781.16	763.82	655.95	314.77	315.69	93.2	118.97	Omitted	676.93
23-Jun-2004 16:50:00.000 CDT	9.61	68.67	47146.05	667.66	762.35	754.63	651.45	314.81	315.66	93.26	118.91	Omitted	676.8
23-Jun-2004 17:00:00.000 CDT	9.62	68.24	47209.68	674.32	759.68	763.83	661.63	314.93	315.63	93.16	118.86	Omitted	676.65
23-Jun-2004 17:10:00.000 CDT	9.63	68.16	47216.03	664.93	761.4	751.78	658.77	315.38	315.5	93.05	118.81	Omitted	676.1
23-Jun-2004 17:20:00.000 CDT	9.67	68.22	47329.52	670.51	759.2	771.13	646.57	315.77	315.2	92.93	118.75	Omitted	675.41
23-Jun-2004 17:30:00.000 CDT	9.67	68.22	47447.71	666.9	734.93	749.07	646.06	315.34	314.89	92.82	118.79	Omitted	674.72
23-Jun-2004 17:40:00.000 CDT	9.68	68.33	47423.47	665.68	758.74	734.59	629.58	314.71	314.58	92.7	118.86	Omitted	674.04
23-Jun-2004 17:50:00.000 CDT	9.68	68.37	47450.28	661.44	748.2	728.75	633.34	314.08	314.27	92.59	118.93	Omitted	674
23-Jun-2004 18:00:00.000 CDT	9.68	68.29	47483.29	666.24	743.4	735.85	639.68	313.5	313.96	92.49	119	Omitted	674.4
23-Jun-2004 18:10:00.000 CDT	9.69	68.38	47501.39	664.6	740.81	720.37	641.03	313.38	313.77	92.39	119.08	Omitted	674.81
23-Jun-2004 18:20:00.000 CDT	9.7	68.5	47462.38	674.78	743.81	748.86	639.56	313.37	313.8	92.29	119.15	Omitted	675.21
23-Jun-2004 18:30:00.000 CDT	9.69	68.56	47481.13	659.07	725.24	731.43	643.48	313.36	313.84	92.19	119.31	Omitted	675.62
23-Jun-2004 18:40:00.000 CDT	9.68	68.47	47428.34	667.47	754.04	729.93	632.46	313.35	313.88	92.09	119.5	Omitted	675.02
23-Jun-2004 18:50:00.000 CDT	9.69	68.41	47528.15	666.63	743.61	723.84	628.18	313.59	313.92	91.98	119.7	Omitted	676.31
23-Jun-2004 19:00:00.000 CDT	9.67	68.66	47365.25	657.23	731.47	722.53	628.51	314.03	313.96	91.83	119.9	Omitted	676.54
23-Jun-2004 19:10:00.000 CDT	9.7	68.37	47498.91	646.16	725.29	698.48	619.96	314.26	314.07	91.69	120.09	Omitted	676.76

Time Tag	CU-6947 (CU:U1) ECON 1B OUTLET TEMPERATURE A (DEG F)	CU-6946: (CU:U1) ECON 1C OUTLET TEMPERATURE A (DEG F)	CU-6989: (CU:U1) SCR 1A VENT TEMPERATURE (DEG F)	CU-6997: (CU:U1) ECON 1A OUTLET TEMPERATURE B (DEG F)	CU-6996 (CU:U1) ECON 1B OUTLET TEMPERATURE B (DEG F)	CU-6995: (CU:U1) ECON 1C OUTLET TEMPERATURE B (DEG F)	CU-7110 (CU:U1) SCR 1B VENT TEMPERATURE (DEG F)	CU-5: (CU:U1) A171027 - U1 FLUE GAS O2 INLET (PCT)	CU-6: (CU:U1) A171004 - U1 FLUE GAS SO2 INLET (PPM)	CU-11: (CU:U1) A171022 - U1 STACK OUTLET SO2 (PPM)	CU-1091: (CU:U1) Furnace total O2 (%)	CU-1242: (CU:U1) Average O2 - Actual (%)
23-Jun-2004 08:40:00.000 CDT	655.62	645.92	82.81	670.86	653.53	648.21	82.82	6.54	1486.29	45.69	Omitted	Omitted
23-Jun-2004 08:50:00.000 CDT	654.79	645.37	83.01	669.66	653.28	647.71	82.92	6.62	1486.05	44.28	Omitted	Omitted
23-Jun-2004 09:00:00.000 CDT	654.5	645.11	83.2	668.46	653.05	647.47	83.02	6.71	1492.39	44.53	Omitted	Omitted
23-Jun-2004 09:10:00.000 CDT	654.22	645.15	83.35	667.26	652.82	647.49	83.12	6.79	1493.4	44.78	Omitted	Omitted
23-Jun-2004 09:20:00.000 CDT	653.95	645.19	83.49	666.06	652.59	647.5	83.26	6.87	1498.16	45.04	Omitted	Omitted
23-Jun-2004 09:30:00.000 CDT	653.68	645.23	83.63	665.29	652.36	647.51	83.45	6.89	1502.92	45.29	Omitted	Omitted
23-Jun-2004 09:40:00.000 CDT	653.4	645.27	83.78	665.41	652.17	647.53	83.64	6.89	1498	45.52	Omitted	Omitted
23-Jun-2004 09:50:00.000 CDT	653.21	645.3	83.92	665.55	652.11	647.54	83.83	6.89	1486.5	44.82	Omitted	Omitted
23-Jun-2004 10:00:00.000 CDT	653.21	645.3	84.16	665.7	652.06	647.45	84.02	6.89	1476.32	43.68	Omitted	Omitted
23-Jun-2004 10:10:00.000 CDT	653.21	645.24	84.68	665.84	652.01	647.33	84.2	6.89	1464.82	42.53	Omitted	Omitted
23-Jun-2004 10:20:00.000 CDT	653.21	645.19	85.22	665.99	651.96	647.2	84.64	6.89	1446.05	41.39	Omitted	Omitted
23-Jun-2004 10:30:00.000 CDT	653.21	645.13	85.76	666.14	651.91	647.07	85.34	6.9	1450.03	40.25	Omitted	Omitted
23-Jun-2004 10:40:00.000 CDT	653.2	645.08	86.3	666.31	651.87	646.94	86.03	6.92	1450.03	39.14	Omitted	Omitted
23-Jun-2004 10:50:00.000 CDT	653.2	645.02	86.84	666.49	651.87	646.81	86.72	6.94	1450.03	39.2	Omitted	Omitted
23-Jun-2004 11:00:00.000 CDT	653.17	644.89	87.34	666.66	651.86	646.69	87.41	6.96	1450.03	39.84	Omitted	Omitted
23-Jun-2004 11:10:00.000 CDT	653.15	644.68	87.71	666.84	651.86	646.56	88.1	6.98	1450.03	40.47	Omitted	Omitted
23-Jun-2004 11:20:00.000 CDT	653.12	644.48	88.08	667.01	651.85	646.43	88.55	7	1446.17	41.11	Omitted	Omitted
23-Jun-2004 11:30:00.000 CDT	653.1	644.27	88.45	667.17	651.85	646.31	88.75	6.99	1449.52	41.75	Omitted	Omitted
23-Jun-2004 11:40:00.000 CDT	653.07	644.06	88.82	667.31	651.86	646.18	88.95	6.97	1456.44	42.38	Omitted	Omitted
23-Jun-2004 11:50:00.000 CDT	653.23	643.85	89.19	667.44	651.9	646.06	89.15	6.95	1456.74	42.84	Omitted	Omitted
23-Jun-2004 12:00:00.000 CDT	653.79	643.94	89.5	667.58	651.95	646.16	89.35	6.93	1463.89	43.22	Omitted	Omitted
23-Jun-2004 12:10:00.000 CDT	654.36	644.32	89.62	667.71	652.01	646.36	89.55	6.92	1471.32	43.6	Omitted	Omitted
23-Jun-2004 12:20:00.000 CDT	654.93	644.7	89.74	667.84	652.06	646.57	89.77	6.89	1481.28	43.98	Omitted	Omitted
23-Jun-2004 12:30:00.000 CDT	655.5	645.09	89.86	668.42	652.11	646.77	89.99	6.8	1500.08	44.36	Omitted	Omitted
23-Jun-2004 12:40:00.000 CDT	656.06	645.47	89.97	669.91	652.53	646.98	90.22	6.68	1529.62	44.76	Omitted	Omitted
23-Jun-2004 12:50:00.000 CDT	656.96	645.85	90.09	671.42	654.03	647.21	90.44	6.56	1566.58	45.48	Omitted	Omitted
23-Jun-2004 13:00:00.000 CDT	658.53	646.35	90.29	672.92	655.6	648.31	90.67	6.44	1610.75	46.37	Omitted	Omitted
23-Jun-2004 13:10:00.000 CDT	660.12	646.97	90.72	673.74	657.18	649.84	90.9	6.32	1618.27	47.26	Omitted	Omitted
23-Jun-2004 13:20:00.000 CDT	661.59	647.6	91.17	674.24	658.62	650.95	91.19	6.2	1613.85	48.15	Omitted	Omitted
23-Jun-2004 13:30:00.000 CDT	661.93	648.21	91.62	674.74	658.92	650.85	91.55	6.17	1620.84	49.04	Omitted	Omitted
23-Jun-2004 13:40:00.000 CDT	662	648.48	92.07	675.24	658.94	650.67	91.91	6.16	1632.55	49.92	Omitted	Omitted
23-Jun-2004 13:50:00.000 CDT	662.06	648.51	92.52	675.73	658.97	650.49	92.28	6.15	1630.8	50.29	Omitted	Omitted
23-Jun-2004 14:00:00.000 CDT	662.13	648.53	92.85	676.23	658.99	650.31	92.64	6.15	1632.54	50.42	Omitted	Omitted
23-Jun-2004 14:10:00.000 CDT	662.2	648.56	92.83	676.62	659.01	650.13	93	6.14	1636.11	50.54	Omitted	Omitted
23-Jun-2004 14:20:00.000 CDT	662.27	648.59	92.8	676.96	659.04	650.08	93.16	6.13	1638.06	50.67	Omitted	Omitted
23-Jun-2004 14:30:00.000 CDT	662.42	648.62	92.76	677.3	659.2	650.4	93.12	6.13	1642.09	50.8	Omitted	Omitted
23-Jun-2004 14:40:00.000 CDT	662.58	648.82	92.72	677.64	659.39	650.74	93.08	6.13	1646.29	50.88	Omitted	Omitted
23-Jun-2004 14:50:00.000 CDT	662.74	649.14	92.68	677.99	659.58	651.08	93.04	6.13	1648.9	49.47	Omitted	Omitted
23-Jun-2004 15:00:00.000 CDT	662.91	649.46	92.7	678.32	659.78	651.43	93	6.12	1651.7	47.33	Omitted	Omitted
23-Jun-2004 15:10:00.000 CDT	663.07	649.78	92.89	678.33	659.97	651.77	92.96	6.12	1661.09	45.41	Omitted	Omitted
23-Jun-2004 15:20:00.000 CDT	663.23	650.1	93.09	678.2	660.15	651.98	93.05	6.12	1673.68	44.1	Omitted	Omitted
23-Jun-2004 15:30:00.000 CDT	663.34	650.42	93.3	678.06	660.26	651.82	93.26	6.11	1683.54	42.83	Omitted	Omitted
23-Jun-2004 15:40:00.000 CDT	663.44	650.7	93.5	677.93	660.35	651.64	93.47	6.09	1677.51	41.55	Omitted	Omitted
23-Jun-2004 15:50:00.000 CDT	663.54	650.96	93.7	677.79	660.44	651.45	93.69	6.07	1692.14	40.28	Omitted	Omitted
23-Jun-2004 16:00:00.000 CDT	663.63	651.22	93.88	677.65	660.53	651.27	93.9	6.06	1694.44	39.01	Omitted	Omitted
23-Jun-2004 16:10:00.000 CDT	663.73	651.47	93.97	677.43	660.62	651.08	94.12	6.04	1697.61	38.05	Omitted	Omitted
23-Jun-2004 16:20:00.000 CDT	663.8	651.73	94.06	677.16	660.71	650.99	94.23	6.03	1709.85	37.99	Omitted	Omitted
23-Jun-2004 16:30:00.000 CDT	663.6	651.98	94.15	676.89	660.81	651.15	94.24	6.03	1719.23	37.99	Omitted	Omitted
23-Jun-2004 16:40:00.000 CDT	663.34	652.03	94.24	676.63	660.9	651.34	94.25	6.03	1722.78	37.99	Omitted	Omitted
23-Jun-2004 16:50:00.000 CDT	663.07	651.95	94.33	676.36	661	651.52	94.26	6.03	1731.17	37.99	Omitted	Omitted
23-Jun-2004 17:00:00.000 CDT	662.81	651.86	94.39	676.09	661.1	651.7	94.27	6.04	1729.91	37.99	Omitted	Omitted
23-Jun-2004 17:10:00.000 CDT	662.54	651.77	94.35	675.57	661.12	651.86	94.28	6.04	1727.04	38.27	Omitted	Omitted
23-Jun-2004 17:20:00.000 CDT	662.17	651.58	94.3	674.93	660.68	651.93	94.21	6.04	1733.89	39.37	Omitted	Omitted
23-Jun-2004 17:30:00.000 CDT	661.48	651.29	94.25	674.3	660.16	651.99	94.08	6.04	1740.73	40.51	Omitted	Omitted
23-Jun-2004 17:40:00.000 CDT	660.77	651	94.2	673.66	659.65	651.44	93.94	6.03	1748.3	41.66	Omitted	Omitted
23-Jun-2004 17:50:00.000 CDT	660.14	650.72	94.15	673.29	659.13	651.19	93.81	6.02	1753.63	42.8	Omitted	Omitted
23-Jun-2004 18:00:00.000 CDT	659.19	650.43	94.08	673.67	658.71	650.95	93.67	6.02	1771.89	43.95	Omitted	Omitted
23-Jun-2004 18:10:00.000 CDT	660.42	650.14	93.97	674.1	658.69	650.8	93.54	6.01	1762.96	44.87	Omitted	Omitted
23-Jun-2004 18:20:00.000 CDT	660.65	650.01	93.85	674.53	658.7	650.82	93.41	6	1764.93	45.17	Omitted	Omitted
23-Jun-2004 18:30:00.000 CDT	660.88	650.06	93.74	674.96	658.72	650.83	93.28	6	1770.08	45.42	Omitted	Omitted
23-Jun-2004 18:40:00.000 CDT	661.1	650.1	93.62	675.39	658.74	650.85	93.16	6	1774.18	45.67	Omitted	Omitted
23-Jun-2004 18:50:00.000 CDT	661.33	650.14	93.51	675.77	658.76	650.86	93.04	6	1773.03	45.93	Omitted	Omitted
23-Jun-2004 19:00:00.000 CDT	661.51	650.18	93.34	676.02	658.81	650.88	92.92	6	1776.69	46.18	Omitted	Omitted
23-Jun-2004 19:10:00.000 CDT	661.68	650.22	93.02	676.26	659.01	650.85	92.8	6	1784.46	46.44	Omitted	Omitted

TimeTag	CU-3532 (CU:U1) [U1] SCR A Avg NOx Inlet (lb/mmBtu)	CU-3533: (CU:U1) [U1] SCR B Avg NOx Inlet (lb/mmBtu)	CU-6982: (CU:U1) SCR 1A INLET ANALZ B NOx (PPM)	CU-6984: (CU:U1) SCR 1A INLET ANALZ A NOx (PPM)	CU-7055: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7056: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7100: (CU:U1) SCR 1B INLET ANALZ B NOx (PPM)	CU-7102: (CU:U1) SCR 1B INLET ANALZ A NOx (PPM)	CU-7190: (CU:U1) SCR 1A INLET NOx AIG-AB (lb/MBtu)	CU-7191: (CU:U1) SCR 1A INLET NOx AIG-AA (lb/MBtu)	CU-7194: (CU:U1) SCR 1B INLET NOx AIG-BA (lb/MBtu)	CU-7195: (CU:U1) SCR 1B INLET NOx AIG-BB (lb/MBtu)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
23-Jun-2004 08:40:00.000 CDT	0.59	0.57	367.31	325.84	0.62	0.56	322.88	365.81	0.62	0.56	0.6	0.53	162.91	149.34	161.63
23-Jun-2004 08:50:00.000 CDT	0.59	0.56	365.95	328.36	0.62	0.56	321.36	362.4	0.62	0.56	0.6	0.53	155	152.45	168.82
23-Jun-2004 09:00:00.000 CDT	0.59	0.56	366.58	330.78	0.63	0.56	316.51	363.7	0.63	0.56	0.59	0.52	157.58	157.53	172.95
23-Jun-2004 09:10:00.000 CDT	0.59	0.56	364.41	330.17	0.63	0.56	319.89	363.83	0.63	0.55	0.6	0.53	161.4	165.83	180.32
23 Jun-2004 09:20:00.000 CDT	0.59	0.56	366.14	330.94	0.63	0.56	320.81	359.78	0.63	0.56	0.59	0.53	161.47	150.71	181.7
23-Jun-2004 09:30:00.000 CDT	0.59	0.56	363.09	329.37	0.63	0.55	324.74	359.79	0.63	0.55	0.59	0.54	160.61	150.45	174.7
23-Jun-2004 09:40:00.000 CDT	0.59	0.57	365.26	330.23	0.63	0.56	328.22	362.43	0.63	0.56	0.59	0.54	162.25	161.36	170.47
23-Jun-2004 09:50:00.000 CDT	0.61	0.59	369.3	333.5	0.64	0.57	336.4	368.79	0.64	0.57	0.61	0.57	165.71	158.09	173.5
23-Jun-2004 10:00:00.000 CDT	0.61	0.59	369.43	333.27	0.64	0.57	331.07	370.64	0.64	0.57	0.61	0.56	164.04	155.84	179.6
23-Jun-2004 10:10:00.000 CDT	0.6	0.6	371.75	333.49	0.64	0.58	340.22	372.21	0.64	0.57	0.62	0.57	167.75	164.58	176.8
23-Jun-2004 10:20:00.000 CDT	0.61	0.61	371.62	332.65	0.64	0.58	345.35	376.31	0.64	0.58	0.64	0.59	163.05	161.34	172.41
23-Jun-2004 10:30:00.000 CDT	0.61	0.61	372.06	334.18	0.64	0.58	344.41	374.14	0.64	0.58	0.63	0.58	165.23	150.77	168.06
23-Jun-2004 10:40:00.000 CDT	0.61	0.61	371.34	333.09	0.64	0.58	344.64	372.87	0.63	0.58	0.63	0.59	163.24	157.66	170.2
23-Jun-2004 10:50:00.000 CDT	0.61	0.6	369.51	331.76	0.64	0.58	340.63	370.76	0.64	0.58	0.63	0.58	161.43	156.72	171.98
23-Jun-2004 11:00:00.000 CDT	0.6	0.59	368.1	331.75	0.63	0.58	335.31	369.8	0.63	0.58	0.62	0.56	159.62	149.55	172.82
23-Jun-2004 11:10:00.000 CDT	0.6	0.59	364.87	328.26	0.63	0.57	331.88	367.76	0.63	0.57	0.62	0.56	164.54	164.84	181.16
23-Jun-2004 11:20:00.000 CDT	0.6	0.58	364.18	325.57	0.63	0.57	327.41	364.14	0.63	0.57	0.62	0.55	164.99	156.16	178.77
23-Jun-2004 11:30:00.000 CDT	0.59	0.58	360.68	321.66	0.62	0.56	325.15	358.6	0.62	0.56	0.61	0.55	166.98	153.52	173.16
23-Jun-2004 11:40:00.000 CDT	0.59	0.58	360.88	316.27	0.62	0.56	320.63	363.63	0.62	0.56	0.63	0.54	166.76	160.6	173.76
23-Jun-2004 11:50:00.000 CDT	0.59	0.59	363.81	317.45	0.62	0.56	327.81	360.63	0.62	0.56	0.63	0.55	171.7	160.62	178.19
23-Jun-2004 12:00:00.000 CDT	0.59	0.58	361.65	317.82	0.62	0.56	318.12	361.52	0.62	0.56	0.62	0.54	172.96	154.68	178.72
23-Jun-2004 12:10:00.000 CDT	0.59	0.58	361.94	315.78	0.62	0.56	315.41	357.68	0.62	0.56	0.62	0.53	173.91	160.86	170.29
23-Jun-2004 12:20:00.000 CDT	0.59	0.58	361.57	316.15	0.62	0.56	316.04	358.41	0.62	0.56	0.62	0.53	171.74	158.18	168.13
23-Jun-2004 12:30:00.000 CDT	0.59	0.57	361.68	319.16	0.62	0.56	311.82	356.66	0.62	0.56	0.62	0.53	170.33	154.37	175.73
23-Jun-2004 12:40:00.000 CDT	0.61	0.59	382.64	344.68	0.63	0.59	318.42	371.45	0.63	0.59	0.64	0.54	188.53	154.59	154.66
23-Jun-2004 12:50:00.000 CDT	0.62	0.63	387.2	354.47	0.64	0.6	340.05	382.37	0.64	0.6	0.67	0.6	176.95	170	174.22
23-Jun-2004 13:00:00.000 CDT	0.6	0.61	385.53	356.34	0.62	0.59	341.05	372.62	0.62	0.59	0.63	0.58	180.55	170.76	179.85
23-Jun-2004 13:10:00.000 CDT	0.61	0.63	390.03	357.3	0.62	0.59	353.26	380.48	0.63	0.59	0.65	0.61	185.86	181.31	191.54
23-Jun-2004 13:20:00.000 CDT	0.61	0.63	389.96	355.99	0.62	0.59	353.94	380.09	0.62	0.59	0.65	0.62	192.43	173.9	197.62
23-Jun-2004 13:30:00.000 CDT	0.61	0.63	386.94	358.76	0.62	0.59	350.3	373.9	0.62	0.6	0.64	0.61	189.36	179.94	194.25
23-Jun-2004 13:40:00.000 CDT	0.6	0.63	384.25	356.96	0.62	0.59	350.12	374.11	0.62	0.59	0.64	0.61	189.47	174.11	191.07
23-Jun-2004 13:50:00.000 CDT	0.61	0.63	388.6	355.29	0.63	0.59	349.78	372.35	0.62	0.59	0.64	0.61	185.2	168.12	184.11
23-Jun-2004 14:00:00.000 CDT	0.6	0.62	387.84	355.42	0.63	0.58	337.02	370.95	0.63	0.58	0.64	0.59	185.17	170.55	181.67
23-Jun-2004 14:10:00.000 CDT	0.6	0.61	387.02	357.14	0.62	0.59	334.41	367.92	0.62	0.58	0.63	0.58	182.95	175.38	189.18
23-Jun-2004 14:20:00.000 CDT	0.6	0.61	386.49	356.51	0.62	0.58	335.18	366.66	0.62	0.59	0.63	0.59	185.56	172.98	182.14
23-Jun-2004 14:30:00.000 CDT	0.6	0.61	386.05	355.25	0.62	0.58	335.54	365.65	0.62	0.58	0.62	0.59	187.71	166.61	184.82
23-Jun-2004 14:40:00.000 CDT	0.6	0.61	383.65	355.06	0.62	0.58	336.18	364.4	0.62	0.58	0.63	0.59	185.06	169.7	191.4
23-Jun-2004 14:50:00.000 CDT	0.6	0.61	387.83	359.13	0.62	0.59	337.42	365.04	0.62	0.59	0.63	0.59	185.82	178.54	194.84
23-Jun-2004 15:00:00.000 CDT	0.61	0.62	393.37	366.61	0.63	0.59	339.75	369.86	0.64	0.59	0.63	0.6	191.18	175.53	194.51
23-Jun-2004 15:10:00.000 CDT	0.61	0.62	392.91	366.79	0.64	0.59	339.23	370.13	0.63	0.59	0.64	0.6	192.95	170.39	215.84
23-Jun-2004 15:20:00.000 CDT	0.61	0.62	391.15	362.3	0.63	0.59	339.92	370.84	0.63	0.59	0.64	0.6	194.56	184.56	247.58
23-Jun-2004 15:30:00.000 CDT	0.6	0.61	385.92	356.93	0.62	0.58	336.72	370.67	0.62	0.58	0.63	0.59	197.28	186.32	234.35
23-Jun-2004 15:40:00.000 CDT	0.6	0.61	385.39	356.01	0.62	0.58	336.23	366.39	0.62	0.58	0.63	0.59	198.35	185.66	208.28
23-Jun-2004 15:50:00.000 CDT	0.6	0.61	387.1	356.38	0.63	0.58	337.22	367.69	0.62	0.58	0.63	0.59	197.04	180.32	187.83
23-Jun-2004 16:00:00.000 CDT	0.6	0.61	385.56	356.65	0.63	0.58	332.75	367.48	0.63	0.58	0.63	0.59	195.23	178.87	195.8
23-Jun-2004 16:10:00.000 CDT	0.6	0.61	386.96	357.41	0.62	0.58	336.45	371.42	0.62	0.58	0.64	0.59	193.53	181.19	199.67
23-Jun-2004 16:20:00.000 CDT	0.6	0.61	387.7	362.03	0.62	0.58	336.03	368.96	0.62	0.58	0.63	0.59	196.01	185.25	206.8
23-Jun-2004 16:30:00.000 CDT	0.6	0.61	388.05	363.9	0.63	0.58	338.74	371.48	0.63	0.58	0.63	0.59	192.08	175.81	213.57
23-Jun-2004 16:40:00.000 CDT	0.6	0.61	382.24	356.46	0.62	0.57	337.85	369.93	0.62	0.57	0.63	0.59	209.57	178.04	195.9
23-Jun-2004 16:50:00.000 CDT	0.59	0.6	379.05	352.07	0.62	0.56	334.33	366.23	0.62	0.56	0.62	0.58	194.77	183.98	216.84
23-Jun-2004 17:00:00.000 CDT	0.59	0.61	378.55	351.15	0.62	0.56	332.58	369.28	0.62	0.56	0.63	0.59	195.32	184.49	218.23
23-Jun-2004 17:10:00.000 CDT	0.59	0.61	377.68	352.79	0.62	0.57	333.03	367.65	0.62	0.57	0.63	0.59	190.79	174.31	213.29
23-Jun-2004 17:20:00.000 CDT	0.59	0.6	375.12	350.09	0.62	0.57	328.63	362.99	0.62	0.57	0.62	0.58	188.54	174.59	195.68
23-Jun-2004 17:30:00.000 CDT	0.59	0.59	371.76	350.35	0.61	0.57	326.49	359.97	0.61	0.57	0.61	0.57	189.74	166.24	182.13
23-Jun-2004 17:40:00.000 CDT	0.59	0.59	372.87	350.84	0.61	0.56	327.05	357.42	0.61	0.56	0.61	0.57	187.46	175.06	179.71
23-Jun-2004 17:50:00.000 CDT	0.58	0.59	371.54	349.69	0.61	0.56	326.86	352.95	0.61	0.56	0.6	0.57	186.18	176.24	195.68
23-Jun-2004 18:00:00.000 CDT	0.58	0.59	371.1	349.16	0.61	0.56	325.87	357.3	0.61	0.56	0.61	0.57	197.12	174.42	213.15
23-Jun-2004 18:10:00.000 CDT	0.58	0.59	370.03	346.96	0.61	0.56	327.15	356.62	0.61	0.56	0.61	0.57	195.44	178.58	217.09
23-Jun-2004 18:20:00.000 CDT	0.59	0.59	371.64	350.18	0.61	0.56	326.88	355.12	0.61	0.56	0.61	0.57	193.98	172.11	206.12
23-Jun-2004 18:30:00.000 CDT	0.58	0.59	370.48	350.06	0.6	0.56	325.31	352.19	0.6	0.56	0.6	0.57	199.79	180.7	198.48
23-Jun-2004 18:40:00.000 CDT	0.58	0.59	372.53	350.93	0.6	0.56	327.86	355.66	0.6	0.56	0.61	0.57	196.24	176.93	202.15
23-Jun-2004 18:50:00.000 CDT	0.58	0.59	368.23	346.97	0.6	0.56	324.39	349.54	0.6	0.56	0.6	0.57	201.83	178.08	205.11
23-Jun-2004 19:00:00.000 CDT	0.58	0.58	365.63	344.21	0.6	0.55	320.42	349.75	0.6	0.56	0.6	0.57	200.13	184.95	207.87
23-Jun-2004 19:10:00.000 CDT	0.57	0.57	365.11	340.89	0.59	0.55	318.16	346.57	0.59	0.55	0.59	0.55	202.13	178.83	209.9

TimeTag	CU-30 (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-25: (CU:U1) T182001A - 1A ABS FLUGAS INLET T (DEGF)	CU-32: (CU:U1) T182001B - 1B ABS FLUGAS INLET T (DEGF)	CU-39: (CU:U1) T182001C - 1C ABS FLUGAS INL TMP (DEGF)	CU-29: (CU:U1) O016X371 - SELECTED 1A ABS PH (PH)	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-36: (CU:U1) O015X371 - SELECTED 1B ABS PH (PH)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-43: (CU:U1) O014X371 - SEL 1C ABSORBER PH (PH)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
23-Jun-2004 08:40:00.000 CDT	14.76	14.61	15.06	324.42	307.79	326.08	5.82	14.76	5.82	14.61	5.81	15.06	162.91	149.34	161.63
23-Jun-2004 08:50:00.000 CDT	14.45	14.74	15.05	323.86	307.54	325.65	5.8	14.45	5.78	14.74	5.81	15.05	155	152.45	168.82
23-Jun-2004 09:00:00.000 CDT	14.85	14.54	15.03	323.35	307.28	325.22	5.8	14.85	5.8	14.54	5.79	15.03	157.58	157.53	172.95
23-Jun-2004 09:10:00.000 CDT	14.98	14.78	15.06	323.15	307.03	324.89	5.79	14.98	5.79	14.78	5.79	15.06	161.4	165.83	180.32
23-Jun-2004 09:20:00.000 CDT	15.07	14.76	15.09	323	306.77	324.97	5.8	15.07	5.82	14.76	5.8	15.09	161.47	150.71	181.7
23-Jun-2004 09:30:00.000 CDT	14.98	14.81	15.15	322.85	306.52	325.1	5.8	14.98	5.79	14.81	5.81	15.15	160.61	150.45	174.7
23-Jun-2004 09:40:00.000 CDT	14.96	14.77	15	322.69	306.45	325.22	5.79	14.96	5.79	14.77	5.8	15	162.25	161.36	170.47
23-Jun-2004 09:50:00.000 CDT	14.8	14.77	15.1	322.54	306.65	325.35	5.8	14.8	5.81	14.77	5.79	15.1	165.71	158.09	173.5
23-Jun-2004 10:00:00.000 CDT	15.07	14.73	14.96	322.44	306.85	325.48	5.8	15.07	5.78	14.73	5.8	14.96	164.04	155.84	179.6
23-Jun-2004 10:10:00.000 CDT	15.03	14.73	14.97	322.67	307.06	325.62	5.8	15.03	5.79	14.73	5.81	14.97	167.75	164.58	176.8
23-Jun-2004 10:20:00.000 CDT	14.71	14.99	15.08	322.95	307.26	325.82	5.8	14.71	5.81	14.99	5.81	15.08	163.05	161.34	172.41
23-Jun-2004 10:30:00.000 CDT	14.86	14.99	15.06	323.23	307.46	326.02	5.79	14.86	5.81	14.99	5.8	15.06	165.23	150.77	168.06
23-Jun-2004 10:40:00.000 CDT	15.1	14.98	15.07	323.51	307.73	326.22	5.81	15.1	5.79	14.98	5.8	15.07	163.24	157.66	170.2
23-Jun-2004 10:50:00.000 CDT	14.88	14.91	15.02	323.79	308.09	326.43	5.8	14.88	5.8	14.91	5.8	15.02	161.43	156.72	171.98
23-Jun-2004 11:00:00.000 CDT	14.9	14.87	15.08	324.12	308.44	326.63	5.81	14.9	5.8	14.87	5.79	15.08	159.62	149.55	172.82
23-Jun-2004 11:10:00.000 CDT	14.71	14.81	15.14	324.8	308.8	326.92	5.78	14.71	5.79	14.81	5.79	15.14	164.54	164.84	181.16
23-Jun-2004 11:20:00.000 CDT	14.62	14.97	14.97	325.54	309.15	327.54	5.8	14.62	5.81	14.97	5.81	14.97	164.99	156.16	178.77
23-Jun-2004 11:30:00.000 CDT	14.69	14.92	15.18	326.28	309.51	328.2	5.79	14.69	5.8	14.92	5.81	15.18	166.98	153.52	173.16
23-Jun-2004 11:40:00.000 CDT	14.66	14.9	14.98	327.02	310.01	328.86	5.79	14.66	5.78	14.9	5.79	14.98	166.76	160.6	173.76
23-Jun-2004 11:50:00.000 CDT	14.68	14.91	14.77	327.75	310.72	329.52	5.8	14.68	5.81	14.91	5.8	14.77	171.7	160.62	178.19
23-Jun-2004 12:00:00.000 CDT	14.71	14.97	14.86	328.42	311.43	330.18	5.79	14.71	5.8	14.97	5.81	14.86	172.96	154.68	178.72
23-Jun-2004 12:10:00.000 CDT	14.81	15	14.75	328.69	312.14	330.7	5.81	14.81	5.81	15	5.81	14.75	173.91	160.86	170.29
23-Jun-2004 12:20:00.000 CDT	14.86	14.96	14.63	328.9	312.86	330.58	5.8	14.86	5.8	14.96	5.8	14.63	171.74	158.18	168.13
23-Jun-2004 12:30:00.000 CDT	14.8	14.95	14.88	329.1	313.57	330.41	5.81	14.8	5.81	14.95	5.79	14.88	170.33	154.37	175.73
23-Jun-2004 12:40:00.000 CDT	14.88	14.93	14.78	329.31	314.01	330.23	5.8	14.88	5.79	14.93	5.81	14.78	188.53	154.59	154.66
23-Jun-2004 12:50:00.000 CDT	14.79	14.97	14.65	329.51	314.07	330.05	5.78	14.79	5.78	14.97	5.8	14.65	176.95	170	174.22
23-Jun-2004 13:00:00.000 CDT	14.8	14.94	14.58	329.68	314.12	329.87	5.78	14.8	5.79	14.94	5.79	14.58	180.55	170.76	179.85
23-Jun-2004 13:10:00.000 CDT	14.96	15.11	14.62	329.69	314.17	329.73	5.78	14.96	5.79	15.11	5.78	14.62	185.86	181.31	191.54
23-Jun-2004 13:20:00.000 CDT	14.93	15.17	14.73	329.66	314.22	329.71	5.79	14.93	5.81	15.17	5.79	14.73	192.43	173.9	197.62
23-Jun-2004 13:30:00.000 CDT	15.09	15.09	14.83	329.64	314.27	329.71	5.79	15.09	5.79	15.09	5.81	14.83	189.36	179.94	194.25
23-Jun-2004 13:40:00.000 CDT	14.8	14.83	14.92	329.61	314.19	329.71	5.8	14.8	5.81	14.83	5.81	14.92	189.47	174.11	191.07
23-Jun-2004 13:50:00.000 CDT	15.05	15.07	14.98	329.58	313.91	329.71	5.81	15.05	5.81	15.07	5.81	14.98	185.2	168.12	184.11
23-Jun-2004 14:00:00.000 CDT	15.03	15.07	14.83	329.53	313.63	329.71	5.8	15.03	5.79	15.07	5.8	14.83	185.17	170.55	181.67
23-Jun-2004 14:10:00.000 CDT	14.82	15.18	14.81	329.33	313.35	329.68	5.8	14.82	5.79	15.18	5.78	14.81	182.95	175.38	189.18
23-Jun-2004 14:20:00.000 CDT	14.91	15.11	14.85	329.1	313.07	329.52	5.8	14.91	5.81	15.11	5.81	14.85	185.56	172.98	182.14
23-Jun-2004 14:30:00.000 CDT	14.9	15.15	14.9	328.87	312.79	329.34	5.79	14.9	5.8	15.15	5.79	14.9	187.71	166.61	184.82
23-Jun-2004 14:40:00.000 CDT	15.12	15.15	14.92	328.64	312.72	329.16	5.81	15.12	5.79	15.15	5.79	14.92	185.06	169.7	191.4
23-Jun-2004 14:50:00.000 CDT	14.77	15.09	14.95	328.41	312.94	328.98	5.8	14.77	5.8	15.09	5.81	14.95	185.82	178.54	194.84
23-Jun-2004 15:00:00.000 CDT	15.02	15.03	15.09	328.22	313.17	328.8	5.79	15.02	5.81	15.03	5.8	15.09	191.18	175.53	194.51
23-Jun-2004 15:10:00.000 CDT	15.19	15.29	14.97	328.26	313.4	328.69	5.79	15.19	5.79	15.29	5.74	14.97	192.95	170.39	215.84
23-Jun-2004 15:20:00.000 CDT	15.13	15.24	14.92	328.34	313.63	328.84	5.8	15.13	5.79	15.24	5.79	14.92	194.56	184.56	247.58
23-Jun-2004 15:30:00.000 CDT	15.24	15.2	15.07	328.41	313.86	329.02	5.79	15.24	5.79	15.2	5.82	15.07	197.28	186.32	234.35
23-Jun-2004 15:40:00.000 CDT	15.16	15.23	15.03	328.49	314	329.2	5.8	15.16	5.81	15.23	5.85	15.03	198.35	185.66	208.28
23-Jun-2004 15:50:00.000 CDT	15.21	15.38	15.15	328.57	314.03	329.37	5.8	15.21	5.8	15.38	5.81	15.15	197.04	180.32	187.83
23-Jun-2004 16:00:00.000 CDT	15.48	15.19	15	328.62	314.06	329.55	5.8	15.48	5.81	15.19	5.8	15	195.23	178.87	195.8
23-Jun-2004 16:10:00.000 CDT	15.46	15.28	15.05	328.49	314.08	329.71	5.81	15.46	5.79	15.28	5.81	15.05	193.53	181.19	199.67
23-Jun-2004 16:20:00.000 CDT	15.34	15.49	14.79	328.34	314.11	329.77	5.8	15.34	5.8	15.49	5.78	14.79	196.01	185.25	206.8
23-Jun-2004 16:30:00.000 CDT	15.31	15.45	14.76	328.19	314.13	329.82	5.81	15.31	5.81	15.45	5.78	14.76	192.08	175.81	213.57
23-Jun-2004 16:40:00.000 CDT	15.3	15.35	14.74	328.03	314.17	329.87	5.8	15.3	5.79	15.35	5.8	14.74	209.57	178.04	195.9
23-Jun-2004 16:50:00.000 CDT	15.22	15.44	14.94	327.88	314.22	329.92	5.8	15.22	5.79	15.44	5.8	14.94	194.77	183.98	216.84
23-Jun-2004 17:00:00.000 CDT	15.28	15.42	15	327.73	314.27	329.97	5.79	15.28	5.8	15.42	5.81	15	195.32	184.49	218.23
23-Jun-2004 17:10:00.000 CDT	15.17	15.35	15.11	327.63	314.32	329.98	5.81	15.17	5.81	15.35	5.8	15.11	190.79	174.31	213.29
23-Jun-2004 17:20:00.000 CDT	15.24	15.37	15.04	327.52	314.37	329.82	5.81	15.24	5.81	15.37	5.84	15.04	188.54	174.59	195.68
23-Jun-2004 17:30:00.000 CDT	15.23	15.34	15.04	327.42	314.42	329.64	5.8	15.23	5.8	15.34	5.83	15.04	189.74	166.24	182.13
23-Jun-2004 17:40:00.000 CDT	15.21	15.23	14.98	327.32	314.36	329.47	5.81	15.21	5.78	15.23	5.8	14.98	187.46	175.06	179.71
23-Jun-2004 17:50:00.000 CDT	15.16	15.3	14.96	327.22	314.13	329.29	5.8	15.16	5.81	15.3	5.76	14.96	186.18	176.24	195.68
23-Jun-2004 18:00:00.000 CDT	15.24	15.36	14.92	327.13	313.9	329.11	5.78	15.24	5.79	15.36	5.78	14.92	197.12	174.42	213.15
23-Jun-2004 18:10:00.000 CDT	15.26	15.22	15.29	327.09	313.67	328.94	5.8	15.26	5.8	15.22	5.8	15.29	195.44	178.58	217.09
23-Jun-2004 18:20:00.000 CDT	14.98	15.22	15.25	327.07	313.45	328.81	5.79	14.98	5.8	15.22	5.82	15.25	193.98	172.11	206.12
23-Jun-2004 18:30:00.000 CDT	15.16	15.26	15.02	327.04	313.22	328.68	5.8	15.16	5.79	15.26	5.8	15.02	199.79	180.7	198.48
23-Jun-2004 18:40:00.000 CDT	15.25	15.1	15.01	327.02	313.07	328.55	5.79	15.25	5.81	15.1	5.8	15.01	196.24	176.93	202.15
23-Jun-2004 18:50:00.000 CDT	14.96	14.9	15.24	326.99	313.04	328.43	5.8	14.96	5.8	14.9	5.78	15.24	201.83	178.08	205.11
23-Jun-2004 19:00:00.000 CDT	15.1	14.85	15.19	326.99	313.02	328.3	5.8	15.1	5.8	14.85	5.8	15.19	200.13	184.95	207.87
23-Jun-2004 19:10:00.000 CDT	14.94	14.96	15.18	327.12	312.99	328.22	5.8	14.94	5.8	14.96	5.8	15.18	202.13	178.83	209.9

TimeTag	CU-1186: (CU:U1) Total Feedwater Flow (MMPPH)	CU-1256: (CU:U1) Total Fuel Flow (%)	CU-1329: (CU:U1) Main Steam Flow (kpph)	CU-6955: (CU:U1) SCR1A AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7009: (CU:U1) SCR1A AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-7119 (CU:U1) SCR1B AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7131: (CU:U1) SCR1B AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-1248: (CU:U1) Exit Gas Temperature - Actual (F)	CU-1327: (CU:U1) Exit Gas Temperature (F)	CU-1367: (CU:U1) Average Air Temperature Enterin (F)	CU-1368: (CU:U1) Average Air Temperature Leaving (F)	CU-1391 (CU:U1) Exit Gas Temperature Act V Re ()	CU-6948: (CU:U1) ECON 1A OUTLET TEMPERATURE A (DEG F)
23-Jun-2004 19:20:00.000 CDT	9.7	68.42	47499.95	653.14	732	728.12	622.2	314.46	314.32	91.55	120.28	Omitted	676.98
23-Jun-2004 19:30:00.000 CDT	9.67	68.55	47459.14	656.2	716.72	721.07	637.63	314.66	314.57	91.4	120.26	Omitted	677.2
23-Jun-2004 19:40:00.000 CDT	9.69	68.56	47498.84	663.05	751.42	716.27	624.5	314.85	314.83	91.26	120.15	Omitted	677.42
23-Jun-2004 19:50:00.000 CDT	9.69	68.46	47546.09	669.82	747.73	729.68	635.09	314.93	315.08	91.12	120.03	Omitted	677.76
23-Jun-2004 20:00:00.000 CDT	9.7	68.55	47556.68	670.4	749.89	743.75	643.53	314.75	315.34	90.98	119.92	Omitted	678.16
23-Jun-2004 20:10:00.000 CDT	9.69	68.58	47568.32	663.75	738.45	715.19	634.22	314.56	315.49	90.85	119.8	Omitted	678.57
23-Jun-2004 20:20:00.000 CDT	9.7	68.53	47552.93	664.34	736.91	737.14	629.09	314.37	315.44	90.72	119.69	Omitted	678.98
23-Jun-2004 20:30:00.000 CDT	9.7	68.72	47548.48	662.65	723.82	732.91	634.02	314.18	315.39	90.59	119.67	Omitted	679.3
23-Jun-2004 20:40:00.000 CDT	9.69	68.94	47481.11	655.01	739.03	724.97	629.49	313.99	315.34	90.46	119.7	Omitted	679.27
23-Jun-2004 20:50:00.000 CDT	9.68	68.78	47496.86	659.98	737.12	721.81	628.71	313.91	315.28	90.3	119.73	Omitted	679.2
23-Jun-2004 21:00:00.000 CDT	9.66	68.83	47327.01	667.52	740.7	729	638.51	314.05	315.23	90.07	119.76	Omitted	679.13
23-Jun-2004 21:10:00.000 CDT	9.68	68.84	47460.64	666.9	742.59	720.93	643.53	314.2	315.12	89.84	119.79	Omitted	679.06
23-Jun-2004 21:20:00.000 CDT	9.67	68.83	47362.65	676.71	740.84	750.65	643.28	314.28	314.92	89.6	119.82	Omitted	678.98
23-Jun-2004 21:30:00.000 CDT	9.69	68.79	47436.01	670.47	719.79	735.3	643.99	314.19	314.71	89.36	119.85	Omitted	678.85
23-Jun-2004 21:40:00.000 CDT	9.65	68.88	47368.71	686.83	764.49	742.8	650.53	314.09	314.5	89.13	119.88	Omitted	678.47
23-Jun-2004 21:50:00.000 CDT	9.66	68.8	47411.6	681.23	753.47	740.94	653.87	313.99	314.29	88.9	119.91	Omitted	678.06
23-Jun-2004 22:00:00.000 CDT	9.66	68.84	47373.25	679.26	748.36	735.15	654.13	313.89	314.08	88.7	119.94	Omitted	677.65
23-Jun-2004 22:10:00.000 CDT	9.67	68.89	47395.61	674.59	743.62	725.77	656.8	313.78	313.92	88.5	119.97	Omitted	677.24
23-Jun-2004 22:20:00.000 CDT	9.67	68.94	47364.7	674.52	740.6	749.48	658.11	313.7	313.89	88.3	119.99	Omitted	676.83
23-Jun-2004 22:30:00.000 CDT	9.68	68.99	47444.17	676.85	718.69	739.95	659.35	313.67	313.85	88.1	119.94	Omitted	676.43
23-Jun-2004 22:40:00.000 CDT	9.65	69.16	47400.79	673.81	755.38	736.8	661.87	313.64	313.82	87.9	119.84	Omitted	676.06
23-Jun-2004 22:50:00.000 CDT	9.68	69.18	47449.07	667.5	749.15	748.03	687.79	313.61	313.79	87.7	119.75	Omitted	675.69
23-Jun-2004 23:00:00.000 CDT	9.69	69.26	47432.17	670.13	739.16	751.6	692.15	313.59	313.75	87.49	119.65	Omitted	675.32
23-Jun-2004 23:10:00.000 CDT	9.67	69.24	47390.35	673.45	737.31	735.39	689.62	313.56	313.81	87.28	119.56	Omitted	674.95
23-Jun-2004 23:20:00.000 CDT	9.67	69.15	47371.3	661.22	736.27	755.67	680.88	313.6	314.07	87.07	119.47	Omitted	674.58
23-Jun-2004 23:30:00.000 CDT	9.66	69.34	47316.26	670.81	719.17	739.87	658.37	313.86	314.33	86.86	119.57	Omitted	674.19
23-Jun-2004 23:40:00.000 CDT	9.64	69.19	47266.05	673.45	761.11	730.31	651.01	314.12	314.6	86.65	119.75	Omitted	673.72
23-Jun-2004 23:50:00.000 CDT	9.64	69.09	47295.31	685.04	756.53	734.74	652.6	314.39	314.86	86.42	119.93	Omitted	673.25
24-Jun-2004 00:00:00.000 CDT	9.65	69.1	47284.43	681.51	751.19	744.65	656.37	314.65	315.13	86.14	120.12	Omitted	672.78
24-Jun-2004 00:10:00.000 CDT	9.64	69.04	47321.87	690.78	740.79	706.53	634.82	314.92	315.27	85.86	120.3	Omitted	672.31
24-Jun-2004 00:20:00.000 CDT	9.63	69.21	47266.62	667.37	741.53	734.66	635.11	315.11	315.15	85.58	120.48	Omitted	671.84
24-Jun-2004 00:30:00.000 CDT	9.64	69.08	47268.8	674.41	721.35	726.95	640.21	315.07	315.03	85.3	120.47	Omitted	671.41
24-Jun-2004 00:40:00.000 CDT	9.61	69.13	47171.86	668.42	757.47	715.26	629.2	315.01	314.91	85.01	120.37	Omitted	671.12
24-Jun-2004 00:50:00.000 CDT	9.48	67.02	46577.88	680.54	741.44	656.84	549.99	314.81	314.79	84.74	120.26	Omitted	670.63
24-Jun-2004 01:00:00.000 CDT	9.37	67.81	46145.46	650.55	682.81	571.89	482.24	314.4	314.67	84.5	120.16	Omitted	668.75
24-Jun-2004 01:10:00.000 CDT	9.39	67.73	46238.23	645.23	677.12	560.08	481.53	313.99	314.32	84.26	120.05	Omitted	667.15
24-Jun-2004 01:20:00.000 CDT	9.21	66.12	45432.84	645.37	677.47	595.84	495.46	313.56	313.51	84.02	119.96	Omitted	667.05
24-Jun-2004 01:30:00.000 CDT	8.91	63.14	44086.77	640.37	644.62	607.73	526.22	312.56	312.68	83.78	120.15	Omitted	665.93
24-Jun-2004 01:40:00.000 CDT	8.87	63.05	43919.71	647.82	717.87	695.1	617.32	311.29	311.85	83.55	120.47	Omitted	663.19
24-Jun-2004 01:50:00.000 CDT	8.73	63.67	43235.71	626.49	701.21	689.13	624.29	310.01	311.02	83.25	120.8	Omitted	661.4
24-Jun-2004 02:00:00.000 CDT	8.4	59.54	41817.39	609.9	672.05	665.97	596	309.21	310.19	82.81	121.13	Omitted	660.3
24-Jun-2004 02:10:00.000 CDT	7.89	54.89	39482.59	584.12	637.46	608.66	563.19	308.89	309.67	82.35	121.46	Omitted	659.43
24-Jun-2004 02:20:00.000 CDT	7.71	55.95	38648.04	560.2	613.79	604.59	535.08	308.57	309.77	81.9	121.78	Omitted	649.26
24-Jun-2004 02:30:00.000 CDT	7.69	56.43	38492.07	535.73	578.93	582.44	510.09	308.3	309.89	81.44	121.73	Omitted	646.25
24-Jun-2004 02:40:00.000 CDT	7.75	56.03	38757.79	541.31	605.24	571.18	495.63	308.82	310.01	80.99	121.5	Omitted	646.4
24-Jun-2004 02:50:00.000 CDT	7.72	56.34	38552.22	531.63	590.72	564.57	499.17	309.61	310.13	80.59	121.27	Omitted	646.54
24-Jun-2004 03:00:00.000 CDT	7.73	56.36	38719.54	530.86	588.91	562.78	503.89	310.4	310.25	80.37	121.04	Omitted	646.69
24-Jun-2004 03:10:00.000 CDT	7.71	56.53	38557.65	533.81	586.32	551.78	505.53	311.2	310.55	80.15	120.81	Omitted	646.84
24-Jun-2004 03:20:00.000 CDT	7.68	56.58	38506.99	536.56	589.19	574.14	504.99	311.99	311.2	79.94	120.58	Omitted	646.99
24-Jun-2004 03:30:00.000 CDT	7.73	56.6	38686.84	540.33	577.59	576.05	506.24	312.76	311.86	79.72	120.43	Omitted	647.06
24-Jun-2004 03:40:00.000 CDT	7.74	56.68	38689.92	535.83	604.23	568.38	501.92	313.06	312.52	79.51	120.32	Omitted	647.04
24-Jun-2004 03:50:00.000 CDT	7.69	56.85	38552.63	538.45	600.85	568.58	500.22	313.22	313.19	79.34	120.21	Omitted	647.02
24-Jun-2004 04:00:00.000 CDT	7.71	56.79	38649.16	540.93	594.37	569.7	506.64	313.37	313.85	79.31	120.1	Omitted	647
24-Jun-2004 04:10:00.000 CDT	7.76	57.18	38813.92	544.91	594.24	555.86	507.54	313.52	314.41	79.29	119.99	Omitted	646.97
24-Jun-2004 04:20:00.000 CDT	7.95	58.92	39672.36	546.29	596.32	584.43	509.1	313.67	314.77	79.27	119.88	Omitted	647.03
24-Jun-2004 04:30:00.000 CDT	8.17	60.66	40690.76	549.89	589.53	585.62	516.35	313.85	315.13	79.25	119.81	Omitted	649.57
24-Jun-2004 04:40:00.000 CDT	8.38	62.15	41656.86	560.95	630.33	588.34	512.03	314.48	315.48	79.23	119.77	Omitted	653.31
24-Jun-2004 04:50:00.000 CDT	8.72	64.3	43141.17	579.23	642.95	596.03	516.34	315.26	315.84	79.24	119.73	Omitted	657.06
24-Jun-2004 05:00:00.000 CDT	9.06	67.38	44726.32	586.82	648.27	603.14	519.13	316.05	316.19	79.33	119.69	Omitted	660.86
24-Jun-2004 05:10:00.000 CDT	9.42	69.99	46326.38	629.2	687.11	638.14	555.96	316.83	316.49	79.43	119.64	Omitted	667.32
24-Jun-2004 05:20:00.000 CDT	9.61	70.73	47131.29	659.65	721.56	695.61	587.4	317.61	316.67	79.53	119.6	Omitted	674.68
24-Jun-2004 05:30:00.000 CDT	9.64	69.99	47278.21	673.09	713.94	723.41	619.77	318.1	316.85	79.62	119.35	Omitted	676.53
24-Jun-2004 05:40:00.000 CDT	9.65	69.88	47313.27	685.68	761.45	719.44	620.66	317.99	317.03	79.72	119	Omitted	676.6
24-Jun-2004 05:50:00.000 CDT	9.62	69.88	47234.11	685.61	746.66	711.94	616.66	317.85	317.21	79.82	118.66	Omitted	676.6

TimeTag	CU-6947 (CU:U1) ECON 1B OUTLET TEMPERATURE A (DEG F)	CU-6946: (CU:U1) ECON 1C OUTLET TEMPERATURE A (DEG F)	CU-6989: (CU:U1) SCR 1A VENT TEMPERATURE (DEG F)	CU-6997: (CU:U1) ECON 1A OUTLET TEMPERATURE B (DEG F)	CU-6996: (CU:U1) ECON 1B OUTLET TEMPERATURE B (DEG F)	CU-6995: (CU:U1) ECON 1C OUTLET TEMPERATURE B (DEG F)	CU-7110. (CU:U1) SCR 1B VENT TEMPERATURE (DEG F)	CU-5: (CU:U1) A171027 - U1 FLUE GAS O2 INLET (PCT)	CU-6: (CU:U1) A171004 - U1 FLUE GAS SO2 INLET (PPM)	CU-11: (CU:U1) A171022 - U1 STACK OUTLET SO2 (PPM)	CU-1091: (CU:U1) Furnace total O2 (%)	CU-1242: (CU:U1) Average O2 - Actual (%)
23-Jun-2004 19:20:00.000 CDT	661.86	650.18	92.69	676.51	659.23	650.77	92.57	6	1787.14	46.69	Omitted	Omitted
23-Jun-2004 19:30:00.000 CDT	662.03	650.06	92.36	676.75	659.45	650.69	92.24	6	1780.84	46.95	Omitted	Omitted
23-Jun-2004 19:40:00.000 CDT	662.2	649.94	92.02	676.99	659.67	650.6	91.91	5.99	1777.92	47.2	Omitted	Omitted
23-Jun-2004 19:50:00.000 CDT	662.38	649.81	91.69	677.29	659.89	650.52	91.58	5.98	1783.42	47.45	Omitted	Omitted
23-Jun-2004 20:00:00.000 CDT	662.6	649.69	91.35	677.76	660.09	650.44	91.24	5.97	1785.92	47.71	Omitted	Omitted
23-Jun-2004 20:10:00.000 CDT	662.84	649.57	90.96	678.23	660.25	650.4	90.91	5.96	1796.41	47.87	Omitted	Omitted
23-Jun-2004 20:20:00.000 CDT	663.07	649.52	90.57	678.71	660.4	650.41	90.53	5.95	1800.86	47.76	Omitted	Omitted
23-Jun-2004 20:30:00.000 CDT	663.31	649.54	90.18	679.14	660.55	650.42	90.1	5.96	1805.2	47.63	Omitted	Omitted
23-Jun-2004 20:40:00.000 CDT	663.54	649.56	89.79	679.18	660.7	650.44	89.67	5.98	1804.32	47.51	Omitted	Omitted
23-Jun-2004 20:50:00.000 CDT	663.74	649.58	89.4	679.12	660.85	650.45	89.24	6	1800.93	47.38	Omitted	Omitted
23-Jun-2004 21:00:00.000 CDT	663.66	649.6	89	679.07	660.95	650.47	88.81	6.02	1797.53	47.25	Omitted	Omitted
23-Jun-2004 21:10:00.000 CDT	663.51	649.62	88.58	679.01	660.84	650.56	88.38	6.04	1794.13	47.16	Omitted	Omitted
23-Jun-2004 21:20:00.000 CDT	663.36	649.65	88.17	678.95	660.71	650.77	87.95	6.06	1797.97	47.15	Omitted	Omitted
23-Jun-2004 21:30:00.000 CDT	663.21	649.7	87.75	678.87	660.58	650.98	87.52	6.07	1789.33	47.15	Omitted	Omitted
23-Jun-2004 21:40:00.000 CDT	663.06	649.75	87.34	678.56	660.44	651.19	87.08	6.08	1800.27	47.15	Omitted	Omitted
23-Jun-2004 21:50:00.000 CDT	662.91	649.79	86.92	678.19	660.31	651.4	86.65	6.1	1794.62	47.15	Omitted	Omitted
23-Jun-2004 22:00:00.000 CDT	662.77	649.84	86.54	677.81	660.21	651.6	86.22	6.11	1786.29	47.15	Omitted	Omitted
23-Jun-2004 22:10:00.000 CDT	662.63	649.89	86.27	677.44	660.22	651.68	85.78	6.12	1788.14	47.21	Omitted	Omitted
23-Jun-2004 22:20:00.000 CDT	662.49	649.91	86.01	677.07	660.25	651.56	85.43	6.13	1789.68	47.45	Omitted	Omitted
23-Jun-2004 22:30:00.000 CDT	662.35	649.9	85.74	676.72	660.28	651.45	85.17	6.13	1789.34	47.71	Omitted	Omitted
23-Jun-2004 22:40:00.000 CDT	662.21	649.89	85.48	676.58	660.31	651.33	84.9	6.13	1788.82	47.96	Omitted	Omitted
23-Jun-2004 22:50:00.000 CDT	662.09	649.88	85.22	676.48	660.34	651.21	84.63	6.13	1788.29	48.22	Omitted	Omitted
23-Jun-2004 23:00:00.000 CDT	662.22	649.87	84.96	676.38	660.39	651.09	84.36	6.12	1787.77	48.47	Omitted	Omitted
23-Jun-2004 23:10:00.000 CDT	662.4	649.86	84.71	676.29	660.51	651.13	84.09	6.12	1790.92	48.7	Omitted	Omitted
23-Jun-2004 23:20:00.000 CDT	662.58	649.95	84.47	676.19	660.65	651.4	83.85	6.12	1795.13	48.83	Omitted	Omitted
23-Jun-2004 23:30:00.000 CDT	662.76	650.12	84.22	676.07	660.78	651.68	83.63	6.12	1796.06	48.96	Omitted	Omitted
23-Jun-2004 23:40:00.000 CDT	662.94	650.29	83.98	675.7	660.92	651.95	83.41	6.12	1790.09	49.08	Omitted	Omitted
23-Jun-2004 23:50:00.000 CDT	663.07	650.47	83.73	675.28	661.05	652.22	83.19	6.12	1781.96	49.21	Omitted	Omitted
24-Jun-2004 00:00:00.000 CDT	662.73	650.64	83.5	674.85	661.07	652.49	82.97	6.12	1776.85	49.34	Omitted	Omitted
24-Jun-2004 00:10:00.000 CDT	662.28	650.81	83.3	674.43	660.6	652.41	82.74	6.12	1778.56	49.21	Omitted	Omitted
24-Jun-2004 00:20:00.000 CDT	661.83	650.56	83.1	674	660.08	651.81	82.53	6.13	1780.27	48.37	Omitted	Omitted
24-Jun-2004 00:30:00.000 CDT	661.37	649.89	82.9	673.53	659.57	651.2	82.32	6.21	1781.99	47.48	Omitted	Omitted
24-Jun-2004 00:40:00.000 CDT	660.92	649.22	82.7	672.59	659.05	650.5	82.11	6.31	1780.69	46.59	Omitted	Omitted
24-Jun-2004 00:50:00.000 CDT	660.23	648.54	82.5	671.52	658.49	649.99	81.9	6.41	1773.89	45.7	Omitted	Omitted
24-Jun-2004 01:00:00.000 CDT	657.41	647.46	82.3	669.92	657.38	649.06	81.69	6.51	1690.19	44.81	Omitted	Omitted
24-Jun-2004 01:10:00.000 CDT	655.46	645.96	82.11	668.07	656.07	647.81	81.48	6.61	1681.85	43.89	Omitted	Omitted
24-Jun-2004 01:20:00.000 CDT	654.88	644.46	81.91	666.61	654.58	646.57	81.27	6.72	1675.61	42.88	Omitted	Omitted
24-Jun-2004 01:30:00.000 CDT	654.1	642.96	81.72	665.42	652.81	645.29	81.07	6.88	1641	41.86	Omitted	Omitted
24-Jun-2004 01:40:00.000 CDT	652.45	641.38	81.52	664.22	651.05	643.52	80.88	7.06	1680.52	40.84	Omitted	Omitted
24-Jun-2004 01:50:00.000 CDT	650.69	639.77	81.32	662.97	649.28	641.59	80.68	7.24	1695.29	39.83	Omitted	Omitted
24-Jun-2004 02:00:00.000 CDT	648.17	637.1	81.13	660.72	646.25	638.84	80.48	7.42	1672.42	38.81	Omitted	Omitted
24-Jun-2004 02:10:00.000 CDT	644.76	632.24	80.94	657.56	641.94	634.31	80.28	7.6	1631.07	37.79	Omitted	Omitted
24-Jun-2004 02:20:00.000 CDT	639.11	627.11	80.76	652.04	636.71	628.03	80.09	7.77	1606.5	36.77	Omitted	Omitted
24-Jun-2004 02:30:00.000 CDT	634.69	622.49	80.57	648.16	632.06	623.9	79.91	7.74	1624.53	35.76	Omitted	Omitted
24-Jun-2004 02:40:00.000 CDT	634.5	621.77	80.38	648.21	631.63	623.78	79.73	7.63	1655.3	34.74	Omitted	Omitted
24-Jun-2004 02:50:00.000 CDT	634.59	621.69	80.2	648.38	631.66	623.68	79.55	7.53	1657.97	33.72	Omitted	Omitted
24-Jun-2004 03:00:00.000 CDT	634.67	621.62	80	648.54	631.68	623.59	79.37	7.42	1658.86	32.7	Omitted	Omitted
24-Jun-2004 03:10:00.000 CDT	634.75	621.55	79.79	648.71	631.71	623.5	79.19	7.32	1656.1	32.19	Omitted	Omitted
24-Jun-2004 03:20:00.000 CDT	634.84	621.48	79.57	648.87	631.74	623.4	79	7.22	1653.22	33.11	Omitted	Omitted
24-Jun-2004 03:30:00.000 CDT	635	621.52	79.35	649.04	631.86	623.62	78.78	7.17	1646.68	34.13	Omitted	Omitted
24-Jun-2004 03:40:00.000 CDT	635.39	622.24	79.13	649.23	632.4	624.28	78.57	7.14	1642.04	35.15	Omitted	Omitted
24-Jun-2004 03:50:00.000 CDT	635.79	623.07	78.92	649.42	632.99	624.95	78.36	7.11	1639.25	36.16	Omitted	Omitted
24-Jun-2004 04:00:00.000 CDT	636.19	623.9	78.74	649.6	633.58	625.62	78.15	7.08	1631.3	37.18	Omitted	Omitted
24-Jun-2004 04:10:00.000 CDT	636.59	624.74	78.69	649.79	634.16	626.29	77.94	7.05	1623.96	38.2	Omitted	Omitted
24-Jun-2004 04:20:00.000 CDT	636.99	625.57	78.65	649.98	634.75	626.96	77.8	7.01	1630.21	39.22	Omitted	Omitted
24-Jun-2004 04:30:00.000 CDT	638.9	627.25	78.6	651.55	636.85	629.45	77.73	6.88	1658.65	40.23	Omitted	Omitted
24-Jun-2004 04:40:00.000 CDT	643.02	631.37	78.56	655.16	641.17	633.75	77.66	6.72	1688.42	41.25	Omitted	Omitted
24-Jun-2004 04:50:00.000 CDT	647.16	635.65	78.52	658.78	645.5	638.05	77.59	6.56	1717.07	42.27	Omitted	Omitted
24-Jun-2004 05:00:00.000 CDT	651.3	639.92	78.44	662.6	649.84	642.36	77.52	6.4	1748.71	43.28	Omitted	Omitted
24-Jun-2004 05:10:00.000 CDT	656.32	644.29	78.26	669.47	654.67	646.93	77.45	6.24	1757.46	44.05	Omitted	Omitted
24-Jun-2004 05:20:00.000 CDT	661.94	648.79	78.07	676.51	660.23	651.67	77.34	6.09	1770.86	44.1	Omitted	Omitted
24-Jun-2004 05:30:00.000 CDT	665.64	652.91	77.88	678.27	663.36	655.5	77.2	6.08	1753.08	44.1	Omitted	Omitted
24-Jun-2004 05:40:00.000 CDT	665.35	653.43	77.7	679.14	662.97	655.58	77.06	6.11	1748.28	44.1	Omitted	Omitted
24-Jun-2004 05:50:00.000 CDT	664.95	653.06	77.51	679.48	662.54	655.26	76.91	6.15	1748.34	44.1	Omitted	Omitted

TimeTag	CU-3532 (CU:U1) [U1] SCR A Avg NOx Inlet (lb/mmBtu)	CU-3533: (CU:U1) [U1] SCR B Avg NOx Inlet (lb/mmBtu)	CU-6982: (CU:U1) SCR 1A INLET ANALZ B NOx (PPM)	CU-6984: (CU:U1) SCR 1A INLET ANALZ A NOx (PPM)	CU-7055 (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7056: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7100: (CU:U1) SCR 1B INLET ANALZ B NOx (PPM)	CU-7102: (CU:U1) SCR 1B INLET ANALZ A NOx (PPM)	CU-7190: (CU:U1) SCR 1A INLET NOx AIG-AB (lb/MBtu)	CU-7191: (CU:U1) SCR 1A INLET NOx AIG-AA (lb/MBtu)	CU-7194: (CU:U1) SCR 1B INLET NOx AIG-BA (lb/MBtu)	CU-7195 (CU:U1) SCR 1B INLET NOx AIG-BB (lb/MBtu)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53 (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
23-Jun-2004 19:20:00.000 CDT	0.58	0.57	366.72	343.17	0.6	0.56	319.19	345.16	0.6	0.55	0.59	0.55	206.67	183.59	203.63
23-Jun-2004 19:30:00.000 CDT	0.58	0.58	365.91	344.46	0.6	0.56	322.79	347.18	0.6	0.56	0.59	0.56	203.24	179.5	208.38
23-Jun-2004 19:40:00.000 CDT	0.58	0.58	367.66	345.9	0.6	0.56	322.92	348.63	0.6	0.56	0.59	0.56	207.64	187.15	204.82
23-Jun-2004 19:50:00.000 CDT	0.58	0.58	366.32	343.68	0.6	0.56	319.33	347.17	0.6	0.56	0.59	0.56	201.88	189.89	203.98
23-Jun-2004 20:00:00.000 CDT	0.58	0.58	366.23	343.58	0.6	0.56	318.32	350.63	0.6	0.56	0.6	0.56	206.39	183.5	206.84
23-Jun-2004 20:10:00.000 CDT	0.57	0.58	364.95	343.27	0.59	0.56	318.34	346.39	0.59	0.56	0.59	0.56	201.89	178.71	188.31
23-Jun-2004 20:20:00.000 CDT	0.57	0.57	363.14	345.11	0.59	0.56	316.59	345.7	0.59	0.56	0.59	0.56	202.57	187.16	186.03
23-Jun-2004 20:30:00.000 CDT	0.57	0.58	364.41	344.52	0.59	0.56	318.22	349.05	0.59	0.56	0.6	0.56	202.43	192.36	191.24
23-Jun-2004 20:40:00.000 CDT	0.57	0.58	359.65	343.08	0.58	0.56	320.49	349.21	0.58	0.56	0.59	0.56	220.5	169.66	186.06
23-Jun-2004 20:50:00.000 CDT	0.57	0.58	362.53	346.98	0.58	0.56	320.27	348.88	0.58	0.56	0.59	0.57	204.12	185.36	195.22
23-Jun-2004 21:00:00.000 CDT	0.58	0.58	361.86	346.46	0.59	0.56	321.3	347.99	0.59	0.56	0.59	0.57	199.1	195.76	192.3
23-Jun-2004 21:10:00.000 CDT	0.58	0.58	362.75	347.54	0.59	0.57	323.26	351.18	0.59	0.57	0.59	0.57	203.72	188.63	188.89
23-Jun-2004 21:20:00.000 CDT	0.58	0.58	363.79	347.45	0.59	0.57	324.2	349.94	0.59	0.57	0.6	0.57	206.64	185.76	196.11
23-Jun-2004 21:30:00.000 CDT	0.58	0.58	361.56	347.12	0.59	0.57	324.22	349.71	0.59	0.57	0.59	0.57	202.65	181.1	202.93
23-Jun-2004 21:40:00.000 CDT	0.58	0.58	362.21	346.79	0.59	0.57	324.91	350.24	0.59	0.57	0.6	0.57	201.81	190.42	200.34
23-Jun-2004 21:50:00.000 CDT	0.58	0.58	359.35	344.75	0.59	0.57	325.18	347.42	0.58	0.57	0.59	0.57	198.54	185.29	195.25
23-Jun-2004 22:00:00.000 CDT	0.58	0.58	359.36	346.56	0.59	0.57	324.91	347.09	0.59	0.57	0.59	0.57	199.47	195.64	195.49
23-Jun-2004 22:10:00.000 CDT	0.58	0.58	358.36	346.66	0.58	0.57	326.6	349.03	0.58	0.57	0.59	0.57	196.81	192.07	188.71
23-Jun-2004 22:20:00.000 CDT	0.58	0.58	358.45	344.71	0.58	0.57	325.47	348.49	0.59	0.57	0.6	0.57	198.41	192.69	184.2
23-Jun-2004 22:30:00.000 CDT	0.57	0.58	356.95	346.09	0.58	0.57	327.21	348.76	0.58	0.57	0.59	0.57	202.3	186	194.3
23-Jun-2004 22:40:00.000 CDT	0.57	0.59	359.18	341.6	0.58	0.56	332.11	351.73	0.58	0.56	0.6	0.58	201.53	191.65	196.14
23-Jun-2004 22:50:00.000 CDT	0.58	0.6	358.4	342.34	0.58	0.56	340.12	354.41	0.59	0.56	0.6	0.59	201.51	190.5	198.07
23-Jun-2004 23:00:00.000 CDT	0.57	0.6	356.97	341.8	0.58	0.56	339.64	356.59	0.58	0.56	0.61	0.6	201.28	187.07	203.56
23-Jun-2004 23:10:00.000 CDT	0.57	0.6	358.16	342.84	0.58	0.56	340.64	355.29	0.58	0.56	0.61	0.6	197.95	185.71	196.38
23-Jun-2004 23:20:00.000 CDT	0.57	0.6	357.75	343.26	0.58	0.56	336.92	351.61	0.58	0.56	0.6	0.59	198.36	190.8	195.6
23-Jun-2004 23:30:00.000 CDT	0.57	0.58	359.41	343.45	0.58	0.56	326.42	348.5	0.58	0.56	0.6	0.57	200.79	185.16	202.46
23-Jun-2004 23:40:00.000 CDT	0.58	0.58	358.97	344.69	0.59	0.57	326.97	347.59	0.58	0.57	0.59	0.57	199.24	189.26	198.44
23-Jun-2004 23:50:00.000 CDT	0.58	0.58	361.31	345.24	0.59	0.57	326.08	348.27	0.59	0.57	0.59	0.57	205.53	195.25	203.94
24-Jun-2004 00:00:00.000 CDT	0.58	0.58	361.15	344.41	0.59	0.57	324.44	349.95	0.59	0.57	0.6	0.57	199.63	191.58	200.51
24-Jun-2004 00:10:00.000 CDT	0.58	0.56	356.94	346.63	0.59	0.57	318.73	337.08	0.59	0.57	0.58	0.55	202.93	193.15	191.5
24-Jun-2004 00:20:00.000 CDT	0.58	0.56	358.42	345.09	0.58	0.57	317.33	338.24	0.58	0.57	0.58	0.55	200.15	190	190.73
24-Jun-2004 00:30:00.000 CDT	0.58	0.56	357.9	343.41	0.58	0.57	314.16	336.94	0.58	0.57	0.58	0.54	198.7	189.99	194.47
24-Jun-2004 00:40:00.000 CDT	0.57	0.56	355.78	341.63	0.58	0.57	313.09	335.69	0.58	0.57	0.57	0.54	216.7	171.29	197.06
24-Jun-2004 00:50:00.000 CDT	0.58	0.51	346.83	345.5	0.59	0.58	282.89	307.09	0.59	0.58	0.53	0.49	202.45	192.03	197.12
24-Jun-2004 01:00:00.000 CDT	0.57	0.46	327.81	339.32	0.56	0.58	257.78	278.21	0.57	0.58	0.49	0.44	189.18	174.78	193.12
24-Jun-2004 01:10:00.000 CDT	0.57	0.46	328.83	341.09	0.56	0.58	254.53	277.3	0.56	0.58	0.49	0.43	181	167.93	179.27
24-Jun-2004 01:20:00.000 CDT	0.58	0.47	329.81	339.34	0.57	0.58	259.63	280.58	0.57	0.58	0.49	0.44	178.86	179.41	180.15
24-Jun-2004 01:30:00.000 CDT	0.59	0.49	330.76	336.78	0.58	0.6	269.8	287.46	0.58	0.6	0.52	0.47	175.32	180.43	180.18
24-Jun-2004 01:40:00.000 CDT	0.61	0.58	348.71	339.86	0.6	0.61	306.31	326.68	0.6	0.61	0.59	0.56	171.39	160.8	169.35
24-Jun-2004 01:50:00.000 CDT	0.6	0.59	349.35	336.31	0.6	0.59	313.02	333.54	0.6	0.59	0.61	0.58	171.66	163.93	156.78
24-Jun-2004 02:00:00.000 CDT	0.6	0.6	345.24	328.36	0.6	0.59	311.3	335.26	0.6	0.59	0.61	0.59	178.57	177.37	165.12
24-Jun-2004 02:10:00.000 CDT	0.61	0.61	334.53	323.53	0.61	0.61	303.19	323.74	0.61	0.61	0.62	0.6	169.73	164.42	162.19
24-Jun-2004 02:20:00.000 CDT	0.61	0.61	328.36	321.39	0.61	0.61	296.32	314.37	0.61	0.61	0.62	0.61	159.8	139.14	142.74
24-Jun-2004 02:30:00.000 CDT	0.59	0.58	330.57	318.91	0.59	0.58	295.25	312	0.59	0.58	0.6	0.57	150.22	132.02	136.03
24-Jun-2004 02:40:00.000 CDT	0.58	0.57	325.57	316.09	0.59	0.57	290.85	308.95	0.59	0.57	0.58	0.56	155.13	152.38	153.1
24-Jun-2004 02:50:00.000 CDT	0.57	0.57	325.51	314.91	0.58	0.57	290.05	308.59	0.58	0.57	0.58	0.55	157.32	155.09	162.04
24-Jun-2004 03:00:00.000 CDT	0.57	0.57	324.1	313.46	0.58	0.56	289.32	306.42	0.58	0.56	0.58	0.55	161.06	148.35	165.81
24-Jun-2004 03:10:00.000 CDT	0.57	0.57	325.14	315.3	0.58	0.56	290.3	308.63	0.58	0.57	0.58	0.56	161.52	153.07	160.42
24-Jun-2004 03:20:00.000 CDT	0.57	0.57	324.98	316.41	0.58	0.56	290.71	307.54	0.58	0.56	0.58	0.56	165.56	155.26	159.76
24-Jun-2004 03:30:00.000 CDT	0.57	0.57	324.72	314.64	0.58	0.57	289.25	308.15	0.58	0.57	0.58	0.55	168.25	156	160.24
24-Jun-2004 03:40:00.000 CDT	0.57	0.57	326.48	315.34	0.58	0.57	291.21	308.19	0.58	0.57	0.58	0.55	165.91	155.04	171.16
24-Jun-2004 03:50:00.000 CDT	0.57	0.57	327.41	316.84	0.58	0.57	291.71	308.63	0.58	0.57	0.58	0.56	168.14	147.82	174.61
24-Jun-2004 04:00:00.000 CDT	0.57	0.57	325.53	316.66	0.58	0.57	290	306.84	0.58	0.57	0.58	0.56	168.15	151.38	154
24-Jun-2004 04:10:00.000 CDT	0.57	0.56	324.06	315.25	0.57	0.57	288.74	307.57	0.57	0.57	0.58	0.55	166.85	157.07	134.65
24-Jun-2004 04:20:00.000 CDT	0.57	0.56	325.72	317.55	0.57	0.57	289.66	309.16	0.57	0.57	0.57	0.54	164.1	150.42	163.01
24-Jun-2004 04:30:00.000 CDT	0.56	0.54	329.15	319.86	0.56	0.55	290.28	307.42	0.56	0.55	0.56	0.53	169.79	159.38	200.36
24-Jun-2004 04:40:00.000 CDT	0.55	0.53	331.02	321.92	0.55	0.55	287.77	308.51	0.55	0.55	0.55	0.52	186.11	144.67	202.51
24-Jun-2004 04:50:00.000 CDT	0.54	0.52	331.39	321.23	0.55	0.54	285.92	306.52	0.55	0.54	0.54	0.5	188.17	169.75	206.56
24-Jun-2004 05:00:00.000 CDT	0.54	0.5	334.64	323.54	0.54	0.53	281.69	305.99	0.54	0.53	0.53	0.48	193.51	184.81	219.39
24-Jun-2004 05:10:00.000 CDT	0.55	0.51	343.99	332.5	0.56	0.54	289.09	315.15	0.56	0.54	0.54	0.49	207.48	200.33	229.7
24-Jun-2004 05:20:00.000 CDT	0.55	0.52	348.29	333.65	0.56	0.54	295.91	319.45	0.57	0.54	0.55	0.5	221.88	203.81	240.34
24-Jun-2004 05:30:00.000 CDT	0.57	0.54	354.22	336.23	0.58	0.56	303.08	330.16	0.58	0.56	0.57	0.52	233.43	208.25	246.71
24-Jun-2004 05:40:00.000 CDT	0.58	0.55	356.43	341.19	0.58	0.57	306.53	331.05	0.58	0.57	0.57	0.52	238.38	194.6	226.21
24-Jun-2004 05:50:00.000 CDT	0.57	0.55	357.8	340.57	0.59	0.56	305.88	329.61	0.59	0.56	0.57	0.52	236.27	187.84	208.21

TimeTag	CU-30 (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-25: (CU:U1) T182001A - 1A ABS FLUGAS INLET T (DEGF)	CU-32: (CU:U1) T182001B - 1B ABS FLUGAS INLET T (DEGF)	CU-39: (CU:U1) T182001C - 1C ABS FLUGAS INL TMP (DEGF)	CU-29: (CU:U1) O016X371 - SELECTED 1A ABS PH (PH)	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-36: (CU:U1) O015X371 - SELECTED 1B ABS PH (PH)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-43: (CU:U1) O014X371 - SEL 1C ABSORBER PH (PH)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53 (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
23-Jun-2004 19:20:00.000 CDT	14.9	14.75	15.17	327.27	312.97	328.33	5.79	14.9	5.79	14.75	5.81	15.17	206.67	183.59	203.63
23-Jun-2004 19:30:00.000 CDT	14.95	14.81	15.16	327.42	312.94	328.45	5.8	14.95	5.81	14.81	5.8	15.16	203.24	179.5	208.38
23-Jun-2004 19:40:00.000 CDT	15.01	14.99	15.43	327.58	313	328.58	5.8	15.01	5.79	14.99	5.8	15.43	207.64	187.15	204.82
23-Jun-2004 19:50:00.000 CDT	15.14	14.8	15.55	327.73	313.18	328.71	5.8	15.14	5.79	14.8	5.8	15.55	201.88	189.89	203.98
23-Jun-2004 20:00:00.000 CDT	14.92	14.89	15.45	327.84	313.35	328.83	5.8	14.92	5.82	14.89	5.8	15.45	206.39	183.5	206.84
23-Jun-2004 20:10:00.000 CDT	14.91	14.82	15.52	327.73	313.53	328.92	5.81	14.91	5.79	14.82	5.83	15.52	201.89	178.71	188.31
23-Jun-2004 20:20:00.000 CDT	15	14.9	15.27	327.58	313.71	328.84	5.8	15	5.8	14.9	5.81	15.27	202.57	187.16	186.03
23-Jun-2004 20:30:00.000 CDT	14.97	14.62	15.25	327.42	313.89	328.74	5.81	14.97	5.81	14.62	5.78	15.25	202.43	192.36	191.24
23-Jun-2004 20:40:00.000 CDT	14.84	14.73	15.2	327.27	313.94	328.63	5.8	14.84	5.81	14.73	5.8	15.2	220.5	169.66	186.06
23-Jun-2004 20:50:00.000 CDT	14.97	14.83	15.17	327.12	313.82	328.53	5.79	14.97	5.79	14.83	5.8	15.17	204.12	185.36	195.22
23-Jun-2004 21:00:00.000 CDT	14.93	14.57	15.04	326.97	313.69	328.43	5.8	14.93	5.8	14.57	5.8	15.04	199.1	195.76	192.3
23-Jun-2004 21:10:00.000 CDT	15.04	14.89	15.19	326.89	313.56	328.34	5.79	15.04	5.81	14.89	5.8	15.19	203.72	188.63	188.89
23-Jun-2004 21:20:00.000 CDT	15.13	14.94	15.22	326.81	313.44	328.28	5.79	15.13	5.79	14.94	5.79	15.22	206.64	185.76	196.11
23-Jun-2004 21:30:00.000 CDT	14.9	14.69	15.16	326.74	313.31	328.23	5.81	14.9	5.8	14.69	5.78	15.16	202.65	181.1	202.93
23-Jun-2004 21:40:00.000 CDT	14.9	14.76	15.11	326.66	313.21	328.18	5.81	14.9	5.79	14.76	5.81	15.11	201.81	190.42	200.34
23-Jun-2004 21:50:00.000 CDT	14.89	14.59	15.15	326.58	313.16	328.13	5.8	14.89	5.8	14.59	5.8	15.15	198.54	185.29	195.25
23-Jun-2004 22:00:00.000 CDT	14.78	14.6	15.16	326.5	313.11	328.08	5.81	14.78	5.8	14.6	5.8	15.16	199.47	195.64	195.49
23-Jun-2004 22:10:00.000 CDT	15.07	14.6	15.12	326.38	313.06	328.03	5.81	15.07	5.8	14.6	5.82	15.12	196.81	192.07	188.71
23-Jun-2004 22:20:00.000 CDT	14.85	14.76	15.09	326.25	313.01	328.01	5.79	14.85	5.81	14.76	5.8	15.09	198.41	192.69	184.2
23-Jun-2004 22:30:00.000 CDT	14.73	15	15.11	326.13	312.96	327.98	5.79	14.73	5.81	15	5.79	15.11	202.3	186	194.3
23-Jun-2004 22:40:00.000 CDT	14.97	14.9	15.02	326	312.9	327.95	5.79	14.97	5.8	14.9	5.79	15.02	201.53	191.65	196.14
23-Jun-2004 22:50:00.000 CDT	15.05	14.93	15.11	325.87	312.82	327.93	5.8	15.05	5.8	14.93	5.8	15.11	201.51	190.5	198.07
23-Jun-2004 23:00:00.000 CDT	14.9	14.82	14.89	325.76	312.74	327.9	5.8	14.9	5.8	14.82	5.8	14.89	201.28	187.07	203.56
23-Jun-2004 23:10:00.000 CDT	14.97	14.87	15.05	325.72	312.67	327.9	5.81	14.97	5.8	14.87	5.81	15.05	197.95	185.71	196.38
23-Jun-2004 23:20:00.000 CDT	15.07	14.9	15.2	325.69	312.59	327.96	5.8	15.07	5.8	14.9	5.8	15.2	198.36	190.8	195.6
23-Jun-2004 23:30:00.000 CDT	14.93	14.99	15.49	325.67	312.52	328.04	5.8	14.93	5.8	14.99	5.79	15.49	200.79	185.16	202.46
23-Jun-2004 23:40:00.000 CDT	14.98	14.82	15.25	325.64	312.57	328.12	5.8	14.98	5.8	14.82	5.79	15.25	199.24	189.26	198.44
23-Jun-2004 23:50:00.000 CDT	15.06	14.96	15.19	325.62	312.83	328.19	5.8	15.06	5.8	14.96	5.8	15.19	205.53	195.25	203.94
24-Jun-2004 00:00:00.000 CDT	15.1	14.89	15.34	325.61	313.08	328.27	5.8	15.1	5.81	14.89	5.8	15.34	199.63	191.58	200.51
24-Jun-2004 00:10:00.000 CDT	15.08	14.87	15.18	325.72	313.33	328.34	5.8	15.08	5.8	14.87	5.81	15.18	202.93	193.15	191.5
24-Jun-2004 00:20:00.000 CDT	14.99	14.68	14.98	325.85	313.59	328.37	5.8	14.99	5.81	14.68	5.8	14.98	200.15	190	190.73
24-Jun-2004 00:30:00.000 CDT	14.94	14.82	14.98	325.97	313.84	328.39	5.81	14.94	5.81	14.82	5.79	14.98	198.7	189.99	194.47
24-Jun-2004 00:40:00.000 CDT	15	14.93	14.88	326.1	313.83	328.42	5.8	15	5.8	14.93	5.8	14.88	216.7	171.29	197.06
24-Jun-2004 00:50:00.000 CDT	15.3	15.05	15.15	326.23	313.43	328.44	5.8	15.3	5.79	15.05	5.8	15.15	202.45	192.03	197.12
24-Jun-2004 01:00:00.000 CDT	15.11	14.93	15.17	326.24	313.02	328.47	5.84	15.11	5.83	14.93	5.81	15.17	189.18	174.78	193.12
24-Jun-2004 01:10:00.000 CDT	15.12	15.11	15.21	325.59	312.61	328.28	5.82	15.12	5.8	15.11	5.82	15.21	181	167.93	179.27
24-Jun-2004 01:20:00.000 CDT	15.02	14.87	15.11	324.83	312.21	327.23	5.81	15.02	5.79	14.87	5.8	15.11	178.86	179.41	180.15
24-Jun-2004 01:30:00.000 CDT	15.09	15.08	15.12	324.07	311.8	326.09	5.81	15.09	5.82	15.08	5.8	15.12	175.32	180.43	180.18
24-Jun-2004 01:40:00.000 CDT	15.18	15.14	15.26	323.3	311	324.94	5.8	15.18	5.82	15.14	5.82	15.26	171.39	160.8	169.35
24-Jun-2004 01:50:00.000 CDT	15.24	15.13	15.24	322.54	309.63	323.8	5.8	15.24	5.79	15.13	5.82	15.24	171.66	163.93	156.78
24-Jun-2004 02:00:00.000 CDT	15.17	15.34	15.3	321.73	308.26	322.65	5.79	15.17	5.8	15.34	5.79	15.3	178.57	177.37	165.12
24-Jun-2004 02:10:00.000 CDT	15.27	15.35	15.34	320.66	306.88	321.63	5.82	15.27	5.82	15.35	5.83	15.34	169.73	164.42	162.19
24-Jun-2004 02:20:00.000 CDT	15.21	15.31	15.23	319.54	305.51	321.12	5.83	15.21	5.84	15.31	5.83	15.23	159.8	139.14	142.74
24-Jun-2004 02:30:00.000 CDT	15.08	15.51	15.18	318.42	304.14	320.66	5.82	15.08	5.79	15.51	5.79	15.18	150.22	132.02	136.03
24-Jun-2004 02:40:00.000 CDT	15.11	15.27	15.18	317.3	303.41	320.21	5.8	15.11	5.78	15.27	5.78	15.18	155.13	152.38	153.1
24-Jun-2004 02:50:00.000 CDT	15.06	15.4	15.13	316.18	303.63	319.75	5.79	15.06	5.8	15.4	5.78	15.13	157.32	155.09	162.04
24-Jun-2004 03:00:00.000 CDT	15.05	15.27	15.17	315.24	303.86	319.29	5.79	15.05	5.81	15.27	5.8	15.17	161.06	148.35	165.81
24-Jun-2004 03:10:00.000 CDT	15.15	15.17	15.01	315.34	304.09	319	5.79	15.15	5.8	15.17	5.81	15.01	161.52	153.07	160.42
24-Jun-2004 03:20:00.000 CDT	14.88	15.42	14.86	315.62	304.32	319.38	5.78	14.88	5.79	15.42	5.8	14.86	165.56	155.26	159.76
24-Jun-2004 03:30:00.000 CDT	14.86	15.33	14.94	315.9	304.55	319.84	5.79	14.86	5.79	15.33	5.8	14.94	168.25	156	160.24
24-Jun-2004 03:40:00.000 CDT	14.91	15.2	15.09	316.18	304.85	320.3	5.8	14.91	5.8	15.2	5.79	15.09	165.91	155.04	171.16
24-Jun-2004 03:50:00.000 CDT	15.01	15.23	14.94	316.46	305.26	320.76	5.8	15.01	5.81	15.23	5.8	14.94	168.14	147.82	174.61
24-Jun-2004 04:00:00.000 CDT	14.87	15.13	15.12	316.79	305.66	321.21	5.79	14.87	5.79	15.13	5.84	15.12	168.15	151.38	154
24-Jun-2004 04:10:00.000 CDT	14.83	15.06	14.98	317.4	306.07	321.73	5.8	14.83	5.8	15.06	5.82	14.98	166.85	157.07	134.65
24-Jun-2004 04:20:00.000 CDT	14.92	15.12	14.96	318.06	306.48	322.49	5.8	14.92	5.8	15.12	5.73	14.96	164.1	150.42	163.01
24-Jun-2004 04:30:00.000 CDT	14.92	15.11	14.89	318.73	306.88	323.28	5.79	14.92	5.78	15.11	5.77	14.89	169.79	159.38	200.36
24-Jun-2004 04:40:00.000 CDT	14.83	15.08	14.82	319.39	307.67	324.07	5.78	14.83	5.81	15.08	5.8	14.82	186.11	144.67	202.51
24-Jun-2004 04:50:00.000 CDT	14.75	14.99	14.84	320.05	309.02	324.86	5.77	14.75	5.77	14.99	5.77	14.84	188.17	169.75	206.56
24-Jun-2004 05:00:00.000 CDT	15.01	14.94	14.93	320.77	310.36	325.65	5.77	15.01	5.78	14.94	5.78	14.93	193.51	184.81	219.39
24-Jun-2004 05:10:00.000 CDT	15.15	15	14.88	321.85	311.71	326.37	5.76	15.15	5.79	15	5.79	14.88	207.48	200.33	229.7
24-Jun-2004 05:20:00.000 CDT	15.08	14.88	14.85	323	313.06	326.86	5.75	15.08	5.79	14.88	5.77	14.85	221.88	203.81	240.34
24-Jun-2004 05:30:00.000 CDT	14.93	14.92	14.86	324.14	314.41	327.32	5.76	14.93	5.8	14.92	5.8	14.86	233.43	208.25	246.71
24-Jun-2004 05:40:00.000 CDT	14.92	14.67	14.81	325.29	315.15	327.77	5.77	14.92	5.82	14.67	5.83	14.81	238.38	194.6	226.21
24-Jun-2004 05:50:00.000 CDT	14.81	14.85	15.1	326.43	315	328.23	5.81	14.81	5.81	14.85	5.84	15.1	236.27	187.84	208.21

TimeTag	CU-1186: (CU:U1) Total Feedwater Flow (MMPPH)	CU-1256: (CU:U1) Total Fuel Flow (%)	CU-1329: (CU:U1) Main Steam Flow (kpph)	CU-6955: (CU:U1) SCR1A AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7009: (CU:U1) SCR1A AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-7119: (CU:U1) SCR1B AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7131: (CU:U1) SCR1B AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-1248: (CU:U1) Exit Gas Temperature - Actual (F)	CU-1327: (CU:U1) Exit Gas Temperature (F)	CU-1367: (CU:U1) Average Air Temperature Enterin (F)	CU-1368 (CU:U1) Average Air Temperature Leaving (F)	CU-1391: (CU:U1) Exit Gas Temperature - Act V Re ()	CU-6948: (CU:U1) ECON 1A OUTLET TEMPERATURE A (DEG F)
24-Jun-2004 06:00:00.000 CDT	9.62	69.92	47232.7	659.62	741.63	708.57	614.61	317.64	317.39	79.92	118.32	Omitted	676.5
24-Jun-2004 06:10:00.000 CDT	9.65	69.51	47290.21	658.04	729.53	686.81	611.16	317.11	317.41	80.03	117.97	Omitted	676.38
24-Jun-2004 06:20:00.000 CDT	9.66	69.44	47405.76	659.12	731.87	709.18	603.85	316.54	317.09	80.14	117.63	Omitted	676.26
24-Jun-2004 06:30:00.000 CDT	9.65	69.7	47288.41	676.27	711.08	713.02	618.04	315.98	316.76	80.25	117.51	Omitted	676.14
24-Jun-2004 06:40:00.000 CDT	9.67	69.42	47425.49	662.04	750.86	703.12	606.42	315.41	316.44	80.35	117.49	Omitted	675.02
24-Jun-2004 06:50:00.000 CDT	9.65	69.56	47322.29	681.73	738.92	702.38	602.44	314.85	316.11	80.51	117.47	Omitted	675.98
24-Jun-2004 07:00:00.000 CDT	9.63	69.59	47245.43	671.32	726.05	699.74	613.01	314.49	315.78	80.8	117.44	Omitted	676.36
24-Jun-2004 07:10:00.000 CDT	9.65	69.4	47292.07	659.05	725.05	687.93	612.43	314.97	315.6	81.1	117.42	Omitted	676.81
24-Jun-2004 07:20:00.000 CDT	9.65	69.22	47384.07	666.79	723.33	722.15	615.32	315.53	315.71	81.4	117.41	Omitted	677
24-Jun-2004 07:30:00.000 CDT	9.66	69.19	47294.88	660.88	707.61	711.96	623.13	315.85	315.83	81.7	117.59	Omitted	676.97
24-Jun-2004 07:40:00.000 CDT	9.63	69.38	47309.57	665.21	741.7	705.9	612.87	315.99	315.96	82	117.87	Omitted	675.03
24-Jun-2004 07:50:00.000 CDT	9.66	69.13	47379.28	666.67	733.81	706.84	617.74	316.14	316.08	82.39	118.15	Omitted	673.98
24-Jun-2004 08:00:00.000 CDT	9.64	69.11	47276.47	658.05	729.68	703.73	620.82	316.29	316.2	83.05	118.44	Omitted	672.94
24-Jun-2004 08:10:00.000 CDT	9.65	68.86	47375.72	645.72	717.57	687.11	616.91	316.44	316.22	83.74	118.72	Omitted	671.89
24-Jun-2004 08:20:00.000 CDT	9.69	68.92	47438.02	646.59	716.73	711.56	608.22	316.58	316.04	84.42	118.99	Omitted	671.07
24-Jun-2004 08:30:00.000 CDT	9.67	68.94	47430.31	650.27	699.37	708.86	613.21	316.53	315.86	85.1	119.1	Omitted	671.15
24-Jun-2004 08:40:00.000 CDT	9.7	68.94	47481.15	647.68	729.17	702.88	602.05	316.33	315.67	85.78	119.12	Omitted	671.33
24-Jun-2004 08:50:00.000 CDT	9.67	68.93	47438.98	648.55	721.86	698.89	605.32	316.13	315.49	86.45	119.14	Omitted	671.52
24-Jun-2004 09:00:00.000 CDT	9.66	68.95	47336.65	651.24	718.98	698.65	609.96	315.94	315.3	87.04	119.17	Omitted	671.7
24-Jun-2004 09:10:00.000 CDT	9.65	68.97	47236.21	659.52	725.47	688.49	610.09	315.74	315.22	87.64	119.19	Omitted	671.88
24-Jun-2004 09:20:00.000 CDT	9.59	69.03	47118.86	654.43	723.11	716.93	605.48	315.55	315.37	88.23	119.22	Omitted	672.02
24-Jun-2004 09:30:00.000 CDT	9.63	68.42	47232.21	645.11	702.61	708.39	608.17	315.57	315.52	88.82	119.37	Omitted	671.96
24-Jun-2004 09:40:00.000 CDT	9.62	68.25	47273.13	644.88	740	706.84	594.61	315.73	315.67	89.42	119.58	Omitted	671.89
24-Jun-2004 09:50:00.000 CDT	9.65	68.36	47365.07	650.47	782.87	693.55	586.91	315.9	315.82	89.98	119.8	Omitted	671.82
24-Jun-2004 10:00:00.000 CDT	9.64	68.4	47364.22	656.16	759.63	685.8	583.77	316.07	315.97	90.43	120.01	Omitted	671.75
24-Jun-2004 10:10:00.000 CDT	9.65	68.52	47326.6	663.18	735.28	676.2	588	316.23	316.05	90.89	120.23	Omitted	671.76
24-Jun-2004 10:20:00.000 CDT	9.67	68.45	47372.48	671.29	727.93	713.15	593.14	316.4	315.97	91.34	120.42	Omitted	672.11
24-Jun-2004 10:30:00.000 CDT	9.64	68.44	47328.3	670.75	709.5	713.71	608.37	316.41	315.89	91.79	120.05	Omitted	672.49
24-Jun-2004 10:40:00.000 CDT	9.65	68.45	47276.11	677.74	748.86	704.67	596.39	316.33	315.81	92.24	119.39	Omitted	672.88
24-Jun-2004 10:50:00.000 CDT	9.66	68.12	47366.69	684.47	750.1	710.48	604.13	316.25	315.72	92.64	118.74	Omitted	673.26
24-Jun-2004 11:00:00.000 CDT	9.65	68.28	47322.1	677.46	738.84	704.31	597.46	316.16	315.64	92.91	118.08	Omitted	673.64
24-Jun-2004 11:10:00.000 CDT	9.64	68.45	47223.97	663.69	738.96	687.13	596.95	316.03	315.67	93.17	117.42	Omitted	673.94
24-Jun-2004 11:20:00.000 CDT	9.64	68.44	47303.49	671.7	743.12	724.94	603.96	315.92	315.95	93.44	116.78	Omitted	673.85
24-Jun-2004 11:30:00.000 CDT	9.61	68.49	47081.56	684.08	731.59	726.46	621.49	316.04	316.22	93.7	116.62	Omitted	673.72
24-Jun-2004 11:40:00.000 CDT	9.6	68.43	47082.74	693.64	774.15	722.33	612.23	316.24	316.5	93.96	116.69	Omitted	673.59
24-Jun-2004 11:50:00.000 CDT	9.59	68.03	47100.03	692.31	768.33	723.21	616.87	316.45	316.78	94.19	116.76	Omitted	673.47
24-Jun-2004 12:00:00.000 CDT	9.63	67.83	47252.82	686.33	761.93	739.16	625.35	316.74	317.06	94.36	116.82	Omitted	673.35
24-Jun-2004 12:10:00.000 CDT	9.64	67.84	47231.23	680.9	744.03	704.58	612.9	316.94	317.16	94.51	116.89	Omitted	673.48
24-Jun-2004 12:20:00.000 CDT	9.65	68.03	47304.39	690.28	748.23	723.23	600.58	316.73	316.89	94.67	116.96	Omitted	673.7
24-Jun-2004 12:30:00.000 CDT	9.67	68.04	47358.35	675.36	725.42	714.21	609.03	316.51	316.61	94.83	117.01	Omitted	673.91
24-Jun-2004 12:40:00.000 CDT	9.66	67.95	47363.44	686.94	768.23	712.55	601.82	316.28	316.32	94.99	117.05	Omitted	674.12
24-Jun-2004 12:50:00.000 CDT	9.67	67.8	47425.77	690.78	763.06	720.45	606.55	316.05	316.04	95.18	117.09	Omitted	674.34
24-Jun-2004 13:00:00.000 CDT	9.67	67.81	47381.68	692.31	756.38	719.64	609.84	315.83	315.76	95.47	117.13	Omitted	674.56
24-Jun-2004 13:10:00.000 CDT	9.68	68	47467.65	700.08	761.35	711.75	624.95	315.66	315.58	95.77	117.16	Omitted	674.91
24-Jun-2004 13:20:00.000 CDT	9.66	67.97	47384.39	707.77	766.86	746.16	633.16	315.69	315.63	96.07	117.2	Omitted	675.3
24-Jun-2004 13:30:00.000 CDT	9.67	67.88	47362.47	706.19	746.91	743.71	643.48	315.72	315.68	96.37	117.23	Omitted	675.69
24-Jun-2004 13:40:00.000 CDT	9.67	67.84	47358.82	707.79	782.95	732.15	626.33	315.75	315.72	96.67	117.24	Omitted	676.08
24-Jun-2004 13:50:00.000 CDT	9.65	67.79	47348.49	708.88	777.66	729.79	627.47	315.79	315.77	96.89	117.26	Omitted	676.47
24-Jun-2004 14:00:00.000 CDT	9.65	67.71	47271.09	708.5	773.18	740.97	631.41	315.82	315.82	96.89	117.27	Omitted	676.86
24-Jun-2004 14:10:00.000 CDT	9.67	67.56	47385.42	710.41	772.93	719.14	631.84	315.75	315.74	96.86	117.29	Omitted	677.24
24-Jun-2004 14:20:00.000 CDT	9.66	67.52	47396.61	713.9	779.88	761.95	628.14	315.4	315.38	96.84	117.3	Omitted	677.63
24-Jun-2004 14:30:00.000 CDT	9.67	67.58	47351.18	711.07	750.98	753.46	635.79	315.02	315.02	96.82	117.25	Omitted	678.01
24-Jun-2004 14:40:00.000 CDT	9.66	67.64	47346.86	710.27	784.9	736.09	619.31	314.64	314.66	96.8	117.18	Omitted	678.39
24-Jun-2004 14:50:00.000 CDT	9.67	67.72	47372.25	701.15	772.07	729.16	618	314.26	314.29	96.78	117.1	Omitted	678.78
24-Jun-2004 15:00:00.000 CDT	9.66	67.74	47304.8	703.88	776.09	735.11	622.97	313.92	313.93	96.79	117.02	Omitted	679.14
24-Jun-2004 15:10:00.000 CDT	9.65	67.64	47263.35	701.72	769.92	722.11	628.21	314.07	313.8	96.8	116.94	Omitted	679.16
24-Jun-2004 15:20:00.000 CDT	9.62	67.75	47195.58	708.04	772.06	756.18	626.57	314.4	314.18	96.81	116.87	Omitted	679.07
24-Jun-2004 15:30:00.000 CDT	9.63	67.42	47264.18	709.57	751.21	748.09	629.19	315.25	314.57	96.82	116.85	Omitted	678.98
24-Jun-2004 15:40:00.000 CDT	9.65	67.46	47320.98	693.69	773.18	730.38	613.86	316.78	314.96	96.83	116.86	Omitted	678.83
24-Jun-2004 15:50:00.000 CDT	9.64	67.54	47303.01	692.31	760.05	719.4	604.82	316.63	315.35	96.78	116.88	Omitted	678.62
24-Jun-2004 16:00:00.000 CDT	9.64	67.54	47343.01	695.35	757.86	725.16	607.95	316.3	315.72	96.55	116.89	Omitted	678.41
24-Jun-2004 16:10:00.000 CDT	9.65	67.48	47363.56	703.03	764.39	710.33	613.18	315.97	315.42	96.32	116.91	Omitted	678.21
24-Jun-2004 16:20:00.000 CDT	9.67	67.45	47422.01	702.03	765	742.39	606.93	315.75	314.78	96.08	116.93	Omitted	678
24-Jun-2004 16:30:00.000 CDT	9.39	65.08	46272.54	686.55	734.8	733.52	616.38	315.51	314.15	95.85	117.34	Omitted	675.39

TimeTag	CU:6947 (CU:U1) ECON 1B OUTLET TEMPERATURE A (DEG F)	CU-6946: (CU:U1) ECON 1C OUTLET TEMPERATURE A (DEG F)	CU-6989: (CU:U1) SCR 1A VENT TEMPERATURE (DEG F)	CU-6997: (CU:U1) ECON 1A OUTLET TEMPERATURE B (DEG F)	CU-6996: (CU:U1) ECON 1B OUTLET TEMPERATURE B (DEG F)	CU-6995: (CU:U1) ECON 1C OUTLET TEMPERATURE B (DEG F)	CU-7110: (CU:U1) SCR 1B VENT TEMPERATURE (DEG F)	CU-5: (CU:U1) A171027 - U1 FLUE GAS O2 INLET (PCT)	CU-6: (CU:U1) A171004 - U1 FLUE GAS SO2 INLET (PPM)	CU-11: (CU:U1) A171022 - U1 STACK OUTLET SO2 (PPM)	CU-1091: (CU:U1) Furnace total O2 (%)	CU:1242: (CU:U1) Average O2 Actual (%)
24-Jun-2004 06:00:00.000 CDT	664.54	652.7	77.37	679.05	662.11	654.93	76.77	6.18	1743.48	44.1	Omitted	Omitted
24-Jun-2004 06:10:00.000 CDT	664.13	652.34	77.39	678.61	661.68	654.61	76.63	6.22	1746.24	44.06	Omitted	Omitted
24-Jun-2004 06:20:00.000 CDT	663.73	651.98	77.41	678.17	661.25	654.29	76.6	6.25	1744.98	43.93	Omitted	Omitted
24-Jun-2004 06:30:00.000 CDT	663.45	651.65	77.43	677.73	661.01	654	76.66	6.26	1743.72	43.8	Omitted	Omitted
24-Jun-2004 06:40:00.000 CDT	663.44	651.56	77.46	677.29	661.04	653.88	76.77	6.26	1742.46	43.66	Omitted	Omitted
24-Jun-2004 06:50:00.000 CDT	663.43	651.53	77.48	677.09	661.07	653.78	76.85	6.26	1741.2	43.53	Omitted	Omitted
24-Jun-2004 07:00:00.000 CDT	663.42	651.5	77.56	677.22	661.11	653.68	76.94	6.26	1739.69	42.21	Omitted	Omitted
24-Jun-2004 07:10:00.000 CDT	663.42	651.47	77.82	677.36	661.14	653.57	77.02	6.26	1729.77	19.68	Omitted	Omitted
24-Jun-2004 07:20:00.000 CDT	663.41	651.44	78.08	677.5	661.18	653.47	77.24	6.26	606.12	107.8	Omitted	Omitted
24-Jun-2004 07:30:00.000 CDT	663.3	651.39	78.35	677.65	661.06	653.33	77.6	6.25	1899.59	1434.99	Omitted	Omitted
24-Jun-2004 07:40:00.000 CDT	662.97	651.15	78.62	677.79	660.71	653.06	77.95	6.24	1650.27	982.36	Omitted	Omitted
24-Jun-2004 07:50:00.000 CDT	662.62	650.86	78.88	677.49	660.36	652.78	78.3	6.22	1686.44	66.53	Omitted	Omitted
24-Jun-2004 08:00:00.000 CDT	662.28	650.58	79.23	676.76	660.01	652.49	78.66	6.21	1675.07	61.95	Omitted	Omitted
24-Jun-2004 08:10:00.000 CDT	661.94	650.3	79.83	676.03	659.66	652.2	79.01	6.2	1675.69	57.37	Omitted	Omitted
24-Jun-2004 08:20:00.000 CDT	661.6	650.01	80.44	675.29	659.3	651.92	79.55	6.18	1679.11	52.8	Omitted	Omitted
24-Jun-2004 08:30:00.000 CDT	661.47	649.78	81.05	674.56	659.27	651.75	80.26	6.17	1682.53	48.22	Omitted	Omitted
24-Jun-2004 08:40:00.000 CDT	661.79	650.02	81.66	674.13	659.71	652.04	80.98	6.16	1685.95	43.66	Omitted	Omitted
24-Jun-2004 08:50:00.000 CDT	662.12	650.38	82.27	674.3	660.15	652.38	81.69	6.16	1688.76	41.66	Omitted	Omitted
24-Jun-2004 09:00:00.000 CDT	662.45	650.73	82.86	674.49	660.59	652.73	82.4	6.15	1681.99	41.4	Omitted	Omitted
24-Jun-2004 09:10:00.000 CDT	662.78	651.09	83.51	674.69	661.04	653.07	83.12	6.14	1675.21	41.15	Omitted	Omitted
24-Jun-2004 09:20:00.000 CDT	663.11	651.44	84.14	674.88	661.48	653.42	83.77	6.13	1675.2	40.89	Omitted	Omitted
24-Jun-2004 09:30:00.000 CDT	663.27	651.74	84.77	675.07	661.61	653.63	84.35	6.13	1675.4	40.64	Omitted	Omitted
24-Jun-2004 09:40:00.000 CDT	663.07	651.53	85.4	675.23	661.29	653.34	84.94	6.13	1675.6	40.38	Omitted	Omitted
24-Jun-2004 09:50:00.000 CDT	662.87	651.19	86.03	675.32	660.97	652.98	85.53	6.13	1675.56	39.98	Omitted	Omitted
24-Jun-2004 10:00:00.000 CDT	662.66	650.86	86.66	675.41	660.65	652.63	86.11	6.13	1674.55	39.47	Omitted	Omitted
24-Jun-2004 10:10:00.000 CDT	662.46	650.52	87.28	675.49	660.33	652.27	86.7	6.13	1673.43	38.96	Omitted	Omitted
24-Jun-2004 10:20:00.000 CDT	662.25	650.19	87.9	675.58	660.01	651.92	87.28	6.13	1672.31	38.45	Omitted	Omitted
24-Jun-2004 10:30:00.000 CDT	662.16	649.88	88.53	675.66	659.89	651.65	87.86	6.13	1671.19	37.94	Omitted	Omitted
24-Jun-2004 10:40:00.000 CDT	662.29	649.89	89.15	675.71	660.06	651.73	88.43	6.13	1670.07	37.44	Omitted	Omitted
24-Jun-2004 10:50:00.000 CDT	662.42	649.97	89.78	675.67	660.23	651.84	89.01	6.13	1669.09	37.46	Omitted	Omitted
24-Jun-2004 11:00:00.000 CDT	662.56	650.06	90.31	675.62	660.4	651.96	89.59	6.12	1668.68	37.84	Omitted	Omitted
24-Jun-2004 11:10:00.000 CDT	662.7	650.14	90.59	675.58	660.57	652.07	90.16	6.12	1668.07	38.22	Omitted	Omitted
24-Jun-2004 11:20:00.000 CDT	662.84	650.22	90.84	675.53	660.74	652.19	90.56	6.12	1662.12	38.6	Omitted	Omitted
24-Jun-2004 11:30:00.000 CDT	662.74	650.27	91.1	675.48	660.57	652.21	90.78	6.13	1659.5	38.99	Omitted	Omitted
24-Jun-2004 11:40:00.000 CDT	662.17	649.96	91.36	675.16	659.91	651.85	91.01	6.15	1642.82	39.37	Omitted	Omitted
24-Jun-2004 11:50:00.000 CDT	661.59	649.56	91.61	674.25	659.25	651.44	91.23	6.17	1637.91	39.67	Omitted	Omitted
24-Jun-2004 12:00:00.000 CDT	661.01	649.17	91.91	673.32	658.59	651.04	91.45	6.18	1638.13	39.93	Omitted	Omitted
24-Jun-2004 12:10:00.000 CDT	660.42	648.77	92.32	672.92	657.93	650.64	91.67	6.2	1641.7	40.18	Omitted	Omitted
24-Jun-2004 12:20:00.000 CDT	659.84	648.38	92.75	673.29	657.27	650.23	91.97	6.22	1645.27	40.44	Omitted	Omitted
24-Jun-2004 12:30:00.000 CDT	659.59	648.04	93.17	673.67	657.07	649.94	92.35	6.23	1648.85	40.69	Omitted	Omitted
24-Jun-2004 12:40:00.000 CDT	660.05	648.2	93.59	674.04	657.54	650.06	92.73	6.24	1652.42	40.94	Omitted	Omitted
24-Jun-2004 12:50:00.000 CDT	660.53	648.48	94.01	674.42	658.01	650.24	93.11	6.25	1650.17	40.66	Omitted	Omitted
24-Jun-2004 13:00:00.000 CDT	661.01	648.75	94.37	674.79	658.49	650.42	93.49	6.26	1640.17	40.03	Omitted	Omitted
24-Jun-2004 13:10:00.000 CDT	661.49	649.03	94.55	675.22	658.96	650.59	93.83	6.27	1634.98	39.39	Omitted	Omitted
24-Jun-2004 13:20:00.000 CDT	661.97	649.31	94.71	675.71	659.43	650.77	94.13	6.28	1630.3	38.76	Omitted	Omitted
24-Jun-2004 13:30:00.000 CDT	662.29	649.57	94.88	676.2	659.71	650.91	94.43	6.29	1630.12	38.12	Omitted	Omitted
24-Jun-2004 13:40:00.000 CDT	662.27	649.62	95.04	676.69	659.7	650.92	94.73	6.29	1629.93	37.49	Omitted	Omitted
24-Jun-2004 13:50:00.000 CDT	662.25	649.61	95.21	677.18	659.69	650.9	95.03	6.3	1629.75	37.23	Omitted	Omitted
24-Jun-2004 14:00:00.000 CDT	662.22	649.61	95.32	677.67	659.68	650.89	95.32	6.3	1623.25	37.23	Omitted	Omitted
24-Jun-2004 14:10:00.000 CDT	662.19	649.61	95.26	677.95	659.67	650.88	95.37	6.3	1623.12	37.23	Omitted	Omitted
24-Jun-2004 14:20:00.000 CDT	662.16	649.61	95.2	677.93	659.66	650.87	95.3	6.31	1623.54	37.23	Omitted	Omitted
24-Jun-2004 14:30:00.000 CDT	662.36	649.64	95.14	677.9	659.92	650.97	95.23	6.3	1623.96	37.23	Omitted	Omitted
24-Jun-2004 14:40:00.000 CDT	663.02	650.06	95.07	677.88	660.57	651.56	95.16	6.29	1624.38	37.23	Omitted	Omitted
24-Jun-2004 14:50:00.000 CDT	663.69	650.57	95.01	677.85	661.23	652.19	95.09	6.27	1624.8	37.31	Omitted	Omitted
24-Jun-2004 15:00:00.000 CDT	664.36	651.07	94.94	678.04	661.9	652.82	95.02	6.26	1625.22	37.43	Omitted	Omitted
24-Jun-2004 15:10:00.000 CDT	665.03	651.58	94.86	678.67	662.56	653.45	95.05	6.25	1626.36	37.56	Omitted	Omitted
24-Jun-2004 15:20:00.000 CDT	665.7	652.09	94.77	679.3	663.22	654.08	95.12	6.23	1628.23	37.69	Omitted	Omitted
24-Jun-2004 15:30:00.000 CDT	665.93	652.51	94.68	679.93	663.28	654.48	95.19	6.23	1630.09	37.82	Omitted	Omitted
24-Jun-2004 15:40:00.000 CDT	665.24	652.17	94.59	680.4	662.46	653.92	95.26	6.22	1632.55	37.94	Omitted	Omitted
24-Jun-2004 15:50:00.000 CDT	664.52	651.64	94.51	680.81	661.63	653.26	95.33	6.22	1642.34	37.16	Omitted	Omitted
24-Jun-2004 16:00:00.000 CDT	663.86	651.11	94.44	681.23	660.82	652.6	95.4	6.21	1641.38	35.76	Omitted	Omitted
24-Jun-2004 16:10:00.000 CDT	663.42	650.58	94.41	680.64	660.05	651.93	95.33	6.21	1646.81	34.36	Omitted	Omitted
24-Jun-2004 16:20:00.000 CDT	663	650.05	94.39	678.6	659.28	651.12	95.2	6.2	1656.44	32.96	Omitted	Omitted
24-Jun-2004 16:30:00.000 CDT	662.1	647.35	94.36	675.54	656.55	648.02	95.06	6.21	1658.8	31.56	Omitted	Omitted

TimeTag	CU-3532: (CU:U1) [U1] SCR A Avg NOx Inlet (lb/mmBtu)	CU-3533: (CU:U1) [U1] SCR B Avg NOx Inlet (lb/mmBtu)	CU-6982: (CU:U1) SCR 1A INLET ANALZ B NOx (PPM)	CU-6984: (CU:U1) SCR 1A INLET ANALZ A NOx (PPM)	CU-7055: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7056: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7100: (CU:U1) SCR 1B INLET ANALZ B NOx (PPM)	CU-7102 (CU:U1) SCR 1B INLET ANALZ A NOx (PPM)	CU-7190: (CU:U1) SCR 1A INLET NOx AIG-AB (lb/MBtu)	CU-7191: (CU:U1) SCR 1A INLET NOx AIG-AA (lb/MBtu)	CU-7194 (CU:U1) SCR 1B INLET NOx AIG-BA (lb/MBtu)	CU-7195: (CU:U1) SCR 1B INLET NOx AIG-BB (lb/MBtu)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
24-Jun-2004 06:00:00.000 CDT	0.57	0.55	355.91	340.43	0.59	0.56	302.81	331.94	0.59	0.56	0.57	0.52	223.84	184.05	196.34
24-Jun-2004 06:10:00.000 CDT	0.57	0.54	355.01	337.86	0.58	0.56	301.5	329.67	0.58	0.56	0.57	0.52	209.29	186.56	200.58
24-Jun-2004 06:20:00.000 CDT	0.57	0.54	354.05	338.03	0.58	0.56	301.1	326.97	0.58	0.56	0.56	0.51	201.2	191.65	208.27
24-Jun-2004 06:30:00.000 CDT	0.57	0.54	356.69	339.92	0.59	0.56	302.72	332.42	0.58	0.56	0.57	0.51	192.85	189.97	208.79
24-Jun-2004 06:40:00.000 CDT	0.57	0.54	357.45	339.23	0.58	0.56	303.8	330.6	0.59	0.56	0.57	0.52	193.43	179.74	205.45
24-Jun-2004 06:50:00.000 CDT	0.57	0.54	358.16	341.99	0.58	0.57	302.86	329.86	0.58	0.57	0.57	0.51	190.98	186.41	197.14
24-Jun-2004 07:00:00.000 CDT	0.57	0.54	355.17	343.15	0.58	0.57	304.03	332.31	0.58	0.57	0.57	0.52	197.59	189.52	192.15
24-Jun-2004 07:10:00.000 CDT	0.57	0.54	351.94	342.28	0.57	0.57	304.94	331.03	0.57	0.57	0.57	0.52	194.88	192.31	204.28
24-Jun-2004 07:20:00.000 CDT	0.57	0.54	351.38	341.01	0.57	0.57	307.03	333.16	0.57	0.57	0.57	0.52	198.61	184.01	198.69
24-Jun-2004 07:30:00.000 CDT	0.57	0.55	352.69	343.5	0.57	0.57	308.32	332.34	0.57	0.57	0.57	0.52	195.64	183.25	190.44
24-Jun-2004 07:40:00.000 CDT	0.57	0.55	352.93	341.74	0.57	0.57	309.95	332.61	0.57	0.57	0.57	0.53	192.9	186.18	187.87
24-Jun-2004 07:50:00.000 CDT	0.57	0.55	352.89	340.34	0.57	0.57	311.65	332.44	0.57	0.57	0.56	0.53	186.43	184.92	195.46
24-Jun-2004 08:00:00.000 CDT	0.57	0.55	352.59	339.72	0.57	0.57	310.56	331	0.57	0.57	0.56	0.54	185.62	179.8	194.33
24-Jun-2004 08:10:00.000 CDT	0.56	0.55	349.23	334.06	0.57	0.56	308.68	331.39	0.57	0.56	0.56	0.53	187.37	179.89	191.21
24-Jun-2004 08:20:00.000 CDT	0.56	0.54	349.83	334.37	0.57	0.56	307.11	329.72	0.56	0.56	0.56	0.52	178.43	171.58	186.28
24-Jun-2004 08:30:00.000 CDT	0.56	0.54	350.89	333.61	0.57	0.55	305.62	331.85	0.56	0.55	0.56	0.52	178.17	176.33	185.64
24-Jun-2004 08:40:00.000 CDT	0.56	0.54	350.27	336.2	0.56	0.56	304.09	331.64	0.56	0.56	0.56	0.52	175.06	168.1	212.55
24-Jun-2004 08:50:00.000 CDT	0.56	0.54	351.39	333.04	0.56	0.55	304.38	331.31	0.56	0.55	0.56	0.52	176.11	181.31	191.65
24-Jun-2004 09:00:00.000 CDT	0.56	0.54	350.6	336.19	0.57	0.56	304.2	330.74	0.56	0.56	0.56	0.52	173.98	174.62	188.06
24-Jun-2004 09:10:00.000 CDT	0.56	0.55	353.69	335.9	0.57	0.56	306.42	332.46	0.57	0.56	0.57	0.52	177.41	179.32	185.78
24-Jun-2004 09:20:00.000 CDT	0.56	0.54	352.95	337.24	0.56	0.56	306.36	334.44	0.56	0.56	0.57	0.52	180.37	179.86	195.9
24-Jun-2004 09:30:00.000 CDT	0.56	0.54	351.19	334.6	0.56	0.56	302.67	329.47	0.56	0.56	0.56	0.51	174.29	184.28	205.06
24-Jun-2004 09:40:00.000 CDT	0.56	0.54	353	335.07	0.57	0.56	299.15	331.84	0.57	0.56	0.57	0.51	179.06	171.92	188.66
24-Jun-2004 09:50:00.000 CDT	0.57	0.53	353.99	339.19	0.57	0.56	296.87	326.06	0.57	0.56	0.56	0.5	181.92	174.52	192.54
24-Jun-2004 10:00:00.000 CDT	0.56	0.53	353.25	339.46	0.57	0.56	293.73	325.35	0.57	0.56	0.56	0.5	183.14	174.76	183.44
24-Jun-2004 10:10:00.000 CDT	0.57	0.53	357.81	344.17	0.58	0.56	296.18	328.64	0.58	0.56	0.56	0.5	184.26	174.5	183.47
24-Jun-2004 10:20:00.000 CDT	0.57	0.54	360.03	346.37	0.58	0.56	297.97	330.82	0.58	0.56	0.57	0.5	184.69	172.09	181.01
24-Jun-2004 10:30:00.000 CDT	0.57	0.54	360.69	347.18	0.58	0.56	301.52	333.51	0.58	0.56	0.57	0.51	189.8	173.94	186.93
24-Jun-2004 10:40:00.000 CDT	0.57	0.54	358.7	349.7	0.58	0.57	302.32	333.8	0.58	0.57	0.57	0.51	195.06	180.34	185.5
24-Jun-2004 10:50:00.000 CDT	0.58	0.55	361.93	349.71	0.58	0.57	305	333.76	0.58	0.57	0.58	0.52	200.89	176.31	176.57
24-Jun-2004 11:00:00.000 CDT	0.57	0.54	359.17	349	0.58	0.57	300.77	332.71	0.58	0.57	0.57	0.51	196.88	164.15	178.53
24-Jun-2004 11:10:00.000 CDT	0.57	0.54	361.4	347.05	0.58	0.57	302.42	334.72	0.58	0.57	0.57	0.51	195.74	168.04	180.32
24-Jun-2004 11:20:00.000 CDT	0.58	0.54	363.71	347.94	0.58	0.57	302.25	334.52	0.58	0.57	0.57	0.51	184.12	180.23	198.04
24-Jun-2004 11:30:00.000 CDT	0.58	0.55	366.64	351.85	0.59	0.58	305.6	337.69	0.59	0.58	0.58	0.52	185.45	187.46	195.35
24-Jun-2004 11:40:00.000 CDT	0.59	0.55	366.44	352.45	0.59	0.58	304.68	338	0.59	0.58	0.58	0.52	182.45	171.19	196.44
24-Jun-2004 11:50:00.000 CDT	0.59	0.55	366.88	352.81	0.6	0.58	305.51	337.02	0.59	0.58	0.58	0.52	181.19	172.39	190.79
24-Jun-2004 12:00:00.000 CDT	0.59	0.56	365.49	349.61	0.6	0.58	305.44	342.26	0.6	0.58	0.59	0.53	180.77	181.87	197.57
24-Jun-2004 12:10:00.000 CDT	0.59	0.55	361.37	349.13	0.59	0.58	303.94	338.23	0.59	0.58	0.58	0.52	179.93	174.08	189.05
24-Jun-2004 12:20:00.000 CDT	0.59	0.54	363.5	351.33	0.59	0.58	302.46	336.34	0.59	0.59	0.58	0.51	179.46	176.1	181.47
24-Jun-2004 12:30:00.000 CDT	0.58	0.54	362.54	351.62	0.59	0.58	303.79	334.54	0.58	0.58	0.57	0.51	180.45	168.11	187.22
24-Jun-2004 12:40:00.000 CDT	0.59	0.55	365.56	354.73	0.59	0.59	305.14	336.18	0.59	0.59	0.58	0.52	177.33	156.14	179.15
24-Jun-2004 12:50:00.000 CDT	0.59	0.55	366.45	353.87	0.59	0.59	306.15	337.59	0.59	0.59	0.58	0.52	188.63	175.58	197.04
24-Jun-2004 13:00:00.000 CDT	0.59	0.55	365.45	354.15	0.59	0.59	304.98	337.74	0.59	0.59	0.58	0.52	185.47	178.39	196.07
24-Jun-2004 13:10:00.000 CDT	0.6	0.56	368.4	357.23	0.6	0.59	308.85	341.19	0.6	0.59	0.59	0.53	184.83	165.8	181.34
24-Jun-2004 13:20:00.000 CDT	0.6	0.56	368.41	359.56	0.6	0.59	310.56	342.43	0.6	0.59	0.59	0.53	189.35	177.42	186.75
24-Jun-2004 13:30:00.000 CDT	0.6	0.57	368.88	359.83	0.6	0.59	312.26	345.03	0.6	0.6	0.59	0.54	191.82	170.88	189.24
24-Jun-2004 13:40:00.000 CDT	0.6	0.56	369.42	362.69	0.6	0.6	311.18	343.99	0.6	0.6	0.59	0.54	187.87	173.34	194.12
24-Jun-2004 13:50:00.000 CDT	0.6	0.57	370.32	362.69	0.6	0.6	313.85	342.95	0.6	0.6	0.59	0.54	192.66	177.88	188.46
24-Jun-2004 14:00:00.000 CDT	0.6	0.57	370.97	361.96	0.61	0.6	313.48	346.22	0.6	0.6	0.6	0.54	190.84	176.41	190.48
24-Jun-2004 14:10:00.000 CDT	0.6	0.57	370.85	362.02	0.6	0.6	313.26	344.89	0.6	0.6	0.59	0.54	189.1	174.31	194.47
24-Jun-2004 14:20:00.000 CDT	0.61	0.57	374.18	363.64	0.61	0.6	312.81	348.71	0.61	0.6	0.6	0.54	182.46	180.28	196.31
24-Jun-2004 14:30:00.000 CDT	0.6	0.57	371.85	362.2	0.61	0.6	313.2	349.66	0.61	0.6	0.6	0.54	182.23	172.83	188.88
24-Jun-2004 14:40:00.000 CDT	0.6	0.57	371.27	362.79	0.6	0.6	310.15	345.62	0.6	0.6	0.6	0.53	180.18	163.33	187.89
24-Jun-2004 14:50:00.000 CDT	0.6	0.56	369.29	359.56	0.6	0.6	307.87	343.94	0.6	0.59	0.59	0.53	183.72	173.86	184.52
24-Jun-2004 15:00:00.000 CDT	0.6	0.57	374.43	364.21	0.61	0.6	310.09	347.56	0.61	0.6	0.6	0.54	181.88	172.56	184.47
24-Jun-2004 15:10:00.000 CDT	0.6	0.57	375.1	364.16	0.61	0.6	313.04	351.16	0.61	0.6	0.6	0.54	187.48	172.16	195.25
24-Jun-2004 15:20:00.000 CDT	0.61	0.57	377.89	364.85	0.61	0.6	312.5	349.95	0.62	0.6	0.6	0.54	189.44	179.58	193.13
24-Jun-2004 15:30:00.000 CDT	0.61	0.57	373.78	360.92	0.61	0.6	308.94	347.11	0.61	0.6	0.6	0.53	191.4	179.29	195.21
24-Jun-2004 15:40:00.000 CDT	0.6	0.56	368.85	357.54	0.6	0.59	306.99	344.7	0.6	0.59	0.6	0.53	189.3	174.93	193.84
24-Jun-2004 15:50:00.000 CDT	0.6	0.56	369.05	357.88	0.6	0.59	304.94	341.15	0.6	0.59	0.59	0.52	192.87	181.51	185.99
24-Jun-2004 16:00:00.000 CDT	0.6	0.56	371.85	359.68	0.6	0.59	303.85	343.65	0.6	0.59	0.6	0.52	191.42	180.35	188.5
24-Jun-2004 16:10:00.000 CDT	0.6	0.56	371.87	360.34	0.61	0.59	305.17	344.42	0.6	0.59	0.6	0.52	198.08	176.88	183.23
24-Jun-2004 16:20:00.000 CDT	0.6	0.55	373.38	359.48	0.61	0.59	302.58	342.12	0.61	0.59	0.59	0.52	202.95	179.81	188.84
24-Jun-2004 16:30:00.000 CDT	0.6	0.57	373.97	357.12	0.62	0.6	307.83	346.51	0.61	0.6	0.6	0.54	198.17	181.26	192.24

TimeTag	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-25: (CU:U1) T182001A - 1A ABS FLUGAS INLET T (DEGF)	CU-32: (CU:U1) T182001B - 1B ABS FLUGAS INLET T (DEGF)	CU-39 (CU:U1) T182001C - 1C ABS FLUGAS INL TMP (DEGF)	CU-29: (CU:U1) O016X371 - SELECTED 1A ABS PH (PH)	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-36: (CU:U1) O015X371 - SELECTED 1B ABS PH (PH)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-43: (CU:U1) O014X371 - SEL 1C ABSORBER PH (PH)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50 (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
24-Jun-2004 06:00:00.000 CDT	15.04	14.91	14.99	327.41	314.85	328.69	5.84	15.04	5.81	14.91	5.81	14.99	223.84	184.05	196.34
24-Jun-2004 06:10:00.000 CDT	15	14.92	15.17	327.42	314.7	329.01	5.85	15	5.79	14.92	5.8	15.17	209.29	186.56	200.58
24-Jun-2004 06:20:00.000 CDT	14.9	14.88	15.1	327.27	314.54	328.74	5.84	14.9	5.79	14.88	5.77	15.1	201.2	191.65	208.27
24-Jun-2004 06:30:00.000 CDT	14.97	14.73	15.05	327.12	314.39	328.41	5.82	14.97	5.81	14.73	5.8	15.05	192.85	189.97	208.79
24-Jun-2004 06:40:00.000 CDT	14.83	14.67	14.83	326.97	314.23	328.08	5.81	14.83	5.81	14.67	5.81	14.83	193.43	179.74	205.45
24-Jun-2004 06:50:00.000 CDT	14.89	14.77	14.93	326.81	314.05	327.75	5.8	14.89	5.79	14.77	5.8	14.93	190.98	186.41	197.14
24-Jun-2004 07:00:00.000 CDT	14.81	14.85	14.84	326.7	313.87	327.42	5.79	14.81	5.8	14.85	5.81	14.84	197.59	189.52	192.15
24-Jun-2004 07:10:00.000 CDT	14.97	14.75	15.12	326.79	313.7	327.17	5.8	14.97	5.8	14.75	5.78	15.12	194.88	192.31	204.28
24-Jun-2004 07:20:00.000 CDT	14.95	14.86	15.02	326.91	313.52	327.29	5.8	14.95	5.81	14.86	5.82	15.02	198.61	184.01	198.69
24-Jun-2004 07:30:00.000 CDT	14.98	14.87	14.96	327.04	313.34	327.44	5.8	14.98	5.8	14.87	5.81	14.96	195.64	183.25	190.44
24-Jun-2004 07:40:00.000 CDT	15.07	14.85	14.82	327.17	313.28	327.59	5.81	15.07	5.79	14.85	5.8	14.82	192.9	186.18	187.87
24-Jun-2004 07:50:00.000 CDT	15.08	14.91	15.07	327.3	313.41	327.74	5.81	15.08	5.79	14.91	5.79	15.07	186.43	184.92	195.46
24-Jun-2004 08:00:00.000 CDT	15.03	14.81	15.15	327.42	313.54	327.9	5.8	15.03	5.8	14.81	5.79	15.15	185.62	179.8	194.33
24-Jun-2004 08:10:00.000 CDT	15.02	15.12	14.88	327.5	313.66	328.05	5.81	15.02	5.8	15.12	5.8	14.88	187.37	179.89	191.21
24-Jun-2004 08:20:00.000 CDT	15.22	14.98	15.14	327.58	313.79	328.2	5.81	15.22	5.81	14.98	5.81	15.14	178.43	171.58	186.28
24-Jun-2004 08:30:00.000 CDT	15.31	14.83	14.79	327.65	313.92	328.35	5.8	15.31	5.78	14.83	5.79	14.79	178.17	176.33	185.64
24-Jun-2004 08:40:00.000 CDT	15.19	14.95	14.71	327.73	313.95	328.51	5.81	15.19	5.8	14.95	5.79	14.71	175.06	168.1	212.55
24-Jun-2004 08:50:00.000 CDT	15.11	14.86	14.79	327.8	313.85	328.66	5.79	15.11	5.8	14.86	5.81	14.79	176.11	181.31	191.65
24-Jun-2004 09:00:00.000 CDT	14.97	14.84	14.76	327.86	313.75	328.81	5.8	14.97	5.8	14.84	5.81	14.76	173.98	174.62	188.06
24-Jun-2004 09:10:00.000 CDT	14.78	15.03	14.76	327.8	313.65	328.97	5.79	14.78	5.79	15.03	5.8	14.76	177.41	179.32	185.78
24-Jun-2004 09:20:00.000 CDT	14.97	14.89	14.77	327.73	313.55	329.17	5.8	14.97	5.79	14.89	5.77	14.77	180.37	179.86	195.9
24-Jun-2004 09:30:00.000 CDT	14.78	15.16	14.85	327.65	313.45	329.38	5.81	14.78	5.81	15.16	5.8	14.85	174.29	184.28	205.06
24-Jun-2004 09:40:00.000 CDT	14.81	14.98	14.77	327.58	313.44	329.58	5.79	14.81	5.81	14.98	5.81	14.77	179.06	171.92	188.66
24-Jun-2004 09:50:00.000 CDT	14.84	15.05	14.82	327.5	313.56	329.78	5.8	14.84	5.79	15.05	5.8	14.82	181.92	174.52	192.54
24-Jun-2004 10:00:00.000 CDT	14.84	14.95	14.79	327.55	313.69	329.99	5.8	14.84	5.8	14.95	5.82	14.79	183.14	174.76	183.44
24-Jun-2004 10:10:00.000 CDT	14.75	15.03	14.84	328.34	313.82	330.17	5.8	14.75	5.79	15.03	5.8	14.84	184.26	174.5	183.47
24-Jun-2004 10:20:00.000 CDT	14.71	14.96	15.11	329.25	313.94	330.28	5.8	14.71	5.81	14.96	5.79	15.11	184.69	172.09	181.01
24-Jun-2004 10:30:00.000 CDT	14.92	15.09	15.11	330.17	314.07	330.38	5.78	14.92	5.79	15.09	5.79	15.11	189.8	173.94	186.93
24-Jun-2004 10:40:00.000 CDT	14.93	15.14	15.08	331.09	314.22	330.49	5.78	14.93	5.8	15.14	5.81	15.08	195.06	180.34	185.5
24-Jun-2004 10:50:00.000 CDT	14.8	15.18	14.8	332	314.4	330.59	5.78	14.8	5.81	15.18	5.81	14.8	200.89	176.31	176.57
24-Jun-2004 11:00:00.000 CDT	14.83	15.09	14.69	332.73	314.58	330.69	5.8	14.83	5.81	15.09	5.8	14.69	196.88	164.15	178.53
24-Jun-2004 11:10:00.000 CDT	14.82	15.18	14.85	332.31	314.75	330.84	5.81	14.82	5.79	15.18	5.78	14.85	195.74	168.04	180.32
24-Jun-2004 11:20:00.000 CDT	14.99	15.13	14.97	331.7	314.93	331.2	5.83	14.99	5.79	15.13	5.78	14.97	184.12	180.23	198.04
24-Jun-2004 11:30:00.000 CDT	15.1	15.12	14.97	331.09	315.11	331.58	5.8	15.1	5.8	15.12	5.8	14.97	185.45	187.46	195.35
24-Jun-2004 11:40:00.000 CDT	15.11	14.99	14.95	330.47	315.33	331.96	5.8	15.11	5.81	14.99	5.79	14.95	182.45	171.19	196.44
24-Jun-2004 11:50:00.000 CDT	15.23	15.12	14.96	329.86	315.61	332.34	5.81	15.23	5.79	15.12	5.82	14.96	181.19	172.39	190.79
24-Jun-2004 12:00:00.000 CDT	15.02	14.95	15.07	329.32	315.89	332.73	5.81	15.02	5.8	14.95	5.78	15.07	180.77	181.87	197.57
24-Jun-2004 12:10:00.000 CDT	15.11	14.99	15.1	329.2	316.17	333.03	5.8	15.11	5.81	14.99	5.82	15.1	179.93	174.08	189.05
24-Jun-2004 12:20:00.000 CDT	15.06	15.03	15.02	329.15	316.45	333.04	5.8	15.06	5.81	15.03	5.81	15.02	179.46	176.1	181.47
24-Jun-2004 12:30:00.000 CDT	14.97	15.06	14.92	329.1	316.73	333.02	5.78	14.97	5.81	15.06	5.79	14.92	180.45	168.11	187.22
24-Jun-2004 12:40:00.000 CDT	14.96	15.09	15.07	329.05	316.88	332.99	5.79	14.96	5.78	15.09	5.8	15.07	177.33	156.14	179.15
24-Jun-2004 12:50:00.000 CDT	15.01	15.12	14.94	329	316.86	332.96	5.79	15.01	5.79	15.12	5.77	14.94	188.63	175.58	197.04
24-Jun-2004 13:00:00.000 CDT	14.75	15.01	15.02	328.96	316.83	332.94	5.8	14.75	5.81	15.01	5.82	15.02	185.47	178.39	196.07
24-Jun-2004 13:10:00.000 CDT	14.95	15.18	14.93	328.97	316.81	332.89	5.8	14.95	5.81	15.18	5.82	14.93	184.83	165.8	181.34
24-Jun-2004 13:20:00.000 CDT	14.83	15.19	14.95	329	316.78	332.75	5.79	14.83	5.8	15.19	5.79	14.95	189.35	177.42	186.75
24-Jun-2004 13:30:00.000 CDT	14.96	15.22	15.02	329.03	316.76	332.6	5.79	14.96	5.8	15.22	5.8	15.02	191.82	170.88	189.24
24-Jun-2004 13:40:00.000 CDT	15.01	15.07	15.17	329.05	316.73	332.44	5.8	15.01	5.8	15.07	5.8	15.17	187.87	173.34	194.12
24-Jun-2004 13:50:00.000 CDT	15.11	15.09	14.97	329.08	316.71	332.29	5.79	15.11	5.8	15.09	5.81	14.97	192.66	177.88	188.46
24-Jun-2004 14:00:00.000 CDT	15.08	14.98	15.07	329.08	316.68	332.14	5.8	15.08	5.81	14.98	5.78	15.07	190.84	176.41	190.48
24-Jun-2004 14:10:00.000 CDT	15.03	15.1	15.05	328.95	316.66	332.02	5.81	15.03	5.79	15.1	5.8	15.05	189.1	174.31	194.47
24-Jun-2004 14:20:00.000 CDT	15.12	15.04	15.03	328.8	316.63	332.06	5.81	15.12	5.8	15.04	5.8	15.03	182.46	180.28	196.31
24-Jun-2004 14:30:00.000 CDT	15.01	15.24	15.2	328.64	316.6	332.11	5.8	15.01	5.81	15.24	5.8	15.2	182.23	172.83	188.88
24-Jun-2004 14:40:00.000 CDT	15.09	15.14	15.22	328.49	316.56	332.16	5.8	15.09	5.8	15.14	5.81	15.22	180.18	163.33	187.89
24-Jun-2004 14:50:00.000 CDT	15	15.2	15.15	328.34	316.48	332.21	5.8	15	5.79	15.2	5.8	15.15	183.72	173.86	184.52
24-Jun-2004 15:00:00.000 CDT	15.17	15.06	15.23	328.23	316.41	332.26	5.8	15.17	5.81	15.06	5.8	15.23	181.88	172.56	184.47
24-Jun-2004 15:10:00.000 CDT	15.04	15.05	15.11	328.36	316.33	332.31	5.79	15.04	5.79	15.05	5.78	15.11	187.48	172.16	195.25
24-Jun-2004 15:20:00.000 CDT	15.19	14.97	15.09	328.54	316.25	332.33	5.79	15.19	5.79	14.97	5.8	15.09	189.44	179.58	193.13
24-Jun-2004 15:30:00.000 CDT	15.09	15.16	15.16	328.72	316.18	332.36	5.8	15.09	5.81	15.16	5.81	15.16	191.4	179.29	195.21
24-Jun-2004 15:40:00.000 CDT	14.99	15.14	15.37	328.9	316.16	332.38	5.8	14.99	5.8	15.14	5.79	15.37	189.3	174.93	193.84
24-Jun-2004 15:50:00.000 CDT	15.06	15.02	15.26	329.08	316.24	332.41	5.79	15.06	5.78	15.02	5.8	15.26	192.87	181.51	185.99
24-Jun-2004 16:00:00.000 CDT	15.18	14.87	15.13	329.1	316.31	332.44	5.79	15.18	5.82	14.87	5.81	15.13	191.42	180.35	188.5
24-Jun-2004 16:10:00.000 CDT	15.05	14.97	15.28	328.21	316.39	332.18	5.79	15.05	5.79	14.97	5.79	15.28	198.08	176.88	183.23
24-Jun-2004 16:20:00.000 CDT	15.04	14.93	15.19	327.17	316.47	330.78	5.79	15.04	5.8	14.93	5.79	15.19	202.95	179.81	188.84
24-Jun-2004 16:30:00.000 CDT	15.13	14.91	15.08	326.13	316.54	329.25	5.81	15.13	5.79	14.91	5.8	15.08	198.17	181.26	192.24

TimeTag	CU-1186: (CU:U1) Total Feedwater Flow (MMPPH)	CU-1256: (CU:U1) Total Fuel Flow (%)	CU-1329: (CU:U1) Main Steam Flow (kpph)	CU-6955: (CU:U1) SCR1A AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7009: (CU:U1) SCR1A AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-7119: (CU:U1) SCR1B AIG A NH3 VPR SPLY FLOW (lb/Hr)	CU-7131: (CU:U1) SCR1B AIG B NH3 VPR SPLY FLOW (lb/Hr)	CU-1248: (CU:U1) Exit Gas Temperature - Actual (F)	CU-1327: (CU:U1) Exit Gas Temperature (F)	CU-1367: (CU:U1) Average Air Temperature Enterin (F)	CU-1368: (CU:U1) Average Air Temperature Leaving (F)	CU-1391: (CU:U1) Exit Gas Temperature - Act V Re ()	CU-6948: (CU:U1) ECON 1A OUTLET TEMPERATURE A (DEG F)
24-Jun-2004 16:40:00.000 CDT	8.82	59.43	43735.63	679.02	762.56	734.37	636.04	312.84	313.21	95.61	117.95	Omitted	647.02
24-Jun-2004 16:50:00.000 CDT	8.63	64.35	42682.98	605.98	670.01	567.75	499.85	308.76	309.46	95.42	118.55	Omitted	616.04
24-Jun-2004 17:00:00.000 CDT	8.58	64.43	42455.44	605.32	655.41	0.76	0.67	303.73	305.02	95.35	119.18	Omitted	611.71
24-Jun-2004 17:10:00.000 CDT	8.53	65.11	42193.97	613.67	655.72	0.7	0.57	302.09	302.13	95.29	120.82	Omitted	612.43
24-Jun-2004 17:20:00.000 CDT	8.46	65.32	41969.31	613.61	663.05	0.64	0.48	302.88	303.77	95.23	122.96	Omitted	615.16
24-Jun-2004 17:30:00.000 CDT	8.41	64.97	41755.82	611.47	653.76	0.57	0.38	304.66	305.69	95.18	124.72	Omitted	616.88
24-Jun-2004 17:40:00.000 CDT	8.4	64.97	41624.64	605.35	682.73	0.51	0.29	307.14	307.61	95.12	124.94	Omitted	618.61
24-Jun-2004 17:50:00.000 CDT	8.34	65.79	41399.55	586.41	655.2	0.45	0.19	309.48	309.53	95.06	124.99	Omitted	626.72
24-Jun-2004 18:00:00.000 CDT	8.5	62.48	42146.98	613.98	684.84	0.41	0.15	311.54	311.46	95.01	125.04	Omitted	628.96
24-Jun-2004 18:10:00.000 CDT	8.37	65.35	41491.29	625.52	688.22	0.4	0.15	312.67	312.88	94.96	125.09	Omitted	617.15
24-Jun-2004 18:20:00.000 CDT	8.36	65.24	41483.61	611.22	666.05	0.39	0.15	311.91	312.84	94.91	125.14	Omitted	616.85
24-Jun-2004 18:30:00.000 CDT	8.33	65.23	41346.8	612.07	660.43	0.38	0.16	311.25	312.72	94.86	125.23	Omitted	618.45
24-Jun-2004 18:40:00.000 CDT	8.31	64.95	41325.75	620.54	691.18	0.37	0.16	311.62	312.59	94.81	125.48	Omitted	618.82
24-Jun-2004 18:50:00.000 CDT	8.28	65.2	41161.36	617.96	688.93	0.36	0.16	311.93	312.47	94.72	125.76	Omitted	618.31
24-Jun-2004 19:00:00.000 CDT	8.28	65.3	41068.31	609.31	678.66	0.36	0.17	311.77	312.34	94.52	126.03	Omitted	617.81
24-Jun-2004 19:10:00.000 CDT	8.29	64.85	41172.23	603.42	672.76	0.36	0.17	313.06	312.38	94.31	126.3	Omitted	617.3
24-Jun-2004 19:20:00.000 CDT	8.29	64.93	41164.77	611.1	672.47	0.37	0.17	314.22	312.78	94.11	126.57	Omitted	617.09
24-Jun-2004 19:30:00.000 CDT	8.31	65.06	41198.49	612.04	653.99	0.37	0.17	313.83	313.18	93.9	126.77	Omitted	617.17
24-Jun-2004 19:40:00.000 CDT	8.32	65.04	41196.6	609.18	673.85	0.37	0.17	313.44	313.59	93.69	126.66	Omitted	617.25
24-Jun-2004 19:50:00.000 CDT	8.29	65.15	41145.76	605.86	672.7	0.38	0.17	313.05	313.91	93.44	126.51	Omitted	617.32
24-Jun-2004 20:00:00.000 CDT	8.32	65.15	41282.86	602.19	665.79	0.38	0.17	312.66	313.78	93.07	126.37	Omitted	617.4
24-Jun-2004 20:10:00.000 CDT	8.29	65.09	41211.15	599.75	662.54	0.38	0.17	312.53	313.56	92.69	126.23	Omitted	617.48
24-Jun-2004 20:20:00.000 CDT	8.31	65.04	41277.46	603.1	666.55	0.39	0.17	312.67	313.35	92.31	126.09	Omitted	617.37
24-Jun-2004 20:30:00.000 CDT	8.3	65.1	41126.71	617.96	651.82	0.39	0.17	312.81	313.13	91.93	125.93	Omitted	617.08
24-Jun-2004 20:40:00.000 CDT	8.28	65.27	41147.79	619.81	702.17	0.39	0.17	312.94	312.92	91.54	125.72	Omitted	616.79
24-Jun-2004 20:50:00.000 CDT	8.27	65.16	41166.16	621.71	684.19	0.4	0.17	313.08	312.71	91.2	125.5	Omitted	616.51
24-Jun-2004 21:00:00.000 CDT	8.29	65.16	41137.63	625.93	686.29	0.4	0.17	313.2	312.52	90.94	125.28	Omitted	616.22
24-Jun-2004 21:10:00.000 CDT	8.27	65.25	41049.55	627.76	687.93	0.4	0.17	313.05	312.33	90.69	125.06	Omitted	615.93
24-Jun-2004 21:20:00.000 CDT	8.29	65.13	41188.05	623	690.81	0.39	0.17	312.8	312.14	90.44	124.84	Omitted	615.58
24-Jun-2004 21:30:00.000 CDT	8.27	65.07	41073.07	615.14	661.02	0.39	0.17	312.55	311.95	90.19	124.64	Omitted	615.17
24-Jun-2004 21:40:00.000 CDT	8.27	65.18	41080.51	619.05	688.13	0.39	0.17	312.31	311.76	89.94	124.52	Omitted	614.76
24-Jun-2004 21:50:00.000 CDT	8.27	65.28	41039.41	625.64	693.68	0.39	0.17	312.06	311.56	89.71	124.41	Omitted	614.35
24-Jun-2004 22:00:00.000 CDT	8.26	65.37	41020.63	31.93	44.11	0.39	0.17	311.79	311.32	89.53	124.3	Omitted	613.94
24-Jun-2004 22:10:00.000 CDT	8.25	65.31	40912.61	0.91	10.14	0.39	0.17	311.16	311.07	89.35	124.19	Omitted	613.53
24-Jun-2004 22:20:00.000 CDT	8.22	65.36	40746.6	0.76	10.03	0.39	0.17	310.78	310.82	89.17	124.08	Omitted	608.53
24-Jun-2004 22:30:00.000 CDT	8.15	65.6	40490.46	0.6	9.92	0.4	0.17	310.75	310.57	88.98	123.97	Omitted	605.41
24-Jun-2004 22:40:00.000 CDT	8.19	65.05	40718.35	0.45	9.81	0.4	0.17	310.73	310.31	88.8	123.85	Omitted	606.77
24-Jun-2004 22:50:00.000 CDT	8.19	65.7	40647.69	0.3	9.7	0.41	0.17	310.72	310.32	88.63	123.73	Omitted	611.23
24-Jun-2004 23:00:00.000 CDT	8.28	64.78	41072.97	0.22	9.62	0.41	0.17	311.78	311.91	88.47	123.61	Omitted	621.04
24-Jun-2004 23:10:00.000 CDT	8.3	64.57	41190.04	0.22	9.6	0.4	0.17	313.57	313.75	88.31	123.5	Omitted	623.97
24-Jun-2004 23:20:00.000 CDT	8.31	65.19	41304.97	0.22	9.57	0.4	0.18	315.36	315.59	88.14	123.38	Omitted	627.12
24-Jun-2004 23:30:00.000 CDT	8.41	64.32	41685.8	0.22	9.55	0.4	0.19	317.15	317.43	87.98	123.26	Omitted	631.2
24-Jun-2004 23:40:00.000 CDT	8.41	64.98	41682.9	0.22	9.52	0.39	0.2	318.94	319.28	87.82	123.16	Omitted	639.19
24-Jun-2004 23:50:00.000 CDT	8.5	64.35	42192.27	0.22	9.5	0.39	0.2	320.81	321.04	87.68	123.07	Omitted	654.91
25-Jun-2004 00:00:00.000 CDT	8.7	62.25	43096	0.22	9.46	0.4	0.2	322.83	322.29	87.59	122.98	Omitted	659.19

TimeTag	CU-6947: (CU:U1) ECON 1B OUTLET TEMPERATURE A (DEG F)	CU-6946: (CU:U1) ECON 1C OUTLET TEMPERATURE A (DEG F)	CU-6989: (CU:U1) SCR 1A VENT TEMPERATURE (DEG F)	CU-6997: (CU:U1) ECON 1A OUTLET TEMPERATURE B (DEG F)	CU-6996: (CU:U1) ECON 1B OUTLET TEMPERATURE B (DEG F)	CU-6995: (CU:U1) ECON 1C OUTLET TEMPERATURE B (DEG F)	CU-7110: (CU:U1) SCR 1B VENT TEMPERATURE (DEG F)	CU-5: (CU:U1) A171027 - U1 FLUE GAS O2 INLET (PCT)	CU-6: (CU:U1) A171004 - U1 FLUE GAS SO2 INLET (PPM)	CU-11: (CU:U1) A171022 - U1 STACK OUTLET SO2 (PPM)	CU-1091: (CU:U1) Furnace total O2 (%)	CU-1242: (CU:U1) Average O2 - Actual (%)
24-Jun-2004 16:40:00.000 CDT	634.12	619.89	94.34	650.3	628.29	619.1	94.93	6.23	1583.64	30.18	Omitted	Omitted
24-Jun-2004 16:50:00.000 CDT	601.15	586.19	94.32	617.9	595.34	586.65	94.8	6.25	1644.1	31.28	Omitted	Omitted
24-Jun-2004 17:00:00.000 CDT	596.72	580.57	94.27	612.97	591.54	581.11	94.66	6.26	1683.79	34.08	Omitted	Omitted
24-Jun-2004 17:10:00.000 CDT	596.94	580.65	94.15	613.94	591.74	580.46	94.48	6.28	1697.02	36.88	Omitted	Omitted
24-Jun-2004 17:20:00.000 CDT	598.35	580.72	94.03	615.39	592.79	582.25	94.29	6.3	1702.04	39.67	Omitted	Omitted
24-Jun-2004 17:30:00.000 CDT	600.18	581.58	93.91	617.34	594.42	584.06	94.09	6.33	1709.29	42.47	Omitted	Omitted
24-Jun-2004 17:40:00.000 CDT	602.01	583.22	93.79	619.28	596.05	585.87	93.9	6.36	1707.11	45.25	Omitted	Omitted
24-Jun-2004 17:50:00.000 CDT	610.61	591.72	93.68	625.43	604.92	594.91	93.7	6.39	1720.9	46.39	Omitted	Omitted
24-Jun-2004 18:00:00.000 CDT	614.28	596.33	93.56	628.45	607.88	598.33	93.51	6.43	1711.18	46.39	Omitted	Omitted
24-Jun-2004 18:10:00.000 CDT	603.05	584.3	93.44	618.04	596.31	586.23	93.32	6.46	1678.3	46.39	Omitted	Omitted
24-Jun-2004 18:20:00.000 CDT	600.65	582.38	93.33	617.08	594.05	584.99	93.15	6.49	1728.93	46.39	Omitted	Omitted
24-Jun-2004 18:30:00.000 CDT	601.27	582.97	93.22	617.75	594.85	585.56	92.97	6.51	1733.48	46.39	Omitted	Omitted
24-Jun-2004 18:40:00.000 CDT	601.97	583.56	93.11	618.28	595.65	586.13	92.79	6.52	1734	46.39	Omitted	Omitted
24-Jun-2004 18:50:00.000 CDT	602.68	584.15	92.99	617.97	596.31	586.7	92.61	6.53	1734.53	46.54	Omitted	Omitted
24-Jun-2004 19:00:00.000 CDT	603.38	584.75	92.83	617.52	596.38	587.27	92.43	6.55	1735.05	46.79	Omitted	Omitted
24-Jun-2004 19:10:00.000 CDT	604	585.26	92.54	617.07	596.39	587.71	92.15	6.56	1743.47	47.05	Omitted	Omitted
24-Jun-2004 19:20:00.000 CDT	603.79	585.03	92.23	616.68	596.4	587.35	91.83	6.57	1745.65	47.3	Omitted	Omitted
24-Jun-2004 19:30:00.000 CDT	603.37	584.63	91.92	616.84	596.48	586.86	91.51	6.57	1746.45	47.56	Omitted	Omitted
24-Jun-2004 19:40:00.000 CDT	602.96	584.22	91.62	617.13	596.57	586.37	91.18	6.57	1747.26	47.81	Omitted	Omitted
24-Jun-2004 19:50:00.000 CDT	602.54	583.82	91.31	617.41	596.66	585.88	90.86	6.56	1748.07	47.91	Omitted	Omitted
24-Jun-2004 20:00:00.000 CDT	602.13	583.41	90.99	617.7	596.75	585.39	90.54	6.56	1750.44	47.91	Omitted	Omitted
24-Jun-2004 20:10:00.000 CDT	601.78	583.05	90.64	617.99	596.84	584.99	90.21	6.56	1753.88	47.91	Omitted	Omitted
24-Jun-2004 20:20:00.000 CDT	601.84	583.11	90.29	618.21	596.91	585.11	89.87	6.55	1756.44	47.91	Omitted	Omitted
24-Jun-2004 20:30:00.000 CDT	601.96	583.26	89.94	617.86	596.84	585.32	89.53	6.56	1759.01	47.91	Omitted	Omitted
24-Jun-2004 20:40:00.000 CDT	602.09	583.44	89.59	617.36	596.74	585.52	89.19	6.58	1752.97	47.91	Omitted	Omitted
24-Jun-2004 20:50:00.000 CDT	602.21	583.6	89.24	616.87	596.65	585.73	88.85	6.59	1753.29	47.91	Omitted	Omitted
24-Jun-2004 21:00:00.000 CDT	602.34	583.76	88.88	616.37	596.55	585.94	88.51	6.61	1751.31	47.91	Omitted	Omitted
24-Jun-2004 21:10:00.000 CDT	602.4	583.89	88.49	615.88	596.46	586.09	88.18	6.62	1746.15	47.91	Omitted	Omitted
24-Jun-2004 21:20:00.000 CDT	602.1	583.76	88.1	615.38	596.37	585.91	87.86	6.63	1751.41	47.91	Omitted	Omitted
24-Jun-2004 21:30:00.000 CDT	601.74	583.57	87.72	614.83	596.32	585.67	87.54	6.64	1757.97	47.91	Omitted	Omitted
24-Jun-2004 21:40:00.000 CDT	601.38	583.38	87.33	614.26	596.29	585.43	87.22	6.64	1758.09	47.91	Omitted	Omitted
24-Jun-2004 21:50:00.000 CDT	601.02	583.19	86.94	613.7	596.25	585.19	86.9	6.64	1752.06	47.76	Omitted	Omitted
24-Jun-2004 22:00:00.000 CDT	600.66	583	86.61	613.14	596.21	584.95	86.58	6.64	1755.81	47.51	Omitted	Omitted
24-Jun-2004 22:10:00.000 CDT	599.92	582.4	86.46	612.57	596.18	584.44	86.36	6.64	1760.28	47.25	Omitted	Omitted
24-Jun-2004 22:20:00.000 CDT	594.85	576.89	86.32	609.77	590.07	578.43	86.19	6.64	1755.26	47	Omitted	Omitted
24-Jun-2004 22:30:00.000 CDT	592.32	574.39	86.18	606.75	588.07	577.11	86.02	6.62	1757.83	46.74	Omitted	Omitted
24-Jun-2004 22:40:00.000 CDT	594.01	576.82	86.04	607.72	590.48	580.16	85.84	6.6	1755.26	46.48	Omitted	Omitted
24-Jun-2004 22:50:00.000 CDT	597.55	580.86	85.9	611.92	594.04	583.31	85.67	6.59	1772.09	45.78	Omitted	Omitted
24-Jun-2004 23:00:00.000 CDT	607.5	589.6	85.75	622.4	603.09	591.97	85.5	6.57	1770.82	44.76	Omitted	Omitted
24-Jun-2004 23:10:00.000 CDT	610.69	592.99	85.55	624.6	605.95	595.83	85.34	6.55	1759.68	43.74	Omitted	Omitted
24-Jun-2004 23:20:00.000 CDT	614.37	597.45	85.36	627.68	610.6	600.03	85.19	6.53	1770.78	42.72	Omitted	Omitted
24-Jun-2004 23:30:00.000 CDT	620.67	605.11	85.16	632.86	617.68	606.81	85.04	6.52	1768.68	41.71	Omitted	Omitted
24-Jun-2004 23:40:00.000 CDT	627.68	612.8	84.96	640.27	624.96	616.15	84.89	6.52	1769.19	40.69	Omitted	Omitted
24-Jun-2004 23:50:00.000 CDT	643.64	628.91	84.77	656.25	641.79	632.13	84.74	6.51	1788.87	39.98	Omitted	Omitted
25-Jun-2004 00:00:00.000 CDT	649.63	635.38	84.64	661.81	647.35	637.39	84.6	6.51	1766.17	39.49	Omitted	Omitted

TimeTag	CU-3532: (CU:U1) [U1] SCR A Avg NOx Inlet (lb/mmBtu)	CU-3533: (CU:U1) [U1] SCR B Avg NOx Inlet (lb/mmBtu)	CU-6982: (CU:U1) SCR 1A INLET ANALZ B NOx (PPM)	CU-6984: (CU:U1) SCR 1A INLET ANALZ A NOx (PPM)	CU-7055: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7056: (CU:U1) SCR 1A INLET AA NOx - (lb/MMBtu)	CU-7100: (CU:U1) SCR 1B INLET ANALZ B NOx (PPM)	CU-7102: (CU:U1) SCR 1B INLET ANALZ A NOx (PPM)	CU-7190: (CU:U1) SCR 1A INLET NOx AIG-AB (lb/MBtu)	CU-7191. (CU:U1) SCR 1A INLET NOx AIG-AA (lb/MBtu)	CU-7194: (CU:U1) SCR 1B INLET NOx AIG-BA (lb/MBtu)	CU-7195: (CU:U1) SCR 1B INLET NOx AIG-BB (lb/MBtu)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50: (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53. (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
24-Jun-2004 16:40:00.000 CDT	0.62	0.61	363.13	346.15	0.63	0.62	313.34	342.27	0.63	0.61	0.63	0.59	173.47	158.89	170.52
24-Jun-2004 16:50:00.000 CDT	0.56	0.54	341.54	333.24	0.57	0.56	289.89	314.68	0.57	0.56	0.56	0.52	167.86	139.68	132.9
24-Jun-2004 17:00:00.000 CDT	0.56	0.53	341.56	332.47	0.56	0.56	286.83	314.68	0.56	0.55	0.56	0.51	160.7	141.9	125.98
24-Jun-2004 17:10:00.000 CDT	0.55	0.52	338.91	333.23	0.56	0.55	281.79	307.92	0.55	0.55	0.54	0.5	162.54	173.11	160.13
24-Jun-2004 17:20:00.000 CDT	0.56	0.52	340.56	332.95	0.56	0.55	283.2	307.29	0.56	0.55	0.54	0.5	168.03	173.38	184.14
24-Jun-2004 17:30:00.000 CDT	0.56	0.52	338.87	331.39	0.56	0.55	282.53	304.61	0.56	0.55	0.54	0.51	174.26	177.4	183
24-Jun-2004 17:40:00.000 CDT	0.56	0.53	338.88	330.94	0.56	0.56	283.57	305.06	0.56	0.56	0.54	0.51	177.59	169.34	183.54
24-Jun-2004 17:50:00.000 CDT	0.55	0.51	333.13	327.48	0.55	0.55	279.21	297.78	0.55	0.54	0.53	0.5	182.69	173.89	186.47
24-Jun-2004 18:00:00.000 CDT	0.56	0.54	342.58	328.01	0.57	0.56	285.18	307.94	0.57	0.56	0.55	0.53	189.84	187.66	193.05
24-Jun-2004 18:10:00.000 CDT	0.58	0.56	340.29	327.81	0.58	0.57	288.06	309.04	0.58	0.57	0.57	0.55	187.94	177.16	185.41
24-Jun-2004 18:20:00.000 CDT	0.56	0.52	339.11	329.67	0.56	0.55	282.9	304.06	0.56	0.55	0.54	0.51	193.05	171.7	178.23
24-Jun-2004 18:30:00.000 CDT	0.56	0.53	336.47	325.57	0.56	0.55	284.8	304.27	0.56	0.55	0.54	0.52	191.78	192.26	189.18
24-Jun-2004 18:40:00.000 CDT	0.56	0.53	334.83	324.66	0.56	0.56	283.99	302.08	0.56	0.56	0.54	0.52	195.31	193.5	193.27
24-Jun-2004 18:50:00.000 CDT	0.56	0.54	339.14	325.53	0.56	0.56	285.95	303.95	0.56	0.56	0.55	0.52	195.71	181.57	196
24-Jun-2004 19:00:00.000 CDT	0.56	0.53	336.41	325.19	0.56	0.55	284.48	303.49	0.56	0.56	0.54	0.52	193.41	190.72	192.91
24-Jun-2004 19:10:00.000 CDT	0.55	0.53	332.21	320.55	0.56	0.55	281.82	300.21	0.56	0.55	0.54	0.52	202.16	198.18	202.02
24-Jun-2004 19:20:00.000 CDT	0.55	0.53	331.21	322.78	0.56	0.55	281.21	298.5	0.56	0.55	0.54	0.52	199.46	185.42	198.94
24-Jun-2004 19:30:00.000 CDT	0.55	0.52	331.31	321.97	0.56	0.55	280.97	297.68	0.56	0.55	0.53	0.51	198.09	183.67	194.08
24-Jun-2004 19:40:00.000 CDT	0.55	0.52	329.32	320.83	0.55	0.55	281.07	297.49	0.55	0.55	0.53	0.52	196.17	195.64	192
24-Jun-2004 19:50:00.000 CDT	0.55	0.52	327.8	321.5	0.55	0.55	280.02	296.42	0.55	0.55	0.53	0.51	195.99	189.24	194.72
24-Jun-2004 20:00:00.000 CDT	0.55	0.52	327.81	321.77	0.55	0.55	278.97	297.85	0.55	0.55	0.54	0.51	198.91	194.36	199.36
24-Jun-2004 20:10:00.000 CDT	0.55	0.53	330.37	322.89	0.55	0.55	279.86	300.52	0.55	0.55	0.54	0.52	198.61	181.83	197.48
24-Jun-2004 20:20:00.000 CDT	0.55	0.53	332.17	322.73	0.55	0.55	282.24	302.24	0.56	0.55	0.54	0.52	199.73	190.16	189.79
24-Jun-2004 20:30:00.000 CDT	0.55	0.53	333.84	323.91	0.56	0.55	281.87	301.69	0.56	0.55	0.54	0.52	200.53	187.18	194.93
24-Jun-2004 20:40:00.000 CDT	0.56	0.54	338.37	325.64	0.57	0.56	282.99	311.84	0.57	0.56	0.56	0.51	191.62	184.92	189.97
24-Jun-2004 20:50:00.000 CDT	0.56	0.53	335.6	324.42	0.56	0.56	282.12	302.28	0.56	0.56	0.54	0.52	206.64	197.91	206.94
24-Jun-2004 21:00:00.000 CDT	0.56	0.53	336.37	325.53	0.56	0.56	283.84	304.18	0.56	0.56	0.54	0.52	206.66	202.33	207
24-Jun-2004 21:10:00.000 CDT	0.56	0.54	337.13	326.88	0.56	0.56	285.25	307.75	0.56	0.56	0.55	0.53	208.42	186.76	196.01
24-Jun-2004 21:20:00.000 CDT	0.56	0.54	337.53	325.48	0.57	0.56	284.74	306.69	0.57	0.56	0.55	0.52	208.79	187.41	203.63
24-Jun-2004 21:30:00.000 CDT	0.56	0.54	335.77	323.37	0.57	0.55	285.17	304.18	0.56	0.56	0.55	0.52	196.3	200.26	203.88
24-Jun-2004 21:40:00.000 CDT	0.56	0.54	335.77	324.25	0.56	0.55	284.14	305.93	0.56	0.55	0.55	0.52	207.91	194.97	198.6
24-Jun-2004 21:50:00.000 CDT	0.56	0.54	335.57	325.01	0.57	0.56	284.53	305.6	0.56	0.56	0.55	0.52	205.22	189.44	201.07
24-Jun-2004 22:00:00.000 CDT	0.56	0.54	335.88	325.8	0.57	0.56	286.24	306.09	0.57	0.56	0.55	0.53	203.96	196.99	198.75
24-Jun-2004 22:10:00.000 CDT	0.56	0.54	336.74	326.25	0.57	0.56	287.06	306.47	0.56	0.56	0.55	0.53	205.77	203.26	206.68
24-Jun-2004 22:20:00.000 CDT	0.56	0.54	336.77	327.05	0.56	0.56	286.11	305.98	0.57	0.56	0.55	0.53	212.4	207.54	207.93
24-Jun-2004 22:30:00.000 CDT	0.56	0.54	334.86	323.21	0.56	0.56	286.74	304.39	0.56	0.56	0.55	0.53	219.79	214.33	201.8
24-Jun-2004 22:40:00.000 CDT	0.55	0.53	330.75	316.27	0.56	0.55	281.59	305.98	0.56	0.55	0.55	0.52	218.29	203.98	205.91
24-Jun-2004 22:50:00.000 CDT	0.54	0.51	326.68	315.19	0.55	0.53	272.69	298.83	0.55	0.53	0.53	0.49	223.8	201.52	208.18
24-Jun-2004 23:00:00.000 CDT	0.54	0.52	323.61	313.72	0.54	0.53	272.04	294.15	0.54	0.53	0.53	0.5	224.23	201.1	211.24
24-Jun-2004 23:10:00.000 CDT	0.55	0.52	326.39	315.14	0.55	0.54	276.62	299.81	0.55	0.54	0.54	0.51	225.86	210.49	210.89
24-Jun-2004 23:20:00.000 CDT	0.54	0.51	324.38	312.86	0.55	0.53	274.94	294.95	0.54	0.53	0.53	0.5	223.09	212.83	220.74
24-Jun-2004 23:30:00.000 CDT	0.54	0.52	325.91	314.05	0.55	0.54	277.62	297.12	0.55	0.54	0.54	0.5	231.13	213.06	237.74
24-Jun-2004 23:40:00.000 CDT	0.53	0.52	322.91	313.54	0.54	0.53	276.49	294.71	0.54	0.53	0.53	0.5	231.35	207.92	245.67
24-Jun-2004 23:50:00.000 CDT	0.53	0.51	326.36	313.76	0.54	0.53	276.37	294	0.54	0.53	0.52	0.5	236.6	208.04	243.22
25-Jun-2004 00:00:00.000 CDT	0.55	0.53	330.16	313.47	0.56	0.54	279.61	300.52	0.56	0.54	0.55	0.52	256.46	215.05	245.13

TimeTag	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-25: (CU:U1) T182001A - 1A ABS FLUGAS INLET T (DEGF)	CU-32: (CU:U1) T182001B - 1B ABS FLUGAS INLET T (DEGF)	CU-39: (CU:U1) T182001C - 1C ABS FLUGAS INL TMP (DEGF)	CU-29: (CU:U1) O016X371 - SELECTED 1A ABS PH (PH)	CU-30: (CU:U1) O012X351 - SELECTED 1A ABS DENS (%SLD)	CU-36: (CU:U1) O015X371 - SELECTED 1B ABS PH (PH)	CU-37: (CU:U1) O014X351 - SELECTED 1B ABS DENS (%SLD)	CU-43: (CU:U1) O014X371 - SEL 1C ABSORBER PH (PH)	CU-44: (CU:U1) O016X351 - SEL 1C ABSORBER DENS (%SLD)	CU-46: (CU:U1) F187001A - 1A ABSORB SLURRY FEED (GPM)	CU-50 (CU:U1) F187001B - 1B ABSORB SLURRY FEED (GPM)	CU-53: (CU:U1) F187001C - 1C ABSORB SLURRY FEED (GPM)
24-Jun-2004 16:40:00.000 CDT	15.14	14.79	15.01	325.08	315.88	327.73	5.84	15.14	5.83	14.79	5.84	15.01	173.47	158.89	170.52
24-Jun-2004 16:50:00.000 CDT	15.02	15.05	15.2	324.04	314.13	326.2	5.86	15.02	5.86	15.05	5.87	15.2	167.86	139.68	132.9
24-Jun-2004 17:00:00.000 CDT	15.07	14.97	15.28	323.1	312.38	324.68	5.82	15.07	5.77	14.97	5.78	15.28	160.7	141.9	125.98
24-Jun-2004 17:10:00.000 CDT	15.25	15.06	15.13	322.77	310.62	323.48	5.8	15.25	5.77	15.06	5.74	15.13	162.54	173.11	160.13
24-Jun-2004 17:20:00.000 CDT	15	14.83	15.06	322.54	308.87	323.61	5.78	15	5.79	14.83	5.78	15.06	168.03	173.38	184.14
24-Jun-2004 17:30:00.000 CDT	14.98	14.98	15.1	322.31	307.11	323.89	5.79	14.98	5.8	14.98	5.8	15.1	174.26	177.4	183
24-Jun-2004 17:40:00.000 CDT	14.95	15.06	15.15	322.08	306.4	324.17	5.79	14.95	5.81	15.06	5.8	15.15	177.59	169.34	183.54
24-Jun-2004 17:50:00.000 CDT	15.09	14.99	15.2	321.85	307.2	324.45	5.79	15.09	5.78	14.99	5.79	15.2	182.69	173.89	186.47
24-Jun-2004 18:00:00.000 CDT	14.97	14.91	15.17	321.71	308.01	324.73	5.78	14.97	5.79	14.91	5.78	15.17	189.84	187.66	193.05
24-Jun-2004 18:10:00.000 CDT	14.99	14.97	15.13	322.11	308.83	325.01	5.8	14.99	5.83	14.97	5.82	15.13	187.94	177.16	185.41
24-Jun-2004 18:20:00.000 CDT	15.05	14.91	15.2	322.59	309.64	325.29	5.78	15.05	5.79	14.91	5.8	15.2	193.05	171.7	178.23
24-Jun-2004 18:30:00.000 CDT	15.1	14.95	15.19	323.07	310.46	325.57	5.8	15.1	5.78	14.95	5.79	15.19	191.78	192.26	189.18
24-Jun-2004 18:40:00.000 CDT	15.1	14.89	15.14	323.56	311.1	325.85	5.8	15.1	5.8	14.89	5.79	15.14	195.31	193.5	193.27
24-Jun-2004 18:50:00.000 CDT	15.03	14.83	15.31	324.04	311.51	326.13	5.8	15.03	5.81	14.83	5.8	15.31	195.71	181.57	196
24-Jun-2004 19:00:00.000 CDT	15.08	14.79	15.26	324.51	311.92	326.41	5.8	15.08	5.78	14.79	5.8	15.26	193.41	190.72	192.91
24-Jun-2004 19:10:00.000 CDT	14.97	14.87	15.06	324.88	312.33	326.69	5.79	14.97	5.79	14.87	5.78	15.06	202.16	198.18	202.02
24-Jun-2004 19:20:00.000 CDT	14.99	14.69	14.94	325.24	312.73	326.97	5.8	14.99	5.82	14.69	5.81	14.94	199.46	185.42	198.94
24-Jun-2004 19:30:00.000 CDT	14.97	14.84	15.11	325.59	313.14	327.25	5.8	14.97	5.8	14.84	5.81	15.11	198.09	183.67	194.08
24-Jun-2004 19:40:00.000 CDT	14.95	14.88	15.17	325.95	313.33	327.53	5.8	14.95	5.79	14.88	5.8	15.17	196.17	195.64	192
24-Jun-2004 19:50:00.000 CDT	14.87	14.91	15.19	326.3	313.21	327.81	5.8	14.87	5.8	14.91	5.8	15.19	195.99	189.24	194.72
24-Jun-2004 20:00:00.000 CDT	14.91	14.78	14.94	326.59	313.08	328.09	5.8	14.91	5.81	14.78	5.8	14.94	198.91	194.36	199.36
24-Jun-2004 20:10:00.000 CDT	14.97	14.84	14.89	326.46	312.95	328.31	5.8	14.97	5.8	14.84	5.8	14.89	198.61	181.83	197.48
24-Jun-2004 20:20:00.000 CDT	14.85	14.8	14.9	326.25	312.83	328.31	5.79	14.85	5.79	14.8	5.81	14.9	199.73	190.16	189.79
24-Jun-2004 20:30:00.000 CDT	15.03	14.81	14.9	326.05	312.7	328.29	5.8	15.03	5.8	14.81	5.79	14.9	200.53	187.18	194.93
24-Jun-2004 20:40:00.000 CDT	15.08	14.82	14.98	325.85	312.57	328.26	5.8	15.08	5.79	14.82	5.8	14.98	191.62	184.92	189.97
24-Jun-2004 20:50:00.000 CDT	14.86	14.84	15.12	325.64	312.44	328.23	5.79	14.86	5.78	14.84	5.78	15.12	206.64	197.91	206.94
24-Jun-2004 21:00:00.000 CDT	14.79	14.88	14.99	325.45	312.32	328.21	5.79	14.79	5.8	14.88	5.81	14.99	206.66	202.33	207
24-Jun-2004 21:10:00.000 CDT	14.97	14.9	15.06	325.34	312.19	328.15	5.8	14.97	5.82	14.9	5.81	15.06	208.42	186.76	196.01
24-Jun-2004 21:20:00.000 CDT	14.89	14.82	15.12	325.24	312.06	327.96	5.8	14.89	5.79	14.82	5.79	15.12	208.79	187.41	203.63
24-Jun-2004 21:30:00.000 CDT	14.9	14.99	15.07	325.13	311.94	327.76	5.8	14.9	5.78	14.99	5.81	15.07	196.3	200.26	203.88
24-Jun-2004 21:40:00.000 CDT	14.86	14.9	14.94	325.03	311.74	327.56	5.8	14.86	5.82	14.9	5.8	14.94	207.91	194.97	198.6
24-Jun-2004 21:50:00.000 CDT	14.75	14.97	15.03	324.93	311.43	327.35	5.8	14.75	5.79	14.97	5.8	15.03	205.22	189.44	201.07
24-Jun-2004 22:00:00.000 CDT	14.87	15.1	15.12	324.81	311.13	327.15	5.8	14.87	5.79	15.1	5.79	15.12	203.96	196.99	198.75
24-Jun-2004 22:10:00.000 CDT	14.84	15.08	15.05	324.6	310.82	326.96	5.79	14.84	5.79	15.08	5.79	15.05	205.77	203.26	206.68
24-Jun-2004 22:20:00.000 CDT	14.95	14.99	14.99	324.37	310.52	326.83	5.78	14.95	5.78	14.99	5.81	14.99	212.4	207.54	207.93
24-Jun-2004 22:30:00.000 CDT	15.01	15.09	15.18	324.14	310.21	326.7	5.78	15.01	5.79	15.09	5.8	15.18	219.79	214.33	201.8
24-Jun-2004 22:40:00.000 CDT	15.07	15	15.19	323.91	310.18	326.57	5.79	15.07	5.8	15	5.79	15.19	218.29	203.98	205.91
24-Jun-2004 22:50:00.000 CDT	15.04	15.09	15.13	323.68	310.56	326.44	5.79	15.04	5.81	15.09	5.8	15.13	223.8	201.52	208.18
24-Jun-2004 23:00:00.000 CDT	15.08	15.14	15.02	323.59	310.94	326.32	5.79	15.08	5.78	15.14	5.8	15.02	224.23	201.1	211.24
24-Jun-2004 23:10:00.000 CDT	15.02	15	15.07	324.27	311.33	326.46	5.79	15.02	5.78	15	5.79	15.07	225.86	210.49	210.89
24-Jun-2004 23:20:00.000 CDT	15.02	14.82	15.01	325.08	311.71	327.74	5.8	15.02	5.8	14.82	5.78	15.01	223.09	212.83	220.74
24-Jun-2004 23:30:00.000 CDT	14.86	15.12	15.08	325.9	312.09	329.14	5.79	14.86	5.8	15.12	5.78	15.08	231.13	213.06	237.74
24-Jun-2004 23:40:00.000 CDT	9.04	7.28	8.07	326.71	312.84	330.54	6.62	9.04	6.69	7.28	6.6	8.07	231.35	207.92	245.67
24-Jun-2004 23:50:00.000 CDT	14.79	13.34	10.55	327.52	314.13	331.94	5.73	14.79	5.87	13.34	6.11	10.55	236.6	208.04	243.22
25-Jun-2004 00:00:00.000 CDT	15.09	15.13	14.9	328.23	315.36	333.27	5.75	15.09	5.8	15.13	5.81	14.9	256.46	215.05	245.13

Unit 1 CEMS Data

Date/Time	Gross Load MW	CO2 pct wet	SO2 ppm wet	NOx ppm wet	Flue Gas Flow scfh wet
6/23/04 0:00	1,302	10.56	56	18	199,657,856
6/23/04 0:15	1,305	10.57	56	18	206,401,264
6/23/04 0:30	1,297	10.48	54	19	206,808,576
6/23/04 0:45	1,295	10.35	57	18	205,013,936
6/23/04 1:00	1,304	10.42	53	18	205,617,056
6/23/04 1:15	1,304	10.45	53	19	203,523,232
6/23/04 1:30	1,303	10.44	53	19	201,988,192
6/23/04 1:45	1,303	10.45	53	18	202,284,688
6/23/04 2:00	1,305	10.46	52	19	203,543,936
6/23/04 2:15	1,280	10.36	51	19	203,774,656
6/23/04 2:30	1,213	10.00	45	18	200,118,688
6/23/04 2:45	1,197	9.91	44	19	197,621,232
6/23/04 3:00	1,200	9.95	46	19	196,684,256
6/23/04 3:15	1,202	9.97	44	19	194,236,256
6/23/04 3:30	1,203	9.97	43	19	192,762,416
6/23/04 3:45	1,204	9.98	43	19	197,058,160
6/23/04 4:00	1,201	9.95	41	19	197,841,328
6/23/04 4:15	1,202	9.98	41	19	196,807,040
6/23/04 4:30	1,201	9.98	42	19	192,594,384
6/23/04 4:45	1,203	10.00	41	19	196,214,048
6/23/04 5:00	1,202	9.99	41	19	197,066,368
6/23/04 5:15	1,204	9.98	42	19	196,708,368
6/23/04 5:30	1,240	10.11	43	19	197,896,672
6/23/04 5:45	1,297	10.40	48	20	202,776,880
6/23/04 6:00	1,311	10.31	46	20	207,505,504
6/23/04 6:15	1,311	10.30	45	19	207,487,120
6/23/04 6:30	1,310	13.24	229	101	201,652,880
6/23/04 6:45	1,306	9.91	1430	276	200,886,048
6/23/04 7:00	1,303	10.28	51	21	198,773,120
6/23/04 7:15	1,285	10.13	44	20	204,948,512
6/23/04 7:30	1,283	10.18	47	20	200,874,144
6/23/04 7:45	1,272	10.20	48	20	200,951,760
6/23/04 8:00	1,263	10.12	48	19	197,660,416
6/23/04 8:15	1,263	10.16	49	20	197,447,936
6/23/04 8:30	1,262	10.15	47	19	199,794,848
6/23/04 8:45	1,262	10.13	47	19	201,414,832
6/23/04 9:00	1,261	10.09	45	20	201,037,408
6/23/04 9:15	1,261	10.06	44	20	203,796,352
6/23/04 9:30	1,259	10.01	41	20	202,123,216
6/23/04 9:45	1,260	10.03	42	20	204,341,120
6/23/04 10:00	1,260	10.01	42	19	203,517,504
6/23/04 10:15	1,259	10.02	43	20	201,494,032
6/23/04 10:30	1,259	10.03	43	19	199,561,216
6/23/04 10:45	1,255	10.01	44	19	205,393,664
6/23/04 11:00	1,254	9.96	44	19	200,517,664
6/23/04 11:15	1,257	9.99	44	19	202,657,344
6/23/04 11:30	1,257	9.95	45	19	204,912,736
6/23/04 11:45	1,264	10.01	47	20	204,740,896

6/23/04 12:00	1,281	10.05	48	20	205,112,320		
6/23/04 12:15	1,307	10.26	52	20	212,396,192		
6/23/04 12:30	1,306	10.22	51	20	206,424,688		
6/23/04 12:45	1,306	10.22	51	21	203,330,416		
6/23/04 13:00	1,306	10.20	51	21	207,245,776		
6/23/04 13:15	1,307	10.22	52	21	209,109,696		
6/23/04 13:30	1,307	10.21	52	21	208,710,496	3:30-16:15	1,308
6/23/04 13:45	1,308	10.21	53	20	207,494,000		
6/23/04 14:00	1,308	10.17	53	21	206,925,056		
6/23/04 14:15	1,309	10.18	47	21	210,500,304		
6/23/04 14:30	1,308	10.19	38	21	208,181,744		
6/23/04 14:45	1,306	10.21	37	20	211,753,744		
6/23/04 15:00	1,307	10.21	39	21	207,490,640		
6/23/04 15:15	1,307	10.22	40	21	208,564,640		
6/23/04 15:30	1,309	10.24	40	21	210,404,704		
6/23/04 15:45	1,310	10.24	41	21	207,645,312		
6/23/04 16:00	1,308	10.24	41	20	211,586,368		
6/23/04 16:15	1,307	10.24	41	20	211,647,888		
6/23/04 16:30	1,305	10.22	42	20	210,782,896		
6/23/04 16:45	1,303	10.24	44	19	208,327,696		
6/23/04 17:00	1,306	10.26	46	20	210,694,544		
6/23/04 17:15	1,307	10.24	46	20	211,285,600		
6/23/04 17:30	1,307	10.25	46	20	205,047,568		
6/23/04 17:45	1,308	10.25	47	19	211,935,248		
6/23/04 18:00	1,309	10.25	48	20	213,241,568		
6/23/04 18:15	1,308	10.26	48	20	209,038,832		
6/23/04 18:30	1,308	10.24	48	20	208,536,208		
6/23/04 18:45	1,307	10.25	49	19	209,571,632		
6/23/04 19:00	1,306	10.25	49	19	209,969,920		
6/23/04 19:15	1,306	10.24	49	17	206,928,608		
6/23/04 19:30	1,307	10.25	51	17	206,134,560		
6/23/04 19:45	1,309	10.25	51	17	210,358,544		
6/23/04 20:00	1,310	10.25	51	17	207,202,256		
6/23/04 20:15	1,309	10.23	51	18	208,530,240		
6/23/04 20:30	1,308	10.24	51	17	207,268,064		
6/23/04 20:45	1,307	10.23	51	17	206,148,080		
6/23/04 21:00	1,308	10.21	51	15	205,413,552		
6/23/04 21:15	1,307	10.21	51	15	207,673,120		
6/23/04 21:30	1,307	10.20	52	15	209,011,680		
6/23/04 21:45	1,308	10.21	51	15	206,747,728		
6/23/04 22:00	1,307	10.21	50	15	207,683,568		
6/23/04 22:15	1,308	10.20	51	15	207,493,184		
6/23/04 22:30	1,308	10.20	51	15	214,323,088		
6/23/04 22:45	1,309	10.22	51	15	212,533,616		
6/23/04 23:00	1,308	10.20	51	15	207,284,480		
6/23/04 23:15	1,309	10.20	51	15	211,910,336		
6/23/04 23:30	1,309	10.20	51	15	210,214,912		
6/23/04 23:45	1,307	10.18	51	14	209,429,792		
6/24/04 0:00	1,280	10.07	49	13	213,499,744		
6/24/04 0:15	1,269	9.98	46	13	206,378,992		
6/24/04 0:30	1,250	9.93	47	14	208,247,344		
6/24/04 0:45	1,203	9.66	43	13	206,803,296		

6/24/04 1:00	1,188	9.63	44	13	199,580,224		
6/24/04 1:15	1,106	9.34	39	13	203,544,096		
6/24/04 1:30	1,047	9.00	33	13	193,563,936		
6/24/04 1:45	1,050	9.28	36	14	188,020,720		
6/24/04 2:00	1,052	9.37	36	13	184,471,056		
6/24/04 2:15	1,051	9.39	35	13	186,056,144		
6/24/04 2:30	1,051	9.41	36	14	186,515,632		
6/24/04 2:45	1,051	9.39	35	13	183,807,568		
6/24/04 3:00	1,052	9.40	35	13	183,127,200		
6/24/04 3:15	1,053	9.40	40	13	188,095,328		
6/24/04 3:30	1,080	9.53	37	13	187,941,088		
6/24/04 3:45	1,124	9.78	39	13	190,544,848		
6/24/04 4:00	1,179	10.00	42	13	193,092,784		
6/24/04 4:15	1,257	10.26	46	14	201,327,456		
6/24/04 4:30	1,308	10.31	47	15	206,496,400		
6/24/04 4:45	1,308	10.20	44	14	209,651,744		
6/24/04 5:00	1,306	10.18	44	14	209,152,864		
6/24/04 5:15	1,305	10.19	45	14	210,183,920		
6/24/04 5:30	1,305	10.19	46	14	211,375,792		
6/24/04 5:45	1,306	10.20	45	14	210,886,736		
6/24/04 6:00	1,307	10.19	46	14	207,501,920		
6/24/04 6:15	1,307	10.20	46	14	211,383,472		
6/24/04 6:30	1,306	13.26	235	101	211,083,648		
6/24/04 6:45	1,307	9.90	1439	274	208,758,752		
6/24/04 7:00	1,307	10.18	51	14	211,538,464		
6/24/04 7:15	1,307	10.18	44	14	209,124,000		
6/24/04 7:30	1,307	10.19	44	14	210,661,104		
6/24/04 7:45	1,306	10.21	44	14	212,100,416		
6/24/04 8:00	1,308	10.24	44	14	212,088,352		
6/24/04 8:15	1,310	10.24	44	14	209,847,008		
6/24/04 8:30	1,312	10.25	44	15	212,159,200		
6/24/04 8:45	1,307	10.23	43	14	210,550,576		
6/24/04 9:00	1,305	10.22	42	13	208,347,440		
6/24/04 9:15	1,306	10.24	42	13	209,914,816		
6/24/04 9:30	1,308	10.24	42	14	212,487,728	9:40-12:00	1,305
6/24/04 9:45	1,308	10.24	41	14	211,787,248		
6/24/04 10:00	1,308	10.25	41	14	208,256,112		
6/24/04 10:15	1,307	10.25	41	14	208,647,200		
6/24/04 10:30	1,307	10.25	41	15	211,485,392		
6/24/04 10:45	1,303	10.20	39	14	208,334,208		
6/24/04 11:00	1,304	10.20	41	14	211,511,760		
6/24/04 11:15	1,300	10.18	40	14	211,420,704		
6/24/04 11:30	1,300	10.21	41	14	210,297,632		
6/24/04 11:45	1,303	10.21	42	14	210,900,496		
6/24/04 12:00	1,303	10.20	42	14	209,823,392		
6/24/04 12:15	1,303	10.19	40	15	211,768,624		
6/24/04 12:30	1,304	10.16	41	15	211,668,896		
6/24/04 12:45	1,305	10.16	40	14	209,015,120		
6/24/04 13:00	1,304	10.16	39	15	208,896,992		
6/24/04 13:15	1,304	10.17	39	15	212,083,424		
6/24/04 13:30	1,303	10.17	39	15	209,743,824		
6/24/04 13:45	1,303	10.17	39	15	208,749,792		

6/24/04 14:00	1,304	10.19	40	15	208,623,968		
6/24/04 14:15	1,305	10.19	40	15	209,044,416	4:20-16:40	1,262
6/24/04 14:30	1,305	10.19	40	15	210,173,136		
6/24/04 14:45	1,301	10.16	40	14	210,906,992		
6/24/04 15:00	1,301	10.20	41	14	210,192,096		
6/24/04 15:15	1,303	10.19	41	15	208,914,752		
6/24/04 15:30	1,303	10.17	42	14	210,935,344		
6/24/04 15:45	1,240	9.84	38	16	207,167,504		
6/24/04 16:00	1,203	9.87	39	16	196,884,000		
6/24/04 16:15	1,205	10.04	47	80	200,494,336		
6/24/04 16:30	1,210	10.02	48	109	203,122,960		
6/24/04 16:45	1,208	9.96	48	113	202,946,272		
6/24/04 17:00	1,205	10.00	48	112	203,292,400		
6/24/04 17:15	1,195	9.75	44	115	205,965,008		
6/24/04 17:30	1,201	9.94	48	114	206,586,912		
6/24/04 17:45	1,203	9.91	48	114	207,314,560		
6/24/04 18:00	1,202	9.88	48	114	206,713,024		
6/24/04 18:15	1,201	9.89	49	114	205,127,552		
6/24/04 18:30	1,197	9.86	47	113	206,162,928		
6/24/04 18:45	1,197	9.89	49	113	206,809,328		
6/24/04 19:00	1,199	9.87	49	112	207,132,048		
6/24/04 19:15	1,200	9.87	49	113	204,644,640		
6/24/04 19:30	1,200	9.86	50	114	206,089,856		
6/24/04 19:45	1,199	9.85	50	115	206,673,264		
6/24/04 20:00	1,199	9.85	49	114	207,924,768		
6/24/04 20:15	1,200	9.83	49	115	206,008,288		
6/24/04 20:30	1,199	9.81	50	115	205,893,008		
6/24/04 20:45	1,199	9.82	49	115	205,672,240		
6/24/04 21:00	1,201	9.83	50	115	205,818,112		
6/24/04 21:15	1,202	9.80	50	162	207,036,880		
6/24/04 21:30	1,206	9.82	50	198	212,628,352		
6/24/04 21:45	1,200	9.79	49	210	209,380,816		
6/24/04 22:00	1,191	9.87	49	212	211,895,280		
6/24/04 22:15	1,193	9.82	47	212	203,168,864		
6/24/04 22:30	1,192	9.87	46	212	206,754,640		
6/24/04 22:45	1,187	9.85	44	213	198,450,224		
6/24/04 23:00	1,192	9.95	43	213	196,842,112		
6/24/04 23:15	1,184	9.76	38	209	194,264,864		
6/24/04 23:30	1,191	9.86	38	157	121,354,832		
6/24/04 23:45	1,195	9.88	39	48	159,935,680		
6/25/04 0:00	1,196	9.88	40	11	202,063,168		
6/25/04 0:15	1,198	9.90	41	11	200,426,752		
6/25/04 0:30	1,200	9.89	42	15	197,577,360		
6/25/04 0:45	1,200	9.88	43	14	198,990,016		
6/25/04 1:00	1,201	9.90	43	14	200,769,872		
6/25/04 1:15	1,200	9.89	43	14	201,943,808		
6/25/04 1:30	1,200	9.91	43	14	201,156,288		
6/25/04 1:45	1,201	9.90	42	14	200,869,440		
6/25/04 2:00	1,201	9.91	42	14	196,744,272		
6/25/04 2:15	1,201	9.91	41	14	196,586,480		
6/25/04 2:30	1,202	9.93	41	15	198,567,648		
6/25/04 2:45	1,199	9.90	41	14	199,030,800		

6/25/04 3:00	1,200	9.93	40	14	196,154,816		
6/25/04 3:15	1,200	9.92	40	15	197,135,728		
6/25/04 3:30	1,201	9.92	40	15	201,541,296		
6/25/04 3:45	1,224	9.99	40	14	198,493,616		
6/25/04 4:00	1,291	10.34	46	14	200,179,264		
6/25/04 4:15	1,314	10.33	45	15	211,079,728		
6/25/04 4:30	1,310	10.26	44	14	202,641,792		
6/25/04 4:45	1,308	10.29	44	14	207,715,696		
6/25/04 5:00	1,311	10.29	41	14	204,499,680		
6/25/04 5:15	1,308	10.24	41	14	210,225,728		
6/25/04 5:30	1,309	10.23	45	14	210,645,872		
6/25/04 5:45	1,311	10.24	45	14	211,327,968		
6/25/04 6:00	1,310	10.22	45	14	206,755,472		
6/25/04 6:15	1,310	10.27	46	15	205,929,984		
6/25/04 6:30	1,310	13.26	240	100	208,020,128		
6/25/04 6:45	1,312	9.89	1419	273	212,164,112		
6/25/04 7:00	1,311	10.25	53	15	211,996,112		
6/25/04 7:15	1,310	10.22	48	15	208,186,480		
6/25/04 7:30	1,311	10.24	46	15	208,772,672		
6/25/04 7:45	1,310	10.29	48	14	207,107,344		
6/25/04 8:00	1,310	10.30	48	15	204,860,864		
6/25/04 8:15	1,311	10.31	49	15	206,912,240		
6/25/04 8:30	1,309	10.31	49	15	209,173,856		
6/25/04 8:45	1,309	10.31	49	26	208,094,656		
6/25/04 9:00	1,311	10.31	49	18	204,640,816		
6/25/04 9:15	1,311	10.31	50	16	201,848,624		
6/25/04 9:30	1,310	10.28	50	15	206,566,928	9:40-12:00	1,310
6/25/04 9:45	1,311	10.29	51	14	208,103,952		
6/25/04 10:00	1,311	10.29	52	14	209,880,928		
6/25/04 10:15	1,311	10.31	52	15	210,200,624		
6/25/04 10:30	1,310	10.29	53	15	210,856,896		
6/25/04 10:45	1,308	10.30	52	14	207,801,136		
6/25/04 11:00	1,310	10.32	52	14	208,765,088		
6/25/04 11:15	1,309	10.31	54	14	207,865,456		
6/25/04 11:30	1,309	10.31	54	14	209,088,288		
6/25/04 11:45	1,310	10.30	54	14	208,666,032		
6/25/04 12:00	1,310	10.29	55	14	209,392,352		
6/25/04 12:15	1,311	10.31	55	14	210,139,760		
6/25/04 12:30	1,313	10.34	55	15	202,538,688		
6/25/04 12:45	1,312	10.32	55	14	205,748,624		
6/25/04 13:00	1,311	10.31	55	14	205,871,456		
6/25/04 13:15	1,309	10.31	56	14	207,887,424		
6/25/04 13:30	1,312	10.31	56	15	206,801,232		
6/25/04 13:45	1,310	10.30	55	14	204,967,904		
6/25/04 14:00	1,312	10.31	54	15	207,573,424		
6/25/04 14:15	1,311	10.31	54	15	207,103,248		
6/25/04 14:30	1,309	10.34	53	14	207,186,448		
6/25/04 14:45	1,312	10.40	55	15	208,356,208		
6/25/04 15:00	1,310	10.31	54	14	210,702,800		
6/25/04 15:15	1,306	10.39	55	15	207,023,440		
6/25/04 15:30	1,308	10.39	57	15	209,526,304		
6/25/04 15:45	1,310	10.35	57	14	208,022,624		

6/25/04 16:00	1,310	10.37	57	14	210,259,312
6/25/04 16:15	1,314	10.34	57	14	210,946,192
6/25/04 16:30	1,309	10.34	57	14	211,432,064
6/25/04 16:45	1,317	10.32	56	14	208,729,168
6/25/04 17:00	1,314	10.27	56	14	210,349,056
6/25/04 17:15	1,314	10.30	55	15	210,348,096
6/25/04 17:30	1,312	10.32	54	15	211,110,800
6/25/04 17:45	1,310	10.33	54	14	208,237,696
6/25/04 18:00	1,311	10.34	52	14	207,881,776
6/25/04 18:15	1,314	10.36	51	15	203,014,448
6/25/04 18:30	1,311	10.32	51	15	210,275,776
6/25/04 18:45	1,311	10.33	51	14	207,011,904
6/25/04 19:00	1,311	10.33	50	15	206,395,168
6/25/04 19:15	1,310	10.33	51	15	209,289,600
6/25/04 19:30	1,310	10.35	51	15	206,650,672
6/25/04 19:45	1,310	10.29	51	14	208,074,384
6/25/04 20:00	1,310	10.27	51	14	208,139,696
6/25/04 20:15	1,311	10.28	51	15	207,832,544
6/25/04 20:30	1,314	10.27	51	15	208,919,456
6/25/04 20:45	1,315	10.28	51	15	210,461,904
6/25/04 21:00	1,314	10.27	49	15	210,298,800
6/25/04 21:15	1,311	10.24	49	15	209,950,944
6/25/04 21:30	1,311	10.25	49	15	209,542,288
6/25/04 21:45	1,310	10.23	48	15	209,460,464
6/25/04 22:00	1,312	10.22	49	15	211,710,592
6/25/04 22:15	1,311	10.21	49	15	209,030,144
6/25/04 22:30	1,310	10.21	49	15	208,140,848
6/25/04 22:45	1,310	10.21	49	15	209,087,584
6/25/04 23:00	1,312	10.21	48	15	206,467,904
6/25/04 23:15	1,314	10.21	48	15	209,274,080
6/25/04 23:30	1,312	10.20	47	16	212,905,136
6/25/04 23:45	1,311	10.20	45	15	209,439,824

APPENDIX C

Flue Gas Mercury Data

- Summary of Ontario-Hydro Impinger Analyses Data Sheets
- Recovery Data Sheets

Run 1,Heated Line Rinses

Duplicates and Spikes ng/ml

1621-87	2	06/29/04	SCRI	#VALUE!	34		HEATED LINE RINSE	20043095	<1.0	original result	
1621-87	2	06/29/04	SCRI	#VALUE!	34		HEATED LINE RINSE	20043095	<1.0	duplicate	good within 20% (0%)
1621-87	2	06/29/04	SCRI	#VALUE!	34		HEATED LINE RINSE	20043095	NA	2 ppb spike	good, 87%
1621-87	4	06/29/04	AHO	#VALUE!	103		HEATED LINE RINSE	20043164	<1.0	original result	
1621-87	4	06/29/04	AHO	#VALUE!	103		HEATED LINE RINSE	20043164	<1.0	duplicate	good within 20% (0%)
1621-87	4	06/29/04	AHO	#VALUE!	103		HEATED LINE RINSE	20043164	NA	2 ppb spike	good, 80%

Continuing Calibration Verification ng/ml

1641d 8 ppb					8.0	100%	good
1641d 8ppb					7.9	99%	good
1641d 8ppb					7.3	91%	good

Run 2, Probe and Filter Rinses

Duplicates and Spikes ng/ml

1621-87	1	06/29/04	STACK	#VALUE!	24		PROBE & FILTER RINSE	20043085	<1.0	original result		
1621-87	1	06/29/04	STACK	#VALUE!	24		PROBE & FILTER RINSE	20043085	<1.0	duplicate	good within 20% (0%)	
1621-87	1	06/29/04	STACK	#VALUE!	24		PROBE & FILTER RINSE	20043085	NA	2 ppb spike	**no good, 58%**	will repeat
1621-87	3	06/29/04	AHO	#VALUE!	73		PROBE & FILTER RINSE	20043134	<1.0	original result		
1621-87	3	06/29/04	AHO	#VALUE!	73		PROBE & FILTER RINSE	20043134	<1.0	duplicate	good within 20% (0%)	
1621-87	3	06/29/04	AHO	#VALUE!	73		PROBE & FILTER RINSE	20043134	NA	2 ppb spike	**no good, 75%**	will repeat

Continuing Calibration Verification ng/ml

1641d 8 ppb					8.1	101%	good
1641d 8ppb					7.7	96%	good
1641d 8ppb					7.5	94%	good
1641d 8ppb					7.2	90%	good

Run 3, KMNO4 Rinses

Duplicates and Spikes ng/ml

1621-87	1	06/29/04	SCRO	#VALUE!	11		KMNO4 ACID RINSE	20043072	<1.0	original result	
1621-87	1	06/29/04	SCRO	#VALUE!	11		KMNO4 ACID RINSE	20043072	<1.0	duplicate	good within 20% (0%)
1621-87	1	06/29/04	SCRO	#VALUE!	11		KMNO4 ACID RINSE	20043072	NA	2 ppb spike	good, 90%
1621-87	4	06/29/04	ESP	#VALUE!	113		KMNO4 ACID RINSE	20043174	<1.0	original result	
1621-87	4	06/29/04	ESP	#VALUE!	113		KMNO4 ACID RINSE	20043174	<1.0	duplicate	good within 20% (0%)
1621-87	4	06/29/04	ESP	#VALUE!	113		KMNO4 ACID RINSE	20043174	NA	2 ppb spike	good, 90%

Continuing Calibration Verification ng/ml

1641d 8 ppb					8.0	100%	good
1641d 8ppb					8.1	101%	good
1641d 8ppb					8.1	101%	good
1641d 8ppb					8.2	103%	good

Run 4, KCl Impingers

Duplicates and Spikes

									ng/ml		
1621-87	1	06/29/04	AHO	#VALUE!	14		KCL IMPINGER	20043075	21.0	original result	
1621-87	1	06/29/04	AHO	#VALUE!	14		KCL IMPINGER	20043075	20.6	duplicate	good within 20% (2%)
1621-87	1	06/29/04	AHO	#VALUE!	14		KCL IMPINGER	20043075	NA	10 ppb spike	good, 87%
1621-87	3	06/29/04	SCRO	#VALUE!	69		KCL IMPINGER	20043130	17.2	original result	
1621-87	3	06/29/04	SCRO	#VALUE!	69		KCL IMPINGER	20043130	17.2	duplicate	good within 20% (0%)
1621-87	3	06/29/04	SCRO	#VALUE!	69		KCL IMPINGER	20043130	NA	10 ppb spike	good, 83%
1621-87	4	06/29/04	STACK	#VALUE!	115		KCL IMPINGER	20043176	0.6	original result	
1621-87	4	06/29/04	STACK	#VALUE!	115		KCL IMPINGER	20043176	0.2	duplicate	no good not within 20%
1621-87	4	06/29/04	STACK	#VALUE!	115		KCL IMPINGER	20043176	NA	10 ppb spike	good, 86%

will repeat

Continuing Calibration Verification

					ng/ml		
1641d 8 ppb					8.0	100%	good
1641d 8ppb					7.7	96%	good
1641d 8ppb					8.0	100%	good
1641d 8ppb					7.7	96%	good

Run 5, HNO3/H2O2 Impingers

Duplicates and Spikes

									ng/ml		
1621-87	1	06/29/04	SCRI	#VALUE!	4		HNO3/H2O2 IMPINGER	20043065	3.4	original result	
1621-87	1	06/29/04	SCRI	#VALUE!	4		HNO3/H2O2 IMPINGER	20043065	3.4	duplicate	good within 20% (0%)
1621-87	1	06/29/04	SCRI	#VALUE!	4		HNO3/H2O2 IMPINGER	20043065	NA	2 ppb spike	good, 90%
1621-87	3	06/29/04	STACK	#VALUE!	87		HNO3/H2O2 IMPINGER	20043148	<0.2	original result	
1621-87	3	06/29/04	STACK	#VALUE!	87		HNO3/H2O2 IMPINGER	20043148	<0.2	duplicate	good within 20% (0%)
1621-87	3	06/29/04	STACK	#VALUE!	87		HNO3/H2O2 IMPINGER	20043148	NA	2 ppb spike	good, 95%
1621-87	2	06/29/04	SCRO	#VALUE!	41		HNO3/H202 IMPINGER	20043102	0.9	original result	
1621-87	2	06/29/04	SCRO	#VALUE!	41		HNO3/H202 IMPINGER	20043102	0.8	duplicate	good within 20% (12%)
1621-87	2	06/29/04	SCRO	#VALUE!	41		HNO3/H202 IMPINGER	20043102	NA	2 ppb spike	good, 80%

Continuing Calibration Verification

					ng/ml		
1641d 8 ppb					8.0	100%	good
1641d 8ppb					7.9	99%	good
1641d 8ppb					8.0	100%	good
1641d 8ppb					7.9	99%	good

Run 6, Re-digestions

Duplicates and Spikes

									ng/ml		
1621-87	1	06/29/04	STACK	#VALUE!	24		PROBE & FILTER RINSE	20043085	<1.0	original result	
1621-87	1	06/29/04	STACK	#VALUE!	24		PROBE & FILTER RINSE	20043085	<1.0	duplicate	good within 20% (0%)
1621-87	1	06/29/04	STACK	#VALUE!	24		PROBE & FILTER RINSE	20043085	NA	2 ppb spike	good, 80%
1621-87	3	06/29/04	AHO	#VALUE!	73		PROBE & FILTER RINSE	20043134	<1.0	original result	
1621-87	3	06/29/04	AHO	#VALUE!	73		PROBE & FILTER RINSE	20043134	<1.0	duplicate	good within 20% (0%)
1621-87	3	06/29/04	AHO	#VALUE!	73		PROBE & FILTER RINSE	20043134	NA	2 ppb spike	good, 85%
1621-87	4	06/29/04	STACK	#VALUE!	115		KCL IMPINGER	20043176	0.3	original result	
1621-87	4	06/29/04	STACK	#VALUE!	115		KCL IMPINGER	20043176	0.2	duplicate	Dup not 20%(25)% acceptable... right at DL
1621-87	4	06/29/04	STACK	#VALUE!	115		KCL IMPINGER	20043176	NA	10 ppb spike	good, 90%

Continuing Calibration Verification

					ng/ml		
1641d 8 ppb					8.0	100%	good
1641d 8ppb					8.0	100%	good
1641d 8ppb					8.0	100%	good

Project No	Test	Date	Loc.	Operator	Sample ID #	Task	Description	Anal No.	Hg (ng/ml)
1621-87	1	06/29/04	SCRI		1		PROBE & FILTER RINSE	20043062	<1.0
1621-87	1	06/29/04	SCRI		2		HEATED LINE RINSE	20043063	<1.0
1621-87	1	06/29/04	SCRI		3		KCL IMPINGER	20043064	6.2
1621-87	1	06/29/04	SCRI		4		HNO3/H2O2 IMPINGER	20043065	3.4
1621-87	1	06/29/04	SCRI		5		KMNO4 IMPINGER	20043066	17.4
1621-87	1	06/29/04	SCRI		6		KMNO4 ACID RINSE	20043067	<1.0
1621-87	1	06/29/04	SCRO		7		PROBE & FILTER RINSE	20043068	<1.0
1621-87	1	06/29/04	SCRO		8		KCL IMPINGER	20043069	38.5
1621-87	1	06/29/04	SCRO		9		HNO3/H2O2 IMPINGER	20043070	2.1
1621-87	1	06/29/04	SCRO		10		KMNO4 IMPINGER	20043071	7.6
1621-87	1	06/29/04	SCRO		11		KMNO4 ACID RINSE	20043072	<1.0
1621-87	1	06/29/04	AHO		12		PROBE & FILTER RINSE	20043073	<1.0
1621-87	1	06/29/04	AHO		13		HEATED LINE RINSE	20043074	<1.0
1621-87	1	06/29/04	AHO		14		KCL IMPINGER	20043075	21.0
1621-87	1	06/29/04	AHO		15		HNO3/H2O2 IMPINGER	20043076	0.3
1621-87	1	06/29/04	AHO		16		KMNO4 IMPINGER	20043077	0.2
1621-87	1	06/29/04	AHO		17		KMNO4 ACID RINSE	20043078	<1.0
1621-87	1	06/29/04	ESP		18		PROBE & FILTER RINSE	20043079	4.0
1621-87	1	06/29/04	ESP		19		HEATED LINE RINSE	20043080	<1.0
1621-87	1	06/29/04	ESP		20		KCL IMPINGER	20043081	39.0
1621-87	1	06/29/04	ESP		21		HNO3/H2O2 IMPINGER	20043082	3.2
1621-87	1	06/29/04	ESP		22		KMNO4 IMPINGER	20043083	3.5
1621-87	1	06/29/04	ESP		23		KMNO4 ACID RINSE	20043084	<1.0
1621-87	1	06/29/04	STACK		24		PROBE & FILTER RINSE	20043085	<1.0
1621-87	1	06/29/04	STACK		25		KCL IMPINGER	20043086	1.9
1621-87	1	06/29/04	STACK		26		HNO3/H2O2 IMPINGER	20043087	<0.2
1621-87	1	06/29/04	STACK		27		KMNO4 IMPINGER	20043088	5.5
1621-87	1	06/29/04	STACK		28		KMNO4 ACID RINSE	20043089	<1.0
1621-87		06/29/04			29		KCL BLANK	20043090	<0.2
1621-87		06/29/04			30		HNO3/H2O2 BLANK	20043091	<0.2
1621-87		06/29/04			31		KMNO4 BLANK	20043092	<0.2
1621-87		06/29/04			32		HNO3/HCL BLANK	20043093	<0.2
1621-87	2	06/29/04	SCRI		33		PROBE & FILTER RINSE	20043094	<1.0
1621-87	2	06/29/04	SCRI		34		HEATED LINE RINSE	20043095	<1.0
1621-87	2	06/29/04	SCRI		35		KCL IMPINGER	20043096	6.4
1621-87	2	06/29/04	SCRI		36		HNO3/H2O2 IMPINGER	20043097	2.4
1621-87	2	06/29/04	SCRI		37		KMNO4 IMPINGER	20043098	12.0
1621-87	2	06/29/04	SCRI		38		KMNO4 ACID RINSE	20043099	<1.0
1621-87	2	06/29/04	SCRO		39		PROBE & FILTER RINSE	20043100	<1.0
1621-87	2	06/29/04	SCRO		40		KCL IMPINGER	20043101	16.2
1621-87	2	06/29/04	SCRO		41		HNO3/H202 IMPINGER	20043102	0.9
1621-87	2	06/29/04	SCRO		42		KMNO4 IMPINGER	20043103	2.3
1621-87	2	06/29/04	SCRO		43		KMNO4 ACID RINSE	20043104	<1.0
1621-87	2	06/29/04	AHO		44		PROBE & FILTER RINSE	20043105	<1.0
1621-87	2	06/29/04	AHO		45		HEATED LINE RINSE	20043106	<1.0
1621-87	2	06/29/04	AHO		46		KCL IMPINGER	20043107	17.3
1621-87	2	06/29/04	AHO		47		HNO3/H2O2 IMPINGER	20043108	<0.2
1621-87	2	06/29/04	AHO		48		KMNO4 IMPINGER	20043109	<0.2
1621-87	2	06/29/04	AHO		49		KMNO4 ACID RINSE	20043110	<1.0
1621-87	2	06/29/04	ESP		50		PROBE & FILTER RINSE	20043111	1.7
1621-87	2	06/29/04	ESP		51		HEATED LINE RINSE	20043112	<1.0
1621-87	2	06/29/04	ESP		52		KCL IMPINGER	20043113	33.7
1621-87	2	06/29/04	ESP		53		HNO3/H2O2 IMPINGER	20043114	2.5
1621-87	2	06/29/04	ESP		54		KMNO4 IMPINGER	20043115	0.3
1621-87	2	06/29/04	ESP		55		KMNO4 ACID RINSE	20043116	<1.0
1621-87	2	06/29/04	STACK		56		PROBE & FILTER RINSE	20043117	<1.0
1621-87	2	06/29/04	STACK		57		KCL IMPINGER	20043118	0.8
1621-87	2	06/29/04	STACK		58		HNO3/H2O2 IMPINGER	20043119	0.2
1621-87	2	06/29/04	STACK		59		KMNO4 IMPINGER	20043120	6.0
1621-87	2	06/29/04	STACK		60		KMNO4 ACID RINSE	20043121	<1.0
1621-87		06/29/04			61		KMNO4 BLANK	20043122	<0.2

1621-87	3	06/29/04	SCRI	62	PROBE & FILTER RINSE	20043123	<1.0
1621-87	3	06/29/04	SCRI	63	HEATED LINE RINSE	20043124	<1.0
1621-87	3	06/29/04	SCRI	64	KCL IMPINGER	20043125	4.8
1621-87	3	06/29/04	SCRI	65	HNO3/H2O2 IMPINGER	20043126	2.3
1621-87	3	06/29/04	SCRI	66	KMNO4 IMPINGER	20043127	15.8
1621-87	3	06/29/04	SCRI	67	KMNO4 ACID RINSE	20043128	1.2
1621-87	3	06/29/04	SCRO	68	PROBE & FILTER RINSE	20043129	<1.0
1621-87	3	06/29/04	SCRO	69	KCL IMPINGER	20043130	17.2
1621-87	3	06/29/04	SCRO	70	HNO3/H2O2 IMPINGER	20043131	0.7
1621-87	3	06/29/04	SCRO	71	KMNO4 IMPINGER	20043132	1.2
1621-87	3	06/29/04	SCRO	72	KMNO4 ACID RINSE	20043133	<1.0
1621-87	3	06/29/04	AHO	73	PROBE & FILTER RINSE	20043134	<1.0
1621-87	3	06/29/04	AHO	74	HEATED LINE RINSE	20043135	<1.0
1621-87	3	06/29/04	AHO	75	KCL IMPINGER	20043136	19.8
1621-87	3	06/29/04	AHO	76	HNO3/H2O2 IMPINGER	20043137	0.3
1621-87	3	06/29/04	AHO	77	KMNO4 IMPINGER	20043138	<0.2
1621-87	3	06/29/04	AHO	78	KMNO4 ACID RINSE	20043139	<1.0
1621-87	3	06/29/04	ESP	79	PROBE & FILTER RINSE	20043140	1.1
1621-87	3	06/29/04	ESP	80	HEATED LINE RINSE	20043141	<1.0
1621-87	3	06/29/04	ESP	81	KCL IMPINGER	20043142	40.1
1621-87	3	06/29/04	ESP	82	HNO3/H2O2 IMPINGER	20043143	4.9
1621-87	3	06/29/04	ESP	83	KMNO4 IMPINGER	20043144	6.5
1621-87	3	06/29/04	ESP	84	KMNO4 ACID RINSE	20043145	<1.0
1621-87	3	06/29/04	STACK	85	PROBE & FILTER RINSE	20043146	<1.0
1621-87	3	06/29/04	STACK	86	KCL IMPINGER	20043147	1.8
1621-87	3	06/29/04	STACK	87	HNO3/H2O2 IMPINGER	20043148	<0.2
1621-87	3	06/29/04	STACK	88	KMNO4 IMPINGER	20043149	6.4
1621-87	3	06/29/04	STACK	89	KMNO4 ACID RINSE	20043150	<1.0
1621-87		06/29/04		90	KMNO4 BLANK	20043151	<0.2
1621-87	4	06/29/04	SCRI	91	PROBE & FILTER RINSE	20043152	1.5
1621-87	4	06/29/04	SCRI	92	HEATED LINE RINSE	20043153	<1.0
1621-87	4	06/29/04	SCRI	93	KCL IMPINGER	20043154	2.6
1621-87	4	06/29/04	SCRI	94	HNO3/H2O2 IMPINGER	20043155	1.9
1621-87	4	06/29/04	SCRI	95	KMNO4 IMPINGER	20043156	26.5
1621-87	4	06/29/04	SCRI	96	KMNO4 ACID RINSE	20043157	<1.0
1621-87	4	06/29/04	SCRO	97	PROBE & FILTER RINSE	20043158	1.9
1621-87	4	06/29/04	SCRO	98	KCL IMPINGER	20043159	12.9
1621-87	4	06/29/04	SCRO	99	HNO3/H2O2 IMPINGER	20043160	1.0
1621-87	4	06/29/04	SCRO	100	KMNO4 IMPINGER	20043161	5.6
1621-87	4	06/29/04	SCRO	101	KMNO4 ACID RINSE	20043162	<1.0
1621-87	4	06/29/04	AHO	102	PROBE & FILTER RINSE	20043163	<1.0
1621-87	4	06/29/04	AHO	103	HEATED LINE RINSE	20043164	<1.0
1621-87	4	06/29/04	AHO	104	KCL IMPINGER	20043165	18.7
1621-87	4	06/29/04	AHO	105	HNO3/H2O2 IMPINGER	20043166	<0.2
1621-87	4	06/29/04	AHO	106	KMNO4 IMPINGER	20043167	<0.2
1621-87	4	06/29/04	AHO	107	KMNO4 ACID RINSE	20043168	<1.0
1621-87	4	06/29/04	ESP	108	PROBE & FILTER RINSE	20043169	<1.0
1621-87	4	06/29/04	ESP	109	HEATED LINE RINSE	20043170	3.8
1621-87	4	06/29/04	ESP	110	KCL IMPINGER	20043171	32.6
1621-87	4	06/29/04	ESP	111	HNO3/H2O2 IMPINGER	20043172	2.7
1621-87	4	06/29/04	ESP	112	KMNO4 IMPINGER	20043173	0.3
1621-87	4	06/29/04	ESP	113	KMNO4 ACID RINSE	20043174	<1.0
1621-87	4	06/29/04	STACK	114	PROBE & FILTER RINSE	20043175	<1.0
1621-87	4	06/29/04	STACK	115	KCL IMPINGER	20043176	0.3
1621-87	4	06/29/04	STACK	116	HNO3/H2O2 IMPINGER	20043177	<0.2
1621-87	4	06/29/04	STACK	117	KMNO4 IMPINGER	20043178	8.0
1621-87	4	06/29/04	STACK	118	KMNO4 ACID RINSE	20043179	<1.0
1621-87		06/29/04		119	KMNO4 BLANK	20043180	<0.2
1621-87		06/29/04		120	KCL BLANK	20043181	<0.2
1621-87		06/29/04		121	HNO3/H2O2 BLANK	20043182	<0.2
1621-87		06/29/04		122	KMNO4 BLANK	20043183	<0.2
1621-87		06/29/04		123	HNO3/HCL BLANK	20043184	0.2

ANALNUM	SAMPLE	DATE	DESCR	Moisture	Ash	Carbon	Hydrogen	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3	Hg	
20043039	NOS. 1 & 2	6/23/2004	THIMBLE	0.47	99.33	0.36	-0.05	51.54	20.69	1.07	18.54	5.05	0.98	0.83	2.57	0.22	1.41	0.02	ppm
20043040	NO. 9	6/23/2004	THIMBLE	0.38	99.31	0.26	-0.04	50.29	20.36	1.06	17.94	4.90	1.02	0.79	2.45	0.23	1.52	0.02	ppm
20043041	NO. 17	6/23/2004	THIMBLE	0.83	97.90	0.44	-0.09	49.30	20.03	1.07	17.32	4.13	0.96	0.83	2.48	0.22	2.85	0.02	ppm
20043042	NO. 3	6/24/2004	THIMBLE	0.47	98.66	0.67	-0.05	49.22	19.80	1.03	18.75	4.78	0.93	0.82	2.51	0.23	1.76	0.01	ppm
20043043	NO. 10	6/24/2004	THIMBLE	0.23	99.02	0.37	-0.03	50.42	20.30	1.06	17.66	4.75	0.97	0.86	2.63	0.21	1.69	0.02	ppm
20043044	NO 18	6/24/2004	THIMBLE	0.48	98.02	0.80	-0.05	49.31	19.91	1.04	18.23	4.65	0.94	0.84	2.58	0.21	2.17	0.03	ppm
20043045	NO. 4	6/24/2004	THIMBLE	0.40	98.52	0.89	-0.04	50.32	20.04	1.03	18.48	5.15	0.94	0.81	2.49	0.20	1.36	0.02	ppm
20043046	NO. 11	6/24/2004	THIMBLE	0.19	99.24	0.30	-0.02	50.71	20.39	1.08	17.90	4.88	0.98	0.83	2.52	0.21	1.52	0.02	ppm
20043047	NO. 19	6/24/2004	THIMBLE	0.72	95.79	0.58	-0.08	47.29	19.05	1.02	18.12	4.05	0.90	0.83	2.44	0.19	3.57	0.03	ppm
20043048	NO. 5	6/25/2004	THIMBLE	0.16	99.03	0.55	-0.02	50.32	19.88	1.03	18.88	4.57	1.06	0.76	2.94	0.29	1.41	0.02	ppm
20043049	NO. 12	6/25/2004	THIMBLE	0.22	99.05	0.26	-0.02	49.80	19.74	1.04	18.60	4.53	1.07	0.74	2.85	0.30	1.56	0.02	ppm
20043050	NO. 20	6/25/2004	THIMBLE	0.51	98.46	0.55	-0.06	48.87	19.40	1.02	18.84	4.35	1.04	0.74	2.85	0.26	1.93	0.03	ppm
20043051	47-MM FILTER NO. 1	6/23/2004	Disc															17.40	ng/filt
20043052	3-IN FILTER NO. 1	6/23/2004	Disc															<5.0	ng/filt
20043053	47-MM FILTER NO. 3	6/24/2004	Disc															<5.0	ng/filt
20043054	3-IN FILTER NO. 2	6/24/2004	Disc															<5.0	ng/filt
20043055	47-MM FILTER NO. 2	6/24/2004	Disc															221.0	ng/filt
20043056	3-IN FILTER NO. 3	6/24/2004	Disc															<5.0	ng/filt
20043057	47-MM FILTER NO. 4	6/25/2004	Disc															<5.0	ng/filt
20043058	3-IN FILTER NO. 4	6/25/2004	Disc															<5.0	ng/filt
20043059	47-MM FILTER BLANK	6/25/2004	Disc															<5.0	ng/filt
20043060	3-IN FILTER BLANK	6/25/2004	Disc															<5.0	ng/filt
20043061	THIMBLE BLANK	6/25/2004	THIMBLE															<0.005	ppm

SAMPLE	DATE	DESCR
Average Test 1	6/23/2004	THIMBLE
Average Test 2	6/24/2004	THIMBLE
Average Test 3	6/24/2004	THIMBLE
Average Test 4	6/25/2004	THIMBLE

Ash	Carbon
98.85	0.35
98.57	0.61
97.85	0.59
98.85	0.45

SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	Hg	
50.38	20.36	1.07	17.93	4.69	0.99	0.82	2.50	0.22	1.93	0.020	ppm
49.65	20.00	1.04	18.21	4.73	0.95	0.84	2.57	0.22	1.87	0.020	ppm
49.44	19.83	1.04	18.17	4.69	0.94	0.82	2.48	0.20	2.15	0.023	ppm
49.66	19.67	1.03	18.77	4.48	1.06	0.75	2.88	0.28	1.63	0.023	ppm

Run 1 Filters and Thimbles

NIST Flyash Standard			PPM		
NIST 1633B			0.15	104%	good
NIST 1633B			0.15	104%	good

Continuing Calibration Verification			ng/ml		
1641d 8 ppb			8.0	100%	good
1641d 8ppb			8.0	100%	good
1641d 8ppb			8.0	100%	good

Run 2 Particulate in Thimbles (run by D6722 on the AMA254)

Continuing Calibration Verification			PPM		
NIST 1633B			0.13	94%	good
NIST 1633B			0.16	110%	good
NIST 1633B			0.13	93%	good

Duplicates				PPM		
43050	4/22/04		CONEMAUGH THIMBLE	0.03	duplicate	good within 20% (0%)

Distribution: Witkum - Locke
Project No.: 1621-87
Sample Date: 6-23-04

Location: SCR IN Task: _____ Test: 1 Operator: Jeff

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
1	1A	Probe & Filter Rinse				128		
2	1B	Heated Line Rinse				140		
3	2	KCl Impingers	300	150	90	540		
4	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
5	4	$KMnO_4$ Impingers	200	50	-7	243		
6	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 11.0474 g Filter Net wt: 7.9580 g
Filter Tare wt: 3.0894 g Probe/Line Rinse wt: 0 g Condensate Total: 91.8 ml
Filter Net wt: 7.9580 g Total Particulate wt: 7.9580 g

Recovered By: Jm Date: 6-23-04

Location: SCR Out Task: _____ Test: 1 Operator: Gary

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
7	1A	Probe & Filter Rinse				152		
—	1B	Heated Line Rinse				—		
8	2	KCl Impingers	300	150	74	524		
9	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
10	4	$KMnO_4$ Impingers	200	50	-6	244		
11	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 8.8036 g Filter Net wt: 7.2477 g
Filter Tare wt: 1.5559 g Probe/Line Rinse wt: 0 g Condensate Total: 79.2 ml
Filter Net wt: 7.2477 g Total Particulate wt: 7.2477 g

Recovered By: Jm Date: 6-23-04

Location: AIR HEATER OUT Task: _____ Test: 1 Operator: Jim

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
12	1A	Probe & Filter Rinse				205		
13	1B	Heated Line Rinse				81		
14	2	KCl Impingers	300	150	88	538		
15	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
16	4	$KMnO_4$ Impingers	200	50	-8	242		
17	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 9.0083 g Filter Net wt: 7.4737 g
Filter Tare wt: 1.5346 g Probe/Line Rinse wt: 0 g Condensate Total: 88.8 ml
Filter Net wt: 7.4737 g Total Particulate wt: 7.4737 g

Recovered By: Jm Date: 6-23-04

Distribution: Withum - Locke
Project No.: 1621-87
Sample Date: 6-23-04

Location: ESP OUT Task: _____ Test: 1 Operator: Bruce

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
18	1A	Probe & Filter Rinse				177		
19	1B	Heated Line Rinse				216		
20	2	KCl Impingers	300	150	172	622		
21	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
22	4	$KMnO_4$ Impingers	200	50	-7	243		
23	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.1801 g
Filter Tare wt: 0.1497 g
Filter Net wt: 0.0304 g

Filter Net wt: 0.0304 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 0.0304 g

Condensate Total: 190.2 ml

Recovered By: JA Date: 6-23-04

Location: Stack Task: _____ Test: 1 Operator: Ron

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
24	1A	Probe & Filter Rinse				168		
—	1B	Heated Line Rinse				—		
25	2	KCl Impingers	300	150	411	861		
26	3	HNO_3/H_2O_2 Impinger	100	75	2	177		
27	4	$KMnO_4$ Impingers	200	50	-6	244		
28	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.5065 g
Filter Tare wt: 0.3939 g
Filter Net wt: 0.1126 g

Filter Net wt: 0.1126 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 0.1126 g

Condensate Total: 432.2 ml

Recovered By: JA Date: 6-23-04

Sample ID	Description	ppb Hg	Total ug of Hg
	3 in. Filter Blank		
	Thimble Blank		
29	KCl Blank		
30	HNO_3 / H2O2 Blank		
31	$KMnO_4$ Blank		
32	HNO_3 / HCl Blank		

Distribution: Huthsum - Locke
Project No.: 1621-87
Sample Date: 6-24-04

Location: SCR in Task: _____ Test: 2 Operator: Jeff

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
33	1A	Probe & Filter Rinse				99		
34	1B	Heated Line Rinse				149		
35	2	KCl Impingers	300	150	88	538		
36	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
37	4	$KMnO_4$ Impingers	200	50	-3	247		
38	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 8.9230 g
Filter Tare wt: 1.5692 g
Filter Net wt: 7.3538 g
Filter Net wt: 7.3538 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 7.3538 g
Condensate Total: 91.9 ml

Recovered By: Jm Date: 6-24-04

Location: SCR out Task: _____ Test: 2 Operator: Gary

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
39	1A	Probe & Filter Rinse				124		
—	1B	Heated Line Rinse				—		
40	2	KCl Impingers	300	150	74	526		
41	3	HNO_3/H_2O_2 Impinger	100	75	-1	174		
42	4	$KMnO_4$ Impingers	200	50	-5	245		
43	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 8.5835 g
Filter Tare wt: 1.5230 g
Filter Net wt: 7.0605 g
Filter Net wt: 7.0665 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 7.0605 g
Condensate Total: 78.1 ml

Recovered By: Jm Date: 6-24-04

Location: Air H. out Task: _____ Test: 2 Operator: Jim

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
44	1A	Probe & Filter Rinse				91		
45	1B	Heated Line Rinse				132		
46	2	KCl Impingers	300	150	83	533		
47	3	HNO_3/H_2O_2 Impinger	100	75	-1	174		
48	4	$KMnO_4$ Impingers	200	50	-8	242		
49	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 8.3288 g
Filter Tare wt: 1.5299 g
Filter Net wt: 6.7989 g
Filter Net wt: 6.7989 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 6.7989 g
Condensate Total: 82.1 ml

Recovered By: Jm Date: 6-24-04

Distribution: Huthum - Loche
Project No.: 1621-87
Sample Date: 6-24-04

Location: ESP out Task: _____ Test: 2 Operator: Bruce

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
50	1A	Probe & Filter Rinse				126		
51	1B	Heated Line Rinse				177		
52	2	KCl Impingers	300	150	155	605		
53	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
54	4	$KMnO_4$ Impingers	200	50	-6	244		
55	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.1806 g
Filter Tare wt: 0.1492 g
Filter Net wt: 0.0314 g
Filter Net wt: 0.0314 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 0.0314 g
Condensate Total: 174.1 ml

Recovered By: Jm Date: 6-24-04

Location: Stack Task: _____ Test: 2 Operator: Ron

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
56	1A	Probe & Filter Rinse				129		
—	1B	Heated Line Rinse				—		
57	2	KCl Impingers	300	150	379	829		
58	3	HNO_3/H_2O_2 Impinger	100	75	3	178		
59	4	$KMnO_4$ Impingers	200	50	-11	239		
60	5	$KMnO_4$ Acid Rinse		100				

Filter Gross wt: 0.4815 g
Filter Tare wt: 0.4021 g
Filter Net wt: 0.0794 g
Filter Net wt: 0.0794 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 0.0794 g
Condensate Total: 393.8 ml

Recovered By: Jm Date: 6-24-04

Sample ID	Description	ppb Hg	Total ug of Hg
	3 in. Filter Blank		
	Thimble Blank		
	KCl Blank		
	HNO_3 / H2O2 Blank		
61	$KMnO_4$ Blank		
	HNO_3 / HCl Blank		

Distribution: Huthsun - Locke
Project No.: 1621-87
Sample Date: 6-24-04

Location: SCR in Task: _____ Test: 3 Operator: Jeff

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
62	1A	Probe & Filter Rinse				58		
63	1B	Heated Line Rinse				102		
64	2	KCl Impingers	300	150	88	538		
65	3	HNO_3/H_2O_2 Impinger	100	75	3	178		
66	4	$KMnO_4$ Impingers	200	50	-5	245		
67	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 5.9939 g Filter Net wt: 4.4700 g
Filter Tare wt: 1.5239 g Probe/Line Rinse wt: 0 g Condensate Total: 95.2 ml
Filter Net wt: 4.4700 g Total Particulate wt: 4.4700 g

Recovered By: Jm Date: 6-29-04

Location: SCR out Task: _____ Test: 3 Operator: Gary

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
68	1A	Probe & Filter Rinse				155		
—	1B	Heated Line Rinse				—		
69	2	KCl Impingers	300	150	84	534		
70	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
71	4	$KMnO_4$ Impingers	200	50	-2	248		
72	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 8.6544 g Filter Net wt: 7.1184 g
Filter Tare wt: 1.5360 g Probe/Line Rinse wt: 0 g Condensate Total: 88.8 ml
Filter Net wt: 7.1184 g Total Particulate wt: 7.1184 g

Recovered By: Jm Date: 6-24-04

Location: AIR H. out Task: _____ Test: 3 Operator: Jm

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
73	1A	Probe & Filter Rinse				103		
74	1B	Heated Line Rinse				127		
75	2	KCl Impingers	300	150	91	541		
76	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
77	4	$KMnO_4$ Impingers	200	50	-3	247		
78	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 9.5289 g Filter Net wt: 7.9295 g
Filter Tare wt: 1.5994 g Probe/Line Rinse wt: 0 g Condensate Total: 95.5 ml
Filter Net wt: 7.9295 g Total Particulate wt: 7.9295 g

Recovered By: Jm Date: 6-24-04

Distribution: Withum - Locke
Project No.: 1621-87
Sample Date: 6-24-04

Location: ESP Out Task: _____ Test: 3 Operator: Bruce

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
79	1A	Probe & Filter Rinse				118		
80	1B	Heated Line Rinse				170		
81	2	KCl Impingers	300	150	178	628		
82	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
83	4	$KMnO_4$ Impingers	200	50	-2	248		
84	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.1990 g
Filter Tare wt: 0.1491 g
Filter Net wt: 0.0499 g

Filter Net wt: 0.0499 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 0.0499 g

Condensate Total: 203.0 ml

Recovered By: JW Date: 6-24-04

Location: Stack Task: _____ Test: 3 Operator: Tom

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
85	1A	Probe & Filter Rinse				171		
—	1B	Heated Line Rinse				—		
86	2	KCl Impingers	300	150	367	817		
87	3	HNO_3/H_2O_2 Impinger	100	75	2	177		
88	4	$KMnO_4$ Impingers	200	50	-7	243		
89	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.4812 g
Filter Tare wt: 0.4008 g
Filter Net wt: 0.0804 g

Filter Net wt: 0.0804 g
Probe/Line Rinse wt: 0 g
Total Particulate wt: 0.0804 g

Condensate Total: 380.7 ml

Recovered By: JW Date: 6-24-04

Sample ID	Description	ppb Hg	Total ug of Hg
	3 in. Filter Blank		
	Thimble Blank		
	KCl Blank		
	HNO_3 / H2O2 Blank		
90	$KMnO_4$ Blank		
	HNO_3 / HCl Blank		

Distribution: Hutkun - Locke
Project No.: 1621-87
Sample Date: 6-25-04

Location: SCR in Task: _____ Test: 4 Operator: Jeff

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
91	1A	Probe & Filter Rinse				49		
92	1B	Heated Line Rinse				78		
93	2	KCl Impingers	300	150	88	538		
94	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
95	4	$KMnO_4$ Impingers	200	50	-5	245		
96	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 2.2954 g Filter Net wt: 1.8541 g
Filter Tare wt: 1.4413 g Probe/Line Rinse wt: 0 g Condensate Total: 92.3 ml
Filter Net wt: 1.8541 g Total Particulate wt: 1.8541 g

Recovered By: Jw Date: 6-25-04

Location: SCR out Task: _____ Test: 4 Operator: Gary

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
97	1A	Probe & Filter Rinse				197		
—	1B	Heated Line Rinse				—		
98	2	KCl Impingers	300	150	88	538		
99	3	HNO_3/H_2O_2 Impinger	100	75	2	177		
100	4	$KMnO_4$ Impingers	200	50	-23	227		
101	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 1.2993 g Filter Net wt: 1.7244 g
Filter Tare wt: 1.5749 g Probe/Line Rinse wt: 0 g Condensate Total: 96.1 ml
Filter Net wt: 1.7244 g Total Particulate wt: 1.7244 g

Recovered By: Jw Date: 6-25-04

Location: Aux H. out Task: _____ Test: 4 Operator: Jim

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
102	1A	Probe & Filter Rinse				127		
103	1B	Heated Line Rinse				200		
104	2	KCl Impingers	300	150	86	536		
105	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
106	4	$KMnO_4$ Impingers	200	50	-3	247		
107	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 1.0785 g Filter Net wt: 1.5479 g
Filter Tare wt: 1.5306 g Probe/Line Rinse wt: 0 g Condensate Total: 90.9 ml
Filter Net wt: 1.5479 g Total Particulate wt: 1.5479 g

Recovered By: Jw Date: 6-25-04

Distribution: Hitchum - Locke
Project No.: 1621-87
Sample Date: 6-25-04

Location: ESP Outlet Task: _____ Test: 4 Operator: Bruce

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
108	1A	Probe & Filter Rinse				138		
109	1B	Heated Line Rinse				161		
110	2	KCl Impingers	300	150	175	625		
111	3	HNO_3/H_2O_2 Impinger	100	75	0	175		
112	4	$KMnO_4$ Impingers	200	50	-4	246		
113	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.1852 g Filter Net wt: 0.0357 g
Filter Tare wt: 0.1495 g Probe/Line Rinse wt: 0 g Condensate Total: 200.4 ml
Filter Net wt: 0.0357 g Total Particulate wt: 0.0357 g

Recovered By: JP Date: 6-26-04

Location: Stack Task: _____ Test: 4 Operator: Ron

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
114	1A	Probe & Filter Rinse				145		
—	1B	Heated Line Rinse				—		
115	2	KCl Impingers	300	150	399	849		
116	3	HNO_3/H_2O_2 Impinger	100	75	5	180		
117	4	$KMnO_4$ Impingers	200	50	-6	244		
118	5	$KMnO_4$ Acid Rinse		100		100		

Filter Gross wt: 0.5109 g Filter Net wt: 0.1072 g
Filter Tare wt: 0.4037 g Probe/Line Rinse wt: 0 g Condensate Total: 422.4 ml
Filter Net wt: 0.1072 g Total Particulate wt: 0.1072 g

Recovered By: JP Date: 6-26-04

Sample ID	Description	ppb Hg	Total ug of Hg
	3 in. Filter Blank		
	Thimble Blank		
	KCl Blank		
	HNO_3 / H2O2 Blank		
119	$KMnO_4$ Blank		
	HNO_3 / HCl Blank		

Distribution: Hutchens - Locke
Project No.: 1621-87
Sample Date: 6-24-04

Location: _____ Task: _____ Test: _____ Operator: _____

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
	1A	Probe & Filter Rinse						
	1B	Heated Line Rinse						
	2	KCl Impingers						
	3	HNO_3/H_2O_2 Impinger						
	4	$KMnO_4$ Impingers						
	5	$KMnO_4$ Acid Rinse						

Filter Gross wt: _____g Filter Net wt: _____g
Filter Tare wt: _____g Probe/Line Rinse wt: _____g Condensate Total: _____ ml
Filter Net wt: _____g Total Particulate wt: _____g

Recovered By: _____ Date: _____

Location: _____ Task: _____ Test: _____ Operator: _____

Sample ID	Bottle #	Description	Initial Vol mL	Rinse Vol mL	Gain mL	Final Vol mL	ppb Hg	Total ug of Hg
	S	Filter/Solids						
	1A	Probe & Filter Rinse						
	1B	Heated Line Rinse						
	2	KCl Impingers						
	3	HNO_3/H_2O_2 Impinger						
	4	$KMnO_4$ Impingers						
	5	$KMnO_4$ Acid Rinse						

Filter Gross wt: _____g Filter Net wt: _____g
Filter Tare wt: _____g Probe/Line Rinse wt: _____g Condensate Total: _____ ml
Filter Net wt: _____g Total Particulate wt: _____g

Recovered By: _____ Date: _____

Sample ID	Description Blank Impingers	ppb Hg	Total ug of Hg
	3 in. Filter Blank		
	Thimble Blank		
120	KCl Blank		
121	HNO_3 / H2O2 Blank		
122	$KMnO_4$ Blank		
123	HNO_3 / HCl Blank		

APPENDIX D

Process Material Data

- Coal Analysis Data Sheets
- Bottom Ash Analysis Data Sheets
- Limestone Slurry Solids Analysis Data Sheets
- Limestone Slurry Filtrate Analysis Data Sheets
- Ash Analysis Data Sheets
- FGD Slurry Solids Analysis Data Sheets
- FGD Slurry Filtrate Data Sheets
- FGD Makeup Water Analysis Data Sheets

CONSOL ENERGY INC.
RESEARCH & DEVELOPMENT
ANALYTICAL LABORATORY
4000 BROWNSVILLE ROAD, SOUTH PARK, PA 15129

DESCRIPTION PLANT 5 *COAL*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER COAL 1

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043185

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	10.04
Sulfur, Total	2.98
BTU/lb	13309
MAF BTU/lb	14794

MISC. (As Det.)	
Hg	0.08

ULTIMATE (Dry)%	
Carbon	74.13
Hydrogen	5.07
Nitrogen	1.62
Chlorine	0.169
Sulfur, Total	2.98
Ash	10.04
Oxygen (DIFF)	5.99

MAJOR ASH ELEM %	
Ignited at 750 C	
SiO2	48.55
Al2O3	20.25
TiO2	1.01
Fe2O3	17.78
CaO	4.50
MgO	0.92
Na2O	0.66
K2O	2.32
P2O5	0.37
SO3	3.39
UND	0.25

AS DETERMINED MOISTURE: 3.29 %

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DESCRIPTION *CUF-1 COAL*
TEST 2
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *COAL 2*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043186

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	9.77
Sulfur, Total	3.25
BTU/lb	13067
MAF BTU/lb	14482

MISC. (As Det.)	
Hg	0.08

ULTIMATE (Dry)%	
Carbon	72.77
Hydrogen	5.02
Nitrogen	1.65
Chlorine	0.174
Sulfur, Total	3.25
Ash	9.77
Oxygen (DIFF)	7.37

MAJOR ASH ELEM %	
Ignited at 750 C	
SiO2	46.14
Al2O3	17.57
TiO2	0.94
Fe2O3	19.53
CaO	7.04
MgO	0.86
Na2O	0.75
K2O	2.17
P2O5	0.15
SO3	3.98
UND	0.87

AS DETERMINED MOISTURE: 5.01 %

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DESCRIPTION *CUF-1 COAL*
TEST 3
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *COAL 3*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043187

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	9.37
Sulfur, Total	2.93
BTU/lb	13356
MAF BTU/lb	14737

MISC. (As Det.)	
Hg	0.09

ULTIMATE (Dry)%	
Carbon	74.45
Hydrogen	5.01
Nitrogen	1.64
Chlorine	0.151
Sulfur, Total	2.93
Ash	9.37
Oxygen (DIFF)	6.45

MAJOR ASH ELEM % Ignited at 750 C	
SiO2	47.20
Al2O3	20.15
TiO2	0.98
Fe2O3	18.97
CaO	5.16
MgO	0.86
Na2O	0.76
K2O	2.18
P2O5	0.35
SO3	3.77
UND	-0.38

AS DETERMINED MOISTURE: 3.43 %

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DESCRIPTION *CUF-1 COAL*
TEST 4
DATE SAMPLED *06/25/04*
SAMPLE NUMBER COAL 4

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043188

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	9.88
Sulfur, Total	3.31
BTU/lb	13062
MAF BTU/lb	14494

MISC. (As Det.)

Hg	0.08

ULTIMATE (Dry)%	
Carbon	72.59
Hydrogen	4.99
Nitrogen	1.63
Chlorine	0.179
Sulfur, Total	3.31
Ash	9.88
Oxygen (DIFF)	7.42

MAJOR ASH ELEM %	
Ignited at 750 C	
SiO2	47.06
Al2O3	17.84
TiO2	0.96
Fe2O3	18.48
CaO	6.09
MgO	0.94
Na2O	0.77
K2O	2.31
P2O5	0.14
SO3	4.65
UND	0.76

AS DETERMINED MOISTURE: 5.10 %

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DESCRIPTION *CUF-1 BOTTOM ASH*
TEST 1
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *BOTTOM ASH 1*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043189

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	100.16
Total Sulfur	0.06

ULTIMATE	(Dry)%
Carbon	0.07
Ash	100.16

MAJOR ASH ELEM	(Dry)%
SiO2	49.41
Al2O3	18.95
TiO2	0.98
Fe2O3	22.50
CaO	4.20
MgO	3.08
Na2O	0.59
K2O	2.56
P2O5	0.24
SO3	0.16
UND	-2.67

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.27 %

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DESCRIPTION *CUF-1 BOTTOM ASH*
TEST 2
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *BOTTOM ASH 2*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043190**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.93
Total Sulfur	0.09

ULTIMATE	(Dry)%
Carbon	0.11
Ash	99.93

MAJOR ASH ELEM	(Dry)%
SiO2	50.30
Al2O3	19.36
TiO2	0.98
Fe2O3	23.34
CaO	5.04
MgO	1.56
Na2O	0.71
K2O	2.56
P2O5	0.24
SO3	0.22
UND	-4.31

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 1.32 %

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DESCRIPTION *CUF-1 BOTTOM ASH*
TEST 3
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *BOTTOM ASH 3*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043191

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.69
Total Sulfur	0.09

ULTIMATE	(Dry)%
Carbon	0.35
Ash	99.69

MAJOR ASH ELEM	(Dry)%
SiO2	49.12
Al2O3	19.11
TiO2	0.96
Fe2O3	22.61
CaO	4.95
MgO	1.11
Na2O	0.69
K2O	2.40
P2O5	0.22
SO3	0.23
UND	-1.40

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.10 %

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DESCRIPTION *CUF-1 BOTTOM ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *BOTTOM ASH 4*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043192**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	100.06
Total Sulfur	0.10

MISC. (As Det.)	
Hg	0.02 PPM

ULTIMATE	(Dry)%
Carbon	0.08
Ash	100.06

MAJOR ASH ELEM	(Dry)%
SiO2	50.22
Al2O3	19.12
TiO2	0.97
Fe2O3	22.67
CaO	4.58
MgO	1.15
Na2O	0.59
K2O	2.17
P2O5	0.20
SO3	0.24
UND	-1.91

AS DETERMINED MOISTURE: 1.33 %

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DESCRIPTION *CUF-1 LIMESTONE SLURRY TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *LIMESTONE SLURRY 1*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043193**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	56.74
Total Sulfur	0.04

MISC. (As Det.)	
Hg	0.004 PPM

ULTIMATE	(Dry)%
Carbon	11.55
Chlorine (ppm)	43.~~062~~
Ash	56.74

MAJOR ASH ELEM	(Dry)%
SiO2	2.25
Al2O3	0.18
TiO2	0.01
Fe2O3	0.16
CaO	52.77
MgO	2.42
Na2O	0.01
K2O	0.04
P2O5	0.03
SO3	0.11
UND	42.02

AS DETERMINED MOISTURE: 0.15 %

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DESCRIPTION *CUF-1 LIMESTONE SLURRY TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *LIMESTONE SLURRY 2*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043194**

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	56.72
Total Sulfur	0.05

MISC. (As Det.)

Hg	0.003 PPM

ULTIMATE (Dry)%	
Carbon	11.62
Chlorine (ppm)	31.~~075~~
Ash	56.72

MAJOR ASH ELEM (Dry)%	
SiO2	1.95
Al2O3	0.16
TiO2	0.01
Fe2O3	0.15
CaO	52.73
MgO	2.44
Na2O	0.01
K2O	0.04
P2O5	0.03
SO3	0.13
UND	42.35

AS DETERMINED MOISTURE: 0.24 %

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DESCRIPTION *CUF-1 LIMESTONE SLURRY TEST 3*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *LIMESTONE SLURRY 3*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043195**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	56.74
Total Sulfur	0.06

MISC. (As Det.)

Hg	0.002 PPM

ULTIMATE	(Dry)%
Carbon	12.00
Chlorine (PPM)	34.~~058~~
Ash	56.74

MAJOR ASH ELEM	(Dry)%
SiO2	1.88
Al2O3	0.18
TiO2	0.01
Fe2O3	0.15
CaO	52.38
MgO	2.42
Na2O	0.01
K2O	0.04
P2O5	0.04
SO3	0.14
UND	42.75

AS DETERMINED MOISTURE: 0.17 %

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DESCRIPTION CUF-1 LIMESTONE SLURRY
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER LIMESTONE SLURRY 4

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043196

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	56.66
Total Sulfur	0.06

MISC. (As Det.)	
Hg	0.002 PPM

ULTIMATE (Dry)%	
Carbon	12.01
Chlorine (PPM)	36.~~059~~
Ash	56.66

MAJOR ASH ELEM (Dry)%	
SiO2	1.70
Al2O3	0.16
TiO2	0.01
Fe2O3	0.14
CaO	53.04
MgO	2.48
Na2O	0.01
K2O	0.04
P2O5	0.04
SO3	0.14
UND	42.24

AS DETERMINED MOISTURE: 0.17 %

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED 10/12/04

DESCRIPTION LIMESTONE SLURRY FILTRATE
COMMENTS TEST 1
SAMPLE NUMBER 1
ANALYTICAL NUMBER 043265

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		56.7		
Magnesium		17.0		
Potassium		4.89		
Sodium		33.0		
Ammonia as NH3	PPM	<10		
Chloride		26.0		
Nitrate as N		1.05		
Sulfate		108		
Hg	NG/ML	1.5		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED 10/12/04

DESCRIPTION LIMESTONE SLURRY FILTRATE
COMMENTS TEST 2
SAMPLE NUMBER 2
ANALYTICAL NUMBER 043266

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		48.2		
Magnesium		16.1		
Potassium		4.55		
Sodium		30.1		
Ammonia as NH3	PPM	<10		
Chloride		26.0		
Nitrate as N		0.95		
Sulfate		95.5		
Hg	NG/ML	1.3		

Note: All units mg/L unless specified

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SOUTH PARK, PENNSYLVANIA 15129

TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED 10/12/04

DESCRIPTION LIMESTONE SLURRY FILTRATE
COMMENTS TEST 3
SAMPLE NUMBER 3
ANALYTICAL NUMBER 043267

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		48.5		
Magnesium		15.9		
Potassium		4.11		
Sodium		26.1		
Ammonia as NH3	PPM	<10		
Chloride		28.0		
Nitrate as N		0.97		
Sulfate		91.5		
Hg	NG/ML	1.5		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED 10/12/04

DESCRIPTION LIMESTONE SLURRY FILTRATE
COMMENTS TEST 4
SAMPLE NUMBER 4
ANALYTICAL NUMBER 043268

		WATER ANALYSIS		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		56.3		
Magnesium		16.6		
Potassium		4.29		
Sodium		28.6		
Ammonia as NH3	PPM	<10		
Chloride		25.0		
Nitrate as N		1.62		
Sulfate		91.0		
Hg	NG/ML	1.1		

Note: All units mg/L unless specified

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DESCRIPTION **PLANT 5** *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-1

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER **043201**

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	97.96
Total Sulfur	0.62

ULTIMATE (Dry)%	
Carbon	1.40
Ash	97.96

MAJOR ASH ELEM (Dry)%	
SiO2	50.98
Al2O3	20.11
TiO2	1.09
Fe2O3	16.98
CaO	4.58
MgO	0.95
Na2O	0.73
K2O	2.26
P2O5	0.20
SO3	1.56
UND	0.56

MISC. (As Det.)

Hg	0.05 PPM

AS DETERMINED MOISTURE: 0.15 %

DISTRIBUTION:
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DESCRIPTION PLANT 5 *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-2

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043202

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.77
Total Sulfur	0.46

ULTIMATE	(Dry)%
Carbon	0.84
Ash	98.77

MAJOR ASH ELEM	(Dry)%
SiO2	52.01
Al2O3	20.73
TiO2	1.08
Fe2O3	17.77
CaO	4.26
MgO	0.94
Na2O	0.64
K2O	2.20
P2O5	0.18
SO3	1.16
UND	-0.97

MISC. (As Det.)

Hg	0.04 PPM

AS DETERMINED MOISTURE: 0.10 %

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DESCRIPTION PLANT 5 *ESP HOPPER ASH TEST 1*
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-3

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043203

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.21
Total Sulfur	0.56

ULTIMATE	(Dry)%
Carbon	1.35
Ash	98.21

MAJOR ASH ELEM	(Dry)%
SiO2	49.67
Al2O3	19.49
TiO2	1.04
Fe2O3	18.57
CaO	5.22
MgO	1.09
Na2O	0.68
K2O	2.16
P2O5	0.21
SO3	1.39
UND	0.48

MISC. (As Det.)

Hg	0.04 PPM

AS DETERMINED MOISTURE: 0.04 %

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DESCRIPTION PLANT 5 *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-4

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043204

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.75
Total Sulfur	0.54

ULTIMATE	(Dry)%
Carbon	0.81
Ash	98.75

MAJOR ASH ELEM	(Dry)%
SiO2	51.04
Al2O3	20.48
TiO2	1.09
Fe2O3	18.16
CaO	4.61
MgO	0.98
Na2O	0.65
K2O	2.19
P2O5	0.20
SO3	1.35
UND	-0.75

MISC. (As Det.)

Hg 0.04 ppm

AS DETERMINED MOISTURE: 0.08 %

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DESCRIPTION **PLANT 5** *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-5

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER **043205**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.72
Total Sulfur	1.09

ULTIMATE	(Dry)%
Carbon	0.80
Ash	97.72

MAJOR ASH ELEM	(Dry)%
SiO2	50.60
Al2O3	20.94
TiO2	1.19
Fe2O3	15.90
CaO	4.18
MgO	0.98
Na2O	0.74
K2O	2.35
P2O5	0.28
SO3	2.72
UND	0.12

MISC. (As Det.)

Hg 0.03 ppm

AS DETERMINED MOISTURE: 0.15 %

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DESCRIPTION **PLANT 5** *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-6

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER **043206**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.74
Total Sulfur	1.16

ULTIMATE	(Dry)%
Carbon	0.79
Ash	97.74

MAJOR ASH ELEM	(Dry)%
SiO2	49.56
Al2O3	20.40
TiO2	1.17
Fe2O3	15.89
CaO	4.21
MgO	0.97
Na2O	0.72
K2O	2.28
P2O5	0.28
SO3	2.89
UND	1.63

MISC. (As Det.)

Hg 0.03 ppm

AS DETERMINED MOISTURE: 0.10 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *ESP ASH 1-A-3-7*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043207**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.41
Total Sulfur	0.67

ULTIMATE	(Dry)%
Carbon	0.87
Ash	98.41

MAJOR ASH ELEM	(Dry)%
SiO2	50.32
Al2O3	20.34
TiO2	1.10
Fe2O3	17.58
CaO	4.52
MgO	0.97
Na2O	0.66
K2O	2.23
P2O5	0.23
SO3	1.68
UND	0.37

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.11 %

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DESCRIPTION **PLANT 5** *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-8

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER **043208**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.38
Total Sulfur	0.68

ULTIMATE	(Dry)%
Carbon	0.86
Ash	98.38

MAJOR ASH ELEM	(Dry)%
SiO2	50.32
Al2O3	20.33
TiO2	1.12
Fe2O3	17.23
CaO	4.38
MgO	1.00
Na2O	0.65
K2O	2.19
P2O5	0.22
SO3	1.71
UND	0.85

MISC. (As Det.)

Hg	0.02 ppm

AS DETERMINED MOISTURE: 0.12 %

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DESCRIPTION PLANT 5 *ESP HOPPER ASH*
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-9

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043209

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	95.33
Total Sulfur	2.70

ULTIMATE	(Dry)%
Carbon	0.50
Ash	95.33

MAJOR ASH ELEM	(Dry)%
SiO2	45.67
Al2O3	19.54
TiO2	1.20
Fe2O3	14.59
CaO	4.52
MgO	1.00
Na2O	0.74
K2O	2.31
P2O5	0.40
SO3	6.76
UND	3.27

MISC. (As Det.)

Hg	0.02 ppm

AS DETERMINED MOISTURE: 0.29 %

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ANALYTICAL LABORATORY
4000 BROWNSVILLE ROAD, SOUTH PARK, PA 15129

DESCRIPTION PLANT 5 *ESP HOPPER ASH TEST 1*
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-10

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043210

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.64
Total Sulfur	1.89

ULTIMATE	(Dry)%
Carbon	0.66
Ash	96.64

MAJOR ASH ELEM	(Dry)%
SiO2	48.89
Al2O3	20.48
TiO2	1.20
Fe2O3	15.24
CaO	4.11
MgO	0.98
Na2O	0.77
K2O	2.35
P2O5	0.30
SO3	4.73
UND	0.95

MISC. (As Det.)

Hg	0.03 PPM

AS DETERMINED MOISTURE: 0.19 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 1
DATE SAMPLED 06/23/04
SAMPLE NUMBER ESP ASH 1-A-3-11

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043211

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.80
Total Sulfur	0.98

ULTIMATE	(Dry)%
Carbon	0.94
Ash	97.80

MAJOR ASH ELEM	(Dry)%
SiO2	50.74
Al2O3	21.23
TiO2	1.18
Fe2O3	16.01
CaO	4.18
MgO	0.98
Na2O	0.75
K2O	2.42
P2O5	0.26
SO3	2.44
UND	-0.19

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.24 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *ESP ASH 1-A-3-12*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043212**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.56
Total Sulfur	1.10

MISC. (As Det.)	
Hg	0.02 PPM

ULTIMATE	(Dry)%
Carbon	0.93
Ash	97.56

MAJOR ASH ELEM	(Dry)%
SiO2	49.72
Al2O3	21.28
TiO2	1.19
Fe2O3	15.69
CaO	4.11
MgO	0.97
Na2O	0.73
K2O	2.30
P2O5	0.29
SO3	2.76
UND	0.96

AS DETERMINED MOISTURE: 0.23 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *ESP ASH 1-A-3-13*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043213**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	89.69
Total Sulfur	3.70

ULTIMATE	(Dry)%
Carbon	0.89
Ash	89.69

MAJOR ASH ELEM	(Dry)%
SiO2	42.04
Al2O3	17.60
TiO2	1.05
Fe2O3	19.37
CaO	3.83
MgO	0.90
Na2O	0.69
K2O	2.20
P2O5	0.27
SO3	9.24
UND	2.81

MISC. (As Det.)

Hg	0.05 ppm

AS DETERMINED MOISTURE: 1.02 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *ESP ASH 1-A-3-14*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043214**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	93.47
Total Sulfur	2.83

MISC. (As Det.)	
Hg	0.04 ppm

ULTIMATE	(Dry)%
Carbon	0.77
Ash	93.47

MAJOR ASH ELEM	(Dry)%
SiO2	44.60
Al2O3	18.81
TiO2	1.10
Fe2O3	17.18
CaO	4.10
MgO	0.97
Na2O	0.76
K2O	2.34
P2O5	0.31
SO3	7.08
UND	2.75

AS DETERMINED MOISTURE: 0.89 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *ESP ASH 1-A-3-15*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043215

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	95.73
Total Sulfur	2.20

ULTIMATE	(Dry)%
Carbon	0.78
Ash	95.73

MAJOR ASH ELEM	(Dry)%
SiO2	47.24
Al2O3	19.71
TiO2	1.16
Fe2O3	15.51
CaO	4.34
MgO	0.97
Na2O	0.78
K2O	2.38
P2O5	0.30
SO3	5.49
UND	2.12

MISC. (As Det.)

Hg 0.06 ppm

AS DETERMINED MOISTURE: 0.39 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *ESP ASH 1-A-3-16*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043216**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	95.21
Total Sulfur	2.58

ULTIMATE	(Dry)%
Carbon	0.61
Ash	95.21

MAJOR ASH ELEM	(Dry)%
SiO2	46.85
Al2O3	19.51
TiO2	1.18
Fe2O3	15.93
CaO	4.63
MgO	1.01
Na2O	0.78
K2O	2.42
P2O5	0.33
SO3	6.46
UND	0.90

MISC. (As Det.)

Hg 0.04 PPM

AS DETERMINED MOISTURE: 0.43 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-1*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043217**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.24
Total Sulfur	0.52

ULTIMATE	(Dry)%
Carbon	0.53
Ash	99.24

MAJOR ASH ELEM	(Dry)%
SiO2	48.99
Al2O3	18.85
TiO2	0.99
Fe2O3	20.11
CaO	5.90
MgO	1.04
Na2O	0.68
K2O	2.23
P2O5	0.20
SO3	1.29
UND	-0.28

MISC. (As Det.)

Hg 0.02 PPM

AS DETERMINED MOISTURE: 0.13 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-2

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043218

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.12
Total Sulfur	0.56

ULTIMATE	(Dry)%
Carbon	0.60
Ash	99.12

MAJOR ASH ELEM	(Dry)%
SiO2	50.88
Al2O3	19.67
TiO2	1.02
Fe2O3	18.54
CaO	5.25
MgO	1.02
Na2O	0.78
K2O	2.51
P2O5	0.20
SO3	1.40
UND	-1.27

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.17 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-3

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043219

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.02
Total Sulfur	0.54

ULTIMATE	(Dry)%
Carbon	0.70
Ash	99.02

MAJOR ASH ELEM	(Dry)%
SiO2	50.11
Al2O3	19.51
TiO2	1.02
Fe2O3	19.13
CaO	5.28
MgO	1.00
Na2O	0.72
K2O	2.24
P2O5	0.25
SO3	1.34
UND	-0.60

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.17 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-4

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043220

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.51
Total Sulfur	0.45

ULTIMATE	(Dry)%
Carbon	0.48
Ash	99.51

MAJOR ASH ELEM	(Dry)%
SiO2	47.18
Al2O3	17.99
TiO2	0.92
Fe2O3	23.57
CaO	6.95
MgO	1.57
Na2O	0.57
K2O	1.98
P2O5	0.48
SO3	1.13
UND	-2.34

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.14 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-5

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043221

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.31
Total Sulfur	1.03

ULTIMATE	(Dry)%
Carbon	0.64
Ash	98.31

MAJOR ASH ELEM	(Dry)%
SiO2	49.26
Al2O3	20.23
TiO2	1.09
Fe2O3	16.51
CaO	4.48
MgO	0.98
Na2O	0.85
K2O	2.57
P2O5	0.26
SO3	2.57
UND	1.20

MISC. (As Det.)

Hg 0.02 PPM

AS DETERMINED MOISTURE: 0.24 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-6*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043222

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.09
Total Sulfur	1.12

ULTIMATE	(Dry)%
Carbon	0.66
Ash	98.09

MAJOR ASH ELEM	(Dry)%
SiO2	49.84
Al2O3	19.97
TiO2	1.14
Fe2O3	16.40
CaO	4.57
MgO	0.98
Na2O	0.84
K2O	2.48
P2O5	0.25
SO3	2.80
UND	0.73

MISC. (As Det.)

Hg 0.02 PPM

AS DETERMINED MOISTURE: 0.28 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-7*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043223**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.69
Total Sulfur	0.69

ULTIMATE	(Dry)%
Carbon	0.78
Ash	98.69

MAJOR ASH ELEM	(Dry)%
SiO2	49.79
Al2O3	19.19
TiO2	1.05
Fe2O3	18.68
CaO	5.48
MgO	0.98
Na2O	0.74
K2O	2.30
P2O5	0.21
SO3	1.72
UND	-0.14

MISC. (As Det.)

Hg	0.02 PPM

AS DETERMINED MOISTURE: 0.15 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-8

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043224

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.64
Total Sulfur	0.73

ULTIMATE	(Dry)%
Carbon	0.73
Ash	98.64

MAJOR ASH ELEM	(Dry)%
SiO2	49.86
Al2O3	19.67
TiO2	1.03
Fe2O3	18.22
CaO	5.08
MgO	0.97
Na2O	0.76
K2O	2.35
P2O5	0.21
SO3	1.83
UND	0.02

MISC. (As Det.)

Hg 0.02 PPM

AS DETERMINED MOISTURE: 0.17 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-9

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043225

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	91.45
Total Sulfur	3.07

ULTIMATE	(Dry)%
Carbon	1.78
Ash	91.45

MAJOR ASH ELEM	(Dry)%
SiO2	44.00
Al2O3	18.16
TiO2	1.09
Fe2O3	14.93
CaO	4.48
MgO	0.92
Na2O	0.81
K2O	2.31
P2O5	0.28
SO3	7.67
UND	5.35

MISC. (As Det.)

Hg 0.18 ppm

AS DETERMINED MOISTURE: 0.13 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-10

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043226

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.71
Total Sulfur	1.88

ULTIMATE	(Dry)%
Carbon	0.56
Ash	96.71

MAJOR ASH ELEM	(Dry)%
SiO2	47.64
Al2O3	19.90
TiO2	1.15
Fe2O3	14.75
CaO	4.17
MgO	0.98
Na2O	0.84
K2O	2.50
P2O5	0.31
SO3	4.69
UND	3.07

MISC. (As Det.)

Hg 0.03 ppm

AS DETERMINED MOISTURE: 0.17 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-11*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/27/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043227

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.14
Total Sulfur	0.96

ULTIMATE	(Dry)%
Carbon	0.78
Ash	98.14

MAJOR ASH ELEM	(Dry)%
SiO2	48.51
Al2O3	19.38
TiO2	1.06
Fe2O3	16.55
CaO	4.77
MgO	0.97
Na2O	0.77
K2O	2.32
P2O5	0.24
SO3	2.41
UND	3.02

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.01 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-12*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/27/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043228

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.96
Total Sulfur	1.13

ULTIMATE	(Dry)%
Carbon	0.73
Ash	97.96

MAJOR ASH ELEM	(Dry)%
SiO2	48.65
Al2O3	19.81
TiO2	1.09
Fe2O3	15.87
CaO	4.50
MgO	0.98
Na2O	0.84
K2O	2.50
P2O5	0.29
SO3	2.83
UND	2.64

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.02 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-13*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/27/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043229

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	89.45
Total Sulfur	4.38

ULTIMATE	(Dry)%
Carbon	0.64
Ash	89.45

MAJOR ASH ELEM	(Dry)%
SiO2	40.42
Al2O3	17.18
TiO2	1.06
Fe2O3	16.19
CaO	3.88
MgO	0.89
Na2O	0.74
K2O	2.13
P2O5	0.32
SO3	10.94
UND	6.25

MISC. (As Det.)

Hg 0.03 ppm

AS DETERMINED MOISTURE: 0.51 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-14

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043230

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.50
Total Sulfur	2.12

ULTIMATE	(Dry)%
Carbon	0.37
Ash	96.50

MAJOR ASH ELEM	(Dry)%
SiO2	47.78
Al2O3	20.12
TiO2	1.16
Fe2O3	13.96
CaO	3.91
MgO	1.00
Na2O	0.86
K2O	2.52
P2O5	0.31
SO3	5.31
UND	3.07

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.28 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 2*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 2-A-3-15*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/27/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043231**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.37
Total Sulfur	2.00

ULTIMATE	(Dry)%
Carbon	0.54
Ash	96.37

MAJOR ASH ELEM	(Dry)%
SiO2	47.00
Al2O3	19.50
TiO2	1.13
Fe2O3	15.01
CaO	4.07
MgO	0.97
Na2O	0.82
K2O	2.44
P2O5	0.31
SO3	5.01
UND	3.74

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.28 %

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ANALYTICAL LABORATORY
4000 BROWNSVILLE ROAD, SOUTH PARK, PA 15129

DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 2
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 2-A-3-16

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043232

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.71
Total Sulfur	1.78

ULTIMATE	(Dry)%
Carbon	0.63
Ash	96.71

MAJOR ASH ELEM	(Dry)%
SiO2	45.76
Al2O3	18.42
TiO2	1.05
Fe2O3	17.71
CaO	5.10
MgO	1.00
Na2O	0.70
K2O	2.17
P2O5	0.29
SO3	4.46
UND	3.34

MISC. (As Det.)

Hg 0.03 ppm

AS DETERMINED MOISTURE: 0.22 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-1

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043233

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.13
Total Sulfur	0.53

ULTIMATE	(Dry)%
Carbon	0.60
Ash	99.13

MAJOR ASH ELEM	(Dry)%
SiO2	49.90
Al2O3	19.27
TiO2	1.03
Fe2O3	18.08
CaO	4.91
MgO	0.91
Na2O	0.73
K2O	2.15
P2O5	0.18
SO3	1.32
UND	1.52

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.01 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-2

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043234

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.94
Total Sulfur	0.61

ULTIMATE	(Dry)%
Carbon	0.63
Ash	98.94

MAJOR ASH ELEM	(Dry)%
SiO2	49.71
Al2O3	19.24
TiO2	1.04
Fe2O3	17.84
CaO	4.96
MgO	0.93
Na2O	0.74
K2O	2.17
P2O5	0.20
SO3	1.52
UND	1.65

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.01 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-3

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043235

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.17
Total Sulfur	0.52

ULTIMATE	(Dry)%
Carbon	0.57
Ash	99.17

MAJOR ASH ELEM	(Dry)%
SiO2	48.17
Al2O3	18.61
TiO2	0.98
Fe2O3	19.66
CaO	5.88
MgO	1.05
Na2O	0.67
K2O	2.06
P2O5	0.25
SO3	1.30
UND	1.37

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.07 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-4

DATE LOGGED 06/29/04
DATE COMPLETED 07/27/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043236

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.01
Total Sulfur	0.56

ULTIMATE	(Dry)%
Carbon	0.63
Ash	99.01

MAJOR ASH ELEM	(Dry)%
SiO2	48.71
Al2O3	18.71
TiO2	0.99
Fe2O3	18.83
CaO	5.43
MgO	0.96
Na2O	0.72
K2O	2.21
P2O5	0.23
SO3	1.41
UND	1.80

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.08 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-5

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043237

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	98.28
Total Sulfur	1.00

ULTIMATE (Dry)%	
Carbon	0.63
Ash	98.28

MAJOR ASH ELEM (Dry)%	
SiO2	49.11
Al2O3	20.52
TiO2	1.11
Fe2O3	15.67
CaO	4.32
MgO	0.94
Na2O	0.91
K2O	2.61
P2O5	0.27
SO3	2.49
UND	2.05

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.19 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-6

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043238

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.14
Total Sulfur	1.04

MISC. (As Det.)	
Hg	0.01 ppm

ULTIMATE	(Dry)%
Carbon	0.67
Ash	98.14

MAJOR ASH ELEM	(Dry)%
SiO2	48.89
Al2O3	20.29
TiO2	1.11
Fe2O3	15.70
CaO	4.38
MgO	0.95
Na2O	0.84
K2O	2.48
P2O5	0.26
SO3	2.60
UND	2.50

AS DETERMINED MOISTURE: 0.19 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 3*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 3-A-3-7*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/22/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043239**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.99
Total Sulfur	0.68

ULTIMATE	(Dry)%
Carbon	0.65
Ash	98.99

MAJOR ASH ELEM	(Dry)%
SiO2	48.06
Al2O3	19.48
TiO2	1.01
Fe2O3	17.94
CaO	5.25
MgO	0.92
Na2O	0.77
K2O	2.34
P2O5	0.21
SO3	1.69
UND	2.33

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.08 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-8

DATE LOGGED 06/29/04
DATE COMPLETED 07/16/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043240

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.01
Total Sulfur	0.67

ULTIMATE	(Dry)%
Carbon	0.63
Ash	99.01

MAJOR ASH ELEM	(Dry)%
SiO2	49.66
Al2O3	19.72
TiO2	1.01
Fe2O3	18.45
CaO	5.53
MgO	0.93
Na2O	0.74
K2O	2.30
P2O5	0.20
SO3	1.67
UND	-0.21

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.16 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-9

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043241

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	96.31
Total Sulfur	2.05

ULTIMATE (Dry)%	
Carbon	0.64
Ash	96.31

MAJOR ASH ELEM (Dry)%	
SiO2	46.76
Al2O3	20.03
TiO2	1.15
Fe2O3	14.71
CaO	4.24
MgO	0.96
Na2O	0.89
K2O	2.58
P2O5	0.31
SO3	5.12
UND	3.25

MISC. (As Det.)

Hg	0.02 ppm

AS DETERMINED MOISTURE: 0.48 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-10

DATE LOGGED 06/29/04
DATE COMPLETED 07/16/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043242

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.29
Total Sulfur	1.68

ULTIMATE	(Dry)%
Carbon	0.56
Ash	97.29

MAJOR ASH ELEM	(Dry)%
SiO2	49.16
Al2O3	20.73
TiO2	1.17
Fe2O3	14.72
CaO	4.18
MgO	0.99
Na2O	0.89
K2O	2.55
P2O5	0.31
SO3	4.21
UND	1.09

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.40 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-11

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043243

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.12
Total Sulfur	1.03

ULTIMATE	(Dry)%
Carbon	0.74
Ash	98.12

MAJOR ASH ELEM	(Dry)%
SiO2	48.60
Al2O3	20.27
TiO2	1.09
Fe2O3	15.88
CaO	4.55
MgO	0.95
Na2O	0.86
K2O	2.57
P2O5	0.25
SO3	2.57
UND	2.41

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.30 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-12

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043244

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.04
Total Sulfur	1.14

ULTIMATE	(Dry)%
Carbon	0.68
Ash	98.04

MAJOR ASH ELEM	(Dry)%
SiO2	47.86
Al2O3	20.17
TiO2	1.11
Fe2O3	15.48
CaO	4.48
MgO	0.95
Na2O	0.86
K2O	2.51
P2O5	0.27
SO3	2.85
UND	3.46

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.30 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-13

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043245

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.12
Total Sulfur	0.88

ULTIMATE	(Dry)%
Carbon	0.74
Ash	98.12

MAJOR ASH ELEM	(Dry)%
SiO2	47.59
Al2O3	19.01
TiO2	0.99
Fe2O3	18.58
CaO	5.40
MgO	0.98
Na2O	0.73
K2O	2.27
P2O5	0.22
SO3	2.19
UND	2.04

MISC. (As Det.)	
Hg	0.02 ppm

AS DETERMINED MOISTURE: 0.47 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-14

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043246

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.57
Total Sulfur	1.99

ULTIMATE	(Dry)%
Carbon	0.40
Ash	96.57

MAJOR ASH ELEM	(Dry)%
SiO2	47.42
Al2O3	20.30
TiO2	1.15
Fe2O3	14.09
CaO	3.99
MgO	0.99
Na2O	0.89
K2O	2.67
P2O5	0.31
SO3	4.97
UND	3.22

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.65 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 3
DATE SAMPLED 06/24/04
SAMPLE NUMBER ESP ASH 3-A-3-15

DATE LOGGED 06/29/04
DATE COMPLETED 07/22/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043247

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.81
Total Sulfur	1.69

ULTIMATE	(Dry)%
Carbon	0.61
Ash	96.81

MAJOR ASH ELEM	(Dry)%
SiO2	47.48
Al2O3	20.18
TiO2	1.13
Fe2O3	15.25
CaO	4.35
MgO	0.97
Na2O	0.85
K2O	2.57
P2O5	0.28
SO3	4.23
UND	2.71

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.30 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH*
TEST 3
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *ESP ASH 3-A-3-16*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/22/04*
PROJECT NUMBER *1621-87* -
ANALYTICAL NUMBER 043248

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.25
Total Sulfur	1.48

ULTIMATE	(Dry)%
Carbon	0.68
Ash	97.25

MAJOR ASH ELEM	(Dry)%
SiO2	46.77
Al2O3	19.35
TiO2	1.06
Fe2O3	16.57
CaO	4.72
MgO	0.94
Na2O	0.81
K2O	2.48
P2O5	0.28
SO3	3.69
UND	3.33

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.36 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER ESP ASH 4-A-3-1

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043249

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.12
Total Sulfur	0.56

ULTIMATE	(Dry)%
Carbon	0.43
Ash	99.12

MAJOR ASH ELEM	(Dry)%
SiO2	51.65
Al2O3	19.73
TiO2	1.05
Fe2O3	18.49
CaO	4.60
MgO	1.05
Na2O	0.70
K2O	2.60
P2O5	0.21
SO3	1.41
UND	-1.49

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.01 %

DISTRIBUTION:
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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-2*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043250**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.28
Total Sulfur	0.52

ULTIMATE	(Dry)%
Carbon	0.43
Ash	99.28

MAJOR ASH ELEM	(Dry)%
SiO2	51.78
Al2O3	19.44
TiO2	1.03
Fe2O3	18.89
CaO	4.67
MgO	0.97
Na2O	0.69
K2O	2.65
P2O5	0.19
SO3	1.29
UND	-1.60

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.04 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER ESP ASH 4-A-3-3

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043251

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.61
Total Sulfur	0.42

ULTIMATE	(Dry)%
Carbon	0.28
Ash	99.61

MAJOR ASH ELEM	(Dry)%
SiO2	48.21
Al2O3	18.04
TiO2	0.94
Fe2O3	22.27
CaO	6.09
MgO	1.36
Na2O	0.56
K2O	2.24
P2O5	0.40
SO3	1.04
UND	-1.15

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.02 %

DISTRIBUTION:
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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-4*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043252

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.18
Total Sulfur	0.59

ULTIMATE	(Dry)%
Carbon	0.47
Ash	99.18

MAJOR ASH ELEM	(Dry)%
SiO2	49.82
Al2O3	18.91
TiO2	0.99
Fe2O3	19.87
CaO	5.41
MgO	1.15
Na2O	0.65
K2O	2.53
P2O5	0.30
SO3	1.48
UND	-1.11

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.06 %

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ANALYTICAL LABORATORY
4000 BROWNSVILLE ROAD, SOUTH PARK, PA 15129

DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-5*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043253

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.27
Total Sulfur	0.99

ULTIMATE	(Dry)%
Carbon	0.58
Ash	98.27

MAJOR ASH ELEM	(Dry)%
SiO2	50.38
Al2O3	20.40
TiO2	1.13
Fe2O3	17.04
CaO	4.20
MgO	1.08
Na2O	0.78
K2O	2.91
P2O5	0.30
SO3	2.48
UND	-0.70

MISC. (As Det.)

Hg 0.01 ppm

AS DETERMINED MOISTURE: 0.11 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER ESP ASH 4-A-3-6

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043254

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	98.25
Total Sulfur	0.91

ULTIMATE (Dry)%	
Carbon	0.58
Ash	98.25

MAJOR ASH ELEM (Dry)%	
SiO2	50.36
Al2O3	20.26
TiO2	1.14
Fe2O3	17.01
CaO	4.11
MgO	1.08
Na2O	0.74
K2O	2.77
P2O5	0.28
SO3	2.28
UND	-0.03

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.02 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER ESP ASH 4-A-3-7

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043255

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.81
Total Sulfur	0.67

ULTIMATE	(Dry)%
Carbon	0.58
Ash	98.81

MAJOR ASH ELEM	(Dry)%
SiO2	50.04
Al2O3	19.50
TiO2	1.05
Fe2O3	18.96
CaO	4.90
MgO	1.11
Na2O	0.65
K2O	2.54
P2O5	0.25
SO3	1.67
UND	-0.67

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.14 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER ESP ASH 4-A-3-8

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043256

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	98.73
Total Sulfur	0.70

ULTIMATE (Dry)%	
Carbon	0.60
Ash	98.73

MAJOR ASH ELEM (Dry)%	
SiO2	50.33
Al2O3	19.77
TiO2	1.07
Fe2O3	18.54
CaO	4.66
MgO	1.10
Na2O	0.69
K2O	2.66
P2O5	0.27
SO3	1.75
UND	-0.84

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.06 %

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DESCRIPTION CUF-1 ESP HOPPER ASH
TEST 4
DATE SAMPLED 06/25/04
SAMPLE NUMBER ESP ASH 4-A-3-9

DATE LOGGED 06/29/04
DATE COMPLETED 07/30/04
PROJECT NUMBER 1621-87 -
ANALYTICAL NUMBER 043257

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.36
Total Sulfur	2.02

ULTIMATE	(Dry)%
Carbon	0.45
Ash	96.36

MAJOR ASH ELEM	(Dry)%
SiO2	47.95
Al2O3	19.91
TiO2	1.19
Fe2O3	15.65
CaO	4.21
MgO	1.07
Na2O	0.75
K2O	2.65
P2O5	0.36
SO3	5.06
UND	1.20

MISC. (As Det.)

Hg	0.01 ppm

AS DETERMINED MOISTURE: 0.28 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-10*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043258

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	97.49
Total Sulfur	1.63

MISC. (As Det.)	
Hg	0.01 ppm

ULTIMATE	(Dry)%
Carbon	0.47
Ash	97.49

MAJOR ASH ELEM	(Dry)%
SiO2	48.77
Al2O3	20.09
TiO2	1.20
Fe2O3	15.45
CaO	4.08
MgO	1.05
Na2O	0.76
K2O	2.64
P2O5	0.32
SO3	4.07
UND	1.57

AS DETERMINED MOISTURE: 0.19 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH*
TEST 4
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-11*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043259

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	98.21
Total Sulfur	0.97

MISC. (As Det.)

Hg	0.01 ppm

ULTIMATE	(Dry)%
Carbon	0.67
Ash	98.21

MAJOR ASH ELEM	(Dry)%
SiO2	49.63
Al2O3	20.03
TiO2	1.12
Fe2O3	16.99
CaO	4.35
MgO	1.08
Na2O	0.75
K2O	2.80
P2O5	0.29
SO3	2.43
UND	0.53

AS DETERMINED MOISTURE: 0.04 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-12*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043260

ANALYSIS REPORT

PROXIMATE (Dry)%		ULTIMATE (Dry)%		MAJOR ASH ELEM (Dry)%	
Ash	98.11	Carbon	0.46	SiO2	49.43
Total Sulfur	1.13	Ash	98.11	Al2O3	20.04
				TiO2	1.15
MISC. (As Det.)				Fe2O3	16.58
				CaO	4.31
Hg	0.01 ppm			MgO	1.09
				Na2O	0.74
				K2O	2.68
				P2O5	0.31
				SO3	2.82
				UND	0.85

AS DETERMINED MOISTURE: 0.16 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-13*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043261**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	99.38
Total Sulfur	0.51

MISC. (As Det.)	
Hg	0.01 ppm

ULTIMATE	(Dry)%
Carbon	0.36
Ash	99.38

MAJOR ASH ELEM	(Dry)%
SiO2	48.42
Al2O3	18.46
TiO2	0.92
Fe2O3	22.17
CaO	6.07
MgO	1.12
Na2O	0.56
K2O	2.40
P2O5	0.31
SO3	1.28
UND	-1.71

AS DETERMINED MOISTURE: 0.16 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-14*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043262

ANALYSIS REPORT

PROXIMATE (Dry)%	
Ash	85.91
Total Sulfur	4.40

ULTIMATE (Dry)%	
Carbon	1.19
Ash	85.91

MAJOR ASH ELEM (Dry)%	
SiO2	37.95
Al2O3	16.62
TiO2	1.00
Fe2O3	19.88
CaO	3.50
MgO	0.88
Na2O	0.72
K2O	2.25
P2O5	0.30
SO3	10.99
UND	5.91

MISC. (As Det.)

Hg	0.09 ppm

AS DETERMINED MOISTURE: 1.22 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH TEST 4*
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-15*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER 043263

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	96.35
Total Sulfur	2.02

ULTIMATE	(Dry)%
Carbon	0.50
Ash	96.35

MAJOR ASH ELEM	(Dry)%
SiO2	47.87
Al2O3	20.29
TiO2	1.18
Fe2O3	14.74
CaO	4.13
MgO	1.03
Na2O	0.82
K2O	2.72
P2O5	0.33
SO3	5.05
UND	1.84

MISC. (As Det.)

Hg 0.02 ppm

AS DETERMINED MOISTURE: 0.16 %

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DESCRIPTION *CUF-1 ESP HOPPER ASH*
TEST 4
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *ESP ASH 4-A-3-16*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043264**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	94.34
Total Sulfur	2.86

ULTIMATE	(Dry)%
Carbon	0.55
Ash	94.34

MAJOR ASH ELEM	(Dry)%
SiO2	44.97
Al2O3	19.42
TiO2	1.16
Fe2O3	15.34
CaO	4.21
MgO	1.01
Na2O	0.78
K2O	2.61
P2O5	0.36
SO3	7.15
UND	2.99

MISC. (As Det.)

Hg	0.02 ppm

AS DETERMINED MOISTURE: 0.40 %

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DESCRIPTION *CUF-1 FGD SLURRY TEST 1*
DATE SAMPLED *06/23/04*
SAMPLE NUMBER *FGD SLURRY 1*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043197**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	79.67
Total Sulfur	17.44

MISC. (As Det.)	
Hg	0.33 PPM

ULTIMATE	(Dry)%
Carbon	0.33
Chlorine	0.048
Ash	79.67

MAJOR ASH ELEM	(Dry)%
SiO2	1.25
Al2O3	0.15
TiO2	0.01
Fe2O3	0.12
CaO	33.25
MgO	0.41
Na2O	<0.00
K2O	0.03
P2O5	<0.00
SO3	43.60
UND	21.18

AS DETERMINED MOISTURE: 1.36 %

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DESCRIPTION *CUF-1 FGD SLURRY*
TEST 2
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *FGD SLURRY 2*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043198**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	79.63
Total Sulfur	17.38

MISC. (As Det.)	
Hg	0.36 PPM

ULTIMATE	(Dry)%
Carbon	0.29
Chlorine	0.090
Ash	79.63

MAJOR ASH ELEM	(Dry)%
SiO2	1.13
Al2O3	0.13
TiO2	0.01
Fe2O3	0.11
CaO	33.29
MgO	0.42
Na2O	<0.00
K2O	0.02
P2O5	<0.00
SO3	43.45
UND	21.44

AS DETERMINED MOISTURE: 1.31 %

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DESCRIPTION *CUF-1 FGD SLURRY TEST 3*
DATE SAMPLED *06/24/04*
SAMPLE NUMBER *FGD SLURRY 3*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043199**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	79.71
Total Sulfur	17.49

ULTIMATE	(Dry)%
Carbon	0.27
Chlorine	0.023
Ash	79.71

MAJOR ASH ELEM	(Dry)%
SiO2	1.13
Al2O3	0.14
TiO2	0.01
Fe2O3	0.11
CaO	33.64
MgO	0.42
Na2O	<0.00
K2O	0.03
P2O5	<0.00
SO3	43.72
UND	20.80

MISC. (As Det.)

Hg	0.34 PPM

AS DETERMINED MOISTURE: 1.41 %

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DESCRIPTION *CUF-1 FGD SLURRY*
TEST 4
DATE SAMPLED *06/25/04*
SAMPLE NUMBER *FGD SLURRY 4*

DATE LOGGED *06/29/04*
DATE COMPLETED *07/30/04*
PROJECT NUMBER *1621-87 -*
ANALYTICAL NUMBER **043200**

ANALYSIS REPORT

PROXIMATE	(Dry)%
Ash	79.74
Total Sulfur	17.50

MISC. (As Det.)	
Hg	0.35 PPM

ULTIMATE	(Dry)%
Carbon	0.30
Chlorine	0.042
Ash	79.74

MAJOR ASH ELEM	(Dry)%
SiO2	1.12
Al2O3	0.14
TiO2	0.01
Fe2O3	0.11
CaO	33.47
MgO	0.43
Na2O	
K2O	0.02
P2O5	<0.00
SO3	43.74
UND	20.96

AS DETERMINED MOISTURE: 1.54 %

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD SLURRY FILTRATE
COMMENTS TEST 1
SAMPLE NUMBER 1
ANALYTICAL NUMBER 043269

		WATER ANALYSIS		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		759		
Magnesium		1330		
Potassium		4.78		
Sodium		25.8		
Ammonia as NH3	PPM	<10		
Chloride		2180	2200	2190
Nitrate as N		8.80		
Sulfate		4040		
Hg	NG/ML	29.8		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD SLURRY FILTRATE
COMMENTS TEST 2
SAMPLE NUMBER 2
ANALYTICAL NUMBER 043270

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		734		
Magnesium		1340		
Potassium		5.26		
Sodium		28.5		
Ammonia as NH3	PPM	<10		
Chloride		2160		
Nitrate as N		8.33		
Sulfate		4080		
Hg	NG/ML	21.5		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD SLURRY FILTRATE
COMMENTS TEST 3
SAMPLE NUMBER 3
ANALYTICAL NUMBER 043271

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		763		
Magnesium		1350		
Potassium		4.74		
Sodium		26.0		
Ammonia as NH3	PPM	<10		
Chloride		2190		
Nitrate as N		8.15		
Sulfate		4130		
Hg	NG/ML	22.4		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD SLURRY FILTRATE
COMMENTS TEST 4
SAMPLE NUMBER 4
ANALYTICAL NUMBER 043272

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		737		
Magnesium		1320		
Potassium		5.37		
Sodium		28.3		
Ammonia as NH3	PPM	<10		
Chloride		2210		
Nitrate as N		11.3		
Sulfate		4020		
Hg	NG/ML	19.2		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD MAKE-UP WATER
COMMENTS TEST 1
SAMPLE NUMBER 1
ANALYTICAL NUMBER 043273

		WATER ANALYSIS		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		33.3		
Magnesium		6.44		
Potassium		2.23		
Sodium		7.54		
Ammonia as NH3	PPM	<10		
Chloride		4.00		
Nitrate as N		0.41		
Sulfate		26.2		
Hg	NG/ML	<1.0		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD MAKE-UP WATER
COMMENTS TEST 2
SAMPLE NUMBER 2
ANALYTICAL NUMBER 043274

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		33.7		
Magnesium		6.35		
Potassium		2.82		
Sodium		9.21		
Ammonia as NH3	PPM	<10		
Chloride		5.00		
Nitrate as N		0.37	0.37	0.37
Sulfate		25.5		
Hg	NG/ML	<1.0		

Note: All units mg/L unless specified

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TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD MAKE-UP WATER
COMMENTS TEST 3
SAMPLE NUMBER 3
ANALYTICAL NUMBER 043275

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		34.6		
Magnesium		6.29		
Potassium		2.87		
Sodium		9.30		
Ammonia as NH3	PPM	<10		
Chloride		2.00		
Nitrate as N		0.44		
Sulfate		24.8		
Hg	NG/ML	<1.0		

Note: All units mg/L unless specified

CONSOL ENERGY INC.
RESEARCH & DEVELOPMENT
ANALYTICAL LABORATORY
SOUTH PARK, PENNSYLVANIA 15129

TO: JAW/JEL/SCT

PROJECT NUMBER 1621-87 -

DATE LOGGED 06/29/04
DATE COMPLETED / /

DESCRIPTION FGD MAKE-UP WATER
COMMENTS TEST 4
SAMPLE NUMBER 4
ANALYTICAL NUMBER 043276

		-------- WATER ANALYSIS ---------		
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Calcium		32.1		
Magnesium		6.30		
Potassium		2.71		
Sodium		9.02		
Ammonia as NH3	PPM	<10		
Chloride		4.00		
Nitrate as N		0.38		
Sulfate		25.8		
Hg	NG/ML	<1.0		

Note: All units mg/L unless specified