Appendix A. Results and Calculations

Spreadsheet Printouts

General Calculations

Mercury Specific Calculations and Examples

Data Tracking Logs

FOSSIL ENERGY RESEARCH CORP.

ISOKINETIC TEST DATA SUMMARY

Test Program Information				
Client	Ameren	*Data input by*	MDM	
Plant/Unit	Meramec 4	*Method*	Ontario Hydro	
Sample Location	ESP 4C Inlet	*Stack Area, ft^2*	204.75	
Fuel	Bit Coal	*Sample Train ID*	5-WCS	
Fuel F-factor, dscf/MMBtu	9780	*Meter factor, Y_D*	0.983	
		Ref Temp, F	68	
Pre-test Information				
Test Number	2-Inlet	3-Inlet	4-Inlet	Average
Pitot Factor, C_p	0.84	0.84	0.84	-
Barometric Pressure, in Hg	29.50	29.50	29.40	-
Sample Time, min	125	125	125	-
Nozzle Diameter, in	0.185	0.185	0.185	-
Sample Train Data				
Meter Volume, acf	58.950	53.480	45.710	-
Static Pressure, iwg	-16.00	-15.00	-12.00	-14.33
ΔP, iwg	0.9527	0.7187	0.5920	0.7545
ΔH, iwg	0.85	0.64	0.54	0.68
Meter Temp, F	99.7	111.0	99.6	103.4
Stack Temp, F	337.1	341.2	334.5	337.6
Water collected, g	140.3	116.6	107.4	121.4
O_2, %	6.61	6.82	6.43	6.62
CO_2, %	12.13	12.21	11.80	12.05
Start time/stop time	1010/1224	1401/1635	0745/0959	
Sample Train Results				
Std Sample Vol, dscf	54.009	48.002	41.712	47.908
Std Sample Vol, m^3	1.529	1.359	1.181	1.357
Std Moisture Vol, dscf	6.622	5.504	5.069	-
Moisture, %	10.92%	10.29%	10.84%	10.68%
Dry Molecular Weight	30.21	30.23	30.14	-
Wet Molecular Weight	28.87	28.97	28.83	28.89
Stack Gas Velocity, ft/s	69.09	59.98	54.23	61.10
Stack Gas Flow, wacfm	848748	736886	666185	750606
Stack Gas Flow, dscfm	474084	413491	376249	421275
Isokinetic Ratio, %	99.99	101.89	97.30	-
Mercury catch, ug				
Particulate	9.3	10	5.4	8.23
Oxidized	0.6	1.5	1.8	1.30
Elemental	0.2	0.5	0.6	0.41
Total	10.1	11.9	7.8	9.95
Mercury catch, ug/m^3				
Particulate	6.08	7.36	4.57	6.07
Oxidized	0.39	1.07	1.56	1.01
Elemental	0.11	0.35	0.50	0.32
Total	6.59	8.78	6.63	7.33
Mercury catch, lb/10^{12} Btu				
Particulate	5.42	6.65	4.02	5.41
Oxidized	0.35	0.97	1.37	0.90
Elemental	0.10	0.31	0.44	0.28
Total	5.87	7.94	5.83	6.55
Mercury, lb/hr				
Particulate	0.021	0.025	0.015	0.021
Oxidized	0.001	0.004	0.005	0.003
Elemental	0.000	0.001	0.002	0.001
Total	0.023	0.030	0.021	0.025

FOSSIL ENERGY RESEARCH CORP.

ISOKINETIC TEST DATA SUMMARY

Test Program Information				
Client	Ameren	*Data input by*	MDM	
Plant/Unit	Meramec 4	*Method*	Ontario Hydro	
Sample Location	Stack	*Stack Area, ft^2*	247.4	
Fuel	Bit Coal	*Sample Train ID*	1-FERCo	
Fuel F-factor, dscf/MMBtu	9780	*Meter factor, Y_D*	1.001	
		Ref Temp, F	68	
Pre-test Information				
Test Number	2-Stack	3-Stack	4-Stack	Average
Pitot Factor, C_p	0.84	0.84	0.84	-
Barometric Pressure, in Hg	29.30	29.30	29.20	-
Sample Time, min	120	120	120	-
Nozzle Diameter, in	0.184	0.184	0.185	-
Sample Train Data				
Meter Volume, acf	92.069	93.700	81.350	-
Static Pressure, iwg	-0.40	-0.40	-0.40	-0.40
ΔP, iwg	2.5716	2.3060	1.8964	2.2580
ΔH, iwg	2.17	2.18	1.73	2.03
Meter Temp, F	112.5	114.6	93.9	107.0
Stack Temp, F	322.9	325.8	301.8	316.8
Water collected, g	175.7	175.9	164.2	171.9
O_2, %	7.27	7.20	6.17	6.88
CO_2, %	11.57	11.88	12.01	11.82
Start time/stop time	1010/1230	1400/1614	0747/0959	
Sample Train Results				
Std Sample Vol, dscf	83.683	84.857	76.080	81.540
Std Sample Vol, m^3	2.370	2.403	2.154	2.309
Std Moisture Vol, dscf	8.293	8.302	7.750	-
Moisture, %	9.02%	8.91%	9.25%	9.06%
Dry Molecular Weight	30.14	30.19	30.17	-
Wet Molecular Weight	29.05	29.10	29.04	29.06
Stack Gas Velocity, ft/s	110.32	104.57	93.62	102.84
Stack Gas Flow, wacfm	1637770	1552282	1389808	1526620
Stack Gas Flow, dscfm	983135	929443	852317	921632
Isokinetic Ratio, %	95.06	101.96	98.62	-
Mercury catch, ug				
Particulate	0.0100	0.015	0.0100	0.008
Oxidized	1.4	4.1	2.7	2.70
Elemental	1.5	2.1	1.4	1.65
Total	2.8	6.2	4.1	4.36
Mercury catch, ug/m^3				
Particulate	0.0042	0.006	0.0045	0.00
Oxidized	0.58	1.69	1.24	1.17
Elemental	0.61	0.87	0.65	0.71
Total	1.19	2.57	1.89	1.88
Mercury catch, lb/10^{12} Btu				
Particulate	0.0039	0.006	0.0040	0.00
Oxidized	0.54	1.57	1.07	1.06
Elemental	0.57	0.81	0.57	0.65
Total	1.11	2.38	1.64	1.71
Mercury, lb/hr				
Particulate	0.0000	0.00002	0.0000	0.000
Oxidized	0.002	0.006	0.004	0.004
Elemental	0.002	0.003	0.002	0.002
Total	0.004	0.009	0.006	0.006

Shades values are not detected. Calculations shown are at detection levels.

EMISSION CALCULATIONS

1. Sample Volume and Isokinetics

   a. Sample gas volume, dscf

   $V_{m\ std} = 0.03342 V_m\ [P_{bar} + (H/13.6)](T_{ref}/T_m)(Y)$

   b. Water vapor volume, scf

   $V_{w\ std} = 0.0472\ V_{lc}\ (T_{ref}/528°R)$

   c. Moisture content, nondimensional

   $B_{wo} = V_{w\ std}/(V_{m\ std} + V_{w\ std})$

   d. Stack gas molecular weight, lb/lb mole

   $MW_{dry} = 0.44(\%\ CO_2) + 0.32(\%\ O_2) + 0.28\ (\%\ N_2)$

   $MW_{wet} = MW_{dry}\ (1 - B_{wo}) + 18\ (B_{wo})$

   e. Absolute stack pressure, iwg

   $Ps = P_{bar} + P_{sg}/13.6$

   f. Stack velocity, ft/sec

$$V_s = 2.90\ C_p \sqrt{\Delta PTs}\ \sqrt{\frac{29.92}{Ps} \times \frac{28.95}{MW_{wet}}}$$

   g. Actual stack gas flow rate, wacfm

   $Q = (V_s)(A_s)(60)$

   h. Standard stack gas flow, dscfm

   $Q_{sd} = Q(1 - B_{wo})\ (T_{ref}/Ts)(Ps/29.92)$

   i. Percent isokinetic

$$I = \frac{17.32 \times T_s\ (V_{m\ std})}{(1 - B_{wo})\,\theta \times V_s \times Ps \times Dn^2} \times \frac{528°R}{T_{ref}}$$

2. Particulate Emissions

   a. Grain loading, gr/dscf

   $C = 0.01543\ (M_n/V_{m\ std})$

   b. Grain loading at 12% CO_2, gr/dscf

   $C_{(12\%\ CO2)} = C\ (12/\%CO_2)$

c. Mass emissions, lb/hr

M = C x Qsd x (60 min/hr)/(7000 gr/lb)

3. Gaseous Emissions, lb/hr

$$M = ppm \times 10^{-6} \quad \frac{MW_i \ lb/lb \ mole}{SV} \quad X \ Qsd \ X \ 60 \ min/hr$$

where SV = specific molar volume of an ideal gas:

385.3 ft^3/lb mole for T_{ref} = 528°R

379.5 ft^3/lb mole for T_{ref} = 520°R

4. Emissions Rates, lb/10^6 Btu

a. Fuel factor at 68°F, dscf/10^6 Btu at 0% O_2

$$F_{68} = \frac{10^6[3.64(\%H) + 1.53(\%C) + 0.14(\%N) + 0.57(\%S) - 0.46(\%O_2, fuel)]}{HHV, \ Btu/lb}$$

b. Fuel factor at 60°F

$F_{60} = F_{68}$ (520°R/528°R)

c. Gaseous emission factor

$$lb/10^6 \ Btu_i = ppm_i \times 10^{-6} \times \frac{MW_i \ lb}{lb \ mole} \times \frac{1}{SV} \times F \times \frac{20.9}{20.9 - \%O_2}$$

d. Particulate emission factor

$$lb/10^6 \ Btu = C \times \frac{1 \ lb}{7000 \ gr} \times F \times \frac{20.9}{20.9 - \%O_2}$$

These calculations are routinely performed on FERCo's computer.

Nomenclature:

A_s = stack area, ft^2
B_{wo} = flue gas moisture content
$C_{12\%CO2}$ = particulate grain loading, gr/dscf corrected to 12% CO_2
C = particulate grain loading, gr/dscf
C_p = pitot calibration factor, dimensionless
Dn = nozzle diameter, in.
F = fuel F factor, dscf/10^6 Btu at 0% O_2
H = orifice pressure differential, iwg
I = % isokinetics
M_n = mass of collected particulate, mg
M_i = mass of emissions species i, lb/hr
MW = molecular weight of flue gas
MW_i = molecular weight of species i:
- NO_x: 64
- CO: 28
- SO_2: 64
- HC: 16

Σ = sample time, min.

ΔP = average velocity head, iwg = $\left(\overline{\sqrt{\Delta P}}\right)^2$

P_{bar} = barometric pressure, in. Hg
Ps = stack absolute pressure, in. Hg
Psg = stack static pressure, iwg
Q = wet stack gas flow rate at actual conditions, wacfm
qsd = dry stack gas flow rate at standard conditions, dscfm
SV = specific molar volume of an ideal gas at std conditions, ft^3/lb mole
Tm = meter temperature, °R
T_{ref} = reference temperature, °R
Ts = stack temperature, °R
V_s = stack velocity, ft/sec
V_{lc} = volume of liquid collected in impingers, ml
V_m = dry meter volume uncorrected, dcf
$V_{m\ std}$ = dry meter volume at standard conditions, dscf
$V_{w\ std}$ = volume of water vapor at standard conditions, scf
Y = meter calibration coefficient

FOSSIL ENERGY RESEARCH CORP.

23342 C SOUTH POINTE, LAGUNA HILLS, CA 92653 (714) 859-4466

Date _____ Operator _____

Sampling train _____ Checked by _____

Site _____ Used for runs _____

1. C_p (for S-type pitots) = _____
2. P_b (barometric pressure at location) = _____
3. D_n (nozzle diameter inches) = _____
4. B_w (moisture in gas stream, percent) = _____
5. P_m (barometric pressure at meter, in Hg) $= \frac{\text{AVG } \Delta H}{13.6} + P_b$ = _____
6. $\Delta H@$ (pressure differential of orifice in meterbox, H_2O) = _____
7. P_s (stack pressure, in Hg) $= P_b \pm \frac{\text{stack static pressure } (H_2O)}{13.6}$ = _____
8. T_s (average stack temperature, °R) = _____ °F + 460 = _____ °R
9. T_m (average meter temperature, °R = ambient + 20°F + 460 = _____ °R
10. M_d (molecular weight of stack gas, dry, lb/lb mole)
    = (0.44 × % CO_2) + (0.32 × % O_2) + [0.28 + % N_2]
    = (0.44 × _____) + (0.32 × _____) + (0.28 + _____) = _____
11. M_s (molecular weight of stack gas with water vapor, lb/lb mole)
    = $[M_d \times (1-B_w)] + [18 \times B_w]$
    = [_____ × (1 - _____)] + [18 × _____] = _____
12. $K = (846.72)(D_n^4)(\Delta H@)(C_p^2)(1-B_w)^2 \left[\frac{M_d}{M_s}\right]\left[\frac{P_s}{P_m}\right]\left[\frac{T_m}{T_s}\right]$

    K = (846.72) (_____)^4 (_____) (_____)^2 (_____)^2 (_____) (_____) (_____)
    K = _____

$\Delta H = K\Delta P$
Correlation Chart

ΔH	ΔP

K-Factor Calculation Form

Calculations to determine mercury as lb/10^{12} Btu in fuel												
Mercury	=	Mercury	x	1.E-06	x	(1-H_2O)	/	HHV	*	1.E+12		
lb/10^{12} Btu		ppm dry						lb/Btu				
Example, Meramec Test 3												
8.9	=	0.12	x	1.E-06	x	0.8945	/	12075	*	1.E+12		
lb/10^{12} Btu		ppm dry						lb/Btu				
Calculations to determine mercury as lb/hr in fuel												
Mercury	=	Mercury	x	1.E-06	x	(1-H_2O)	x	coal flow				
lb/hr		ppm dry						lb/hr as-fired				
Example, Meramec Test 3												
0.030	=	0.12	x	1.E-06	x	0.8945	x	277430				
lb/hr		ppm dry						lb/hr as-fired				
Calculations to determine gas flow rates from fuel input												
Oxygen based												
Flow	=	fuel flow	x	HHV	x	Fd-factor	x	20.9/(20.9-O_2)	/	60	/	1,000,000
dscfm		lb/hr		Btu/lb		dscf/mmBtu				min/hr		
Example, Meramec Test 3 Stack												
833,017	=	277430	x	12075	x	9780	x	1.526	/	60	/	1,000,000
dscfm		lb/hr		Btu/lb		dscf/mmBtu				min/hr		
Carbon based												
Flow	=	fuel flow	x	HHV	x	Fc-factor	x	100/CO_2	/	60	/	1,000,000
dscfm		lb/hr		Btu/lb		dscf/mmBtu				min/hr		
Example, Meramec Test 3 Stack												
845,951	=	277430	x	12075	x	1800	x	8.418	/	60	/	1,000,000
dscfm		lb/hr		Btu/lb		dscf/mmBtu				min/hr		

Calculations to determine mercury as lb/10^{12} Btu in gas												
Mercury	=	Mercury	/	Sample vol		2.20.E-09	x	9780	*	20.9/(20.9-O_2)	*	1.E+06
lb/10^{12} Btu		ug/sample		dscf		lb/ug		f-factor		dilution		10^{12}/10^{6}
								dscf/10^{6} Btu		correciton		
Example, Meramec Test 3 Stack Total Mercury												
5.350	=	13.815	/	84.86	x	2.E-09	x	9780	/	1.526	*	1.E+06
lb/10^{12} Btu		ug/sample		dscf		lb/ug		f-factor		dilution		10^{12}/10^{6}
								dscf/10^{6} Btu		correciton		
Calculations to determine mercury as lb/hr in gas												
Mercury	=	Mercury	/	Sample vol	x	2.20.E-09	x	Gas flow	x	60		
lb/hr		ug/sample		dscf		lb/ug		dscfm		min/hr		
Example, Newton Test 3 Stack Total Mercury												
2.00E-02	=	13.815	/	84.86	x	2.20.E-09	x	929443	x	60		
lb/hr		ug/sample		dscf		lb/ug		dscfm		min/hr		

Data Tracking Log

Test Unit	Moramec 4
Test Dates	7/98

	By	Date
Mercury Gas Data		
Data taken	MM	7/99
Data reduced	MM	7/99
Entered in spreadsheet	MM	7/99
Field custody taken	AB	7/99
Lab data received	MM	10/99
Lab data entered	MM	↓
Results prepared/summarized	MM	↓
Results entered in report	MM	↓
Coal sample data		
Lab data received	MM	8/99
Lab data entered	MM	8/99
Results prepared/summarized	MM	8/99
Results entered in report	MM	9/99

Appendix B. Raw Field Data and Calibration Data Sheets

Sampling Data

Velocity Traverses

O_2 Meter Calibration

O_2 Meter Gas Certificates

Dry Gas Meter Calibration

Pitot Probe Calibration

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Ameren Meremec Unit 4 UNIT 4 TEST NO. 1-Inlet METHOD OH Hg PAGE 1 OF 2
SAMPLE LOCATION ESP 4C Inlet TEST CONDITION AMBIENT TEMPERATURE
OPERATOR/ASSISTANT MM/PA METER VOLUME START/END / DATE

PRE-TEST DATA:

Barometric Pressure, In.Hg	29.5
Assumed Stack Pressure, iwg	-15
Assumed Moisture, %	8%
Assumed Molecular Weight	28
Assumed Stack Temperature	310
Assumed Meter Temperature	105
Average ΔP	.8
Stack diameter/area	204.75
Sample time, min/point	5
ΔH = 1.01 x ΔP	

EQUIPMENT INFO:

Meter No.	J-WCS
Meter Yd	.983
Δ H @	1.831
Pitot ID, Cp	S-type
O_2/CO_2 Method	portable
Teflon connecting line? (Y/N)	Y
Probe material	teflon
Probe length	16'
Nozzle material	~~.185~~ glass
Nozzle diameter, in.	.188
Filter No.	QT-11 Lane: 2.9231
Filter material	Quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl		-	649.1	=	
2	KCl		-	672.5	=	
3	KCl		-	616.7	=	
4	HNO_3/H_2O_2		-	651.6	=	
5	$KMnO_4/H_2SO_4$		-	544.8	=	
6	$KMnO_4/H_2SO_4$		-	619.8	=	
7	$KMnO_4/H_2SO_4$		-	597.0	=	
8	SG		-	706.4	=	
					Total	

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	.018	15	N	MM
Post-test				

PRE-TEST METER CALIBRATION CHECK:

	Time	Δ H	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

ch weight = 294.9/295.0

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	~~FILTER~~ line	METER In	METER out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg

sucked impingers back - test voided

CHAIN OF CUSTODY INFORMATION
Impingers Loaded
Impingers Recovered
Filter Loaded
Filter Recovered
Probe Wash
TEST AVERAGES/TOTALS
Calculated by:
Checked by:
Δ P, iwg
Δ H, iwg
Sample vol, acf
Stack temp, F
Meter temp, F
Static press, iwg
Water collected, g
O_2, %
Sample time, min

FOSSIL ENERGY RESEARCH CORPORATION

Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Ameren UNIT 4 TEST NO. 2-Inlet METHOD OH Hg PAGE 1 OF 2

SAMPLE LOCATION Meramec Unit 4 Inlet TEST CONDITION Full load AMBIENT TEMPERATURE 95

OPERATOR/ASSISTANT MM/PA METER VOLUME START/END / DATE 7/29/99

PRE-TEST DATA:

Barometric Pressure, In.Hg	29.5
Assumed Stack Pressure, iwg	-15.5
Assumed Moisture, %	11
Assumed Molecular Weight	29
Assumed Stack Temperature	340
Assumed Meter Temperature	105
Average ΔP	.8
Stack diameter/area	
Sample time, min/point	5
ΔH = .9 x ΔP	

EQUIPMENT INFO:

Meter No.	5-WCS
Meter Yd	.983
ΔH @	1.831
Pitot ID, Cp	.84 S type
O_2/CO_2 Method	portable
Teflon connecting line? (Y/N)	Y
Probe material	teflon
Probe length	16'
Nozzle material	glass
Nozzle diameter, in.	.188, .185 AVG
Filter No.	GT-10 Tare: 3.2465
Filter material	Quartz

IMPINGER WEIGHTS: add 50ml 0.1N HNO_3 to #2

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl	842.3	-	701.0	=	141.3
2	KCl	602.1	-	581.4	=	20.7
3	KCl	662.9	-	660.6	=	2.3
4	H_2SO_4/H_2O_2	580.0	-	575.6	=	4.4
5	$KMnO_4/H_2SO_4$	604.8	-	602.4	=	2.4
6	$KMnO_4/H_2SO_4$	585.5	-	583.9	=	1.6
7	$KMnO_4/H_2SO_4$	568.0	-	569.6	=	-1.6
8	SG	789.4	-	770.2	=	19.2
					Total	140.3

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	.02	15	✓	MM
Post-test	0.00	8		MM

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/___
Stop				/___
Avg/total				

old ✓ 294.9/295.0
all KMnO4 in purple

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER: In	METER: out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
1-4	1010	356.200	.85	.77	~~385~~ 352	260	265	99	101	71 #1		5.3	6	calO2	Impingers Loaded MM
-4	1015	358.65	.80	.72	353	270	260	99	100	70		8.4	5		Impingers Recovered MM
-3	1020	361.9	.95	.85	357	260	255	99	100	69		8.0	6		Filter Loaded MM
-2	1025	363.3	.63	.56	355	270	255	99	99	69		7.9	5	calO2	Filter Recovered MM
-1	1070	365.1	.30	.27	352	270	255	98	99	73	iod	7.9	3		Probe Wash MM
		366.400	10.200 ✓		353.8 avg ✓			199.4 avg			de-hit	8.10 avg ✓			
3-4	1036 #2	366.510	.96	.89	333	260	260	99	97	74	air	7.0	6		
-4	1041 #2	368.7	.98	.89	334	260	260	97	97	68	moisture	6.4	6	calO2	TEST AVERAGES/TOTALS
-3	1046 #2	371.2	1.1	1.0	369	270	255	97	96	63	orig	6.7	6		Calculated by: MM
-2	1051 #2	373.7	1.1	.99	370	260	260	97	96	62	high	6.7	6		Checked by:
-1	1056		.92	.73	361	260	250	98	96	66		6.3	6	calO2	ΔP, iwg .9527 ✓
	1101 #2	378.43	11.92 ✓		~~366.1~~ 353.4 ✓			197.0				6.56 ✓			ΔH, iwg
5-4	1105	378.490	1.2	1.1	340	260	260	97	96	74		7.3	7		Sample vol, acf 58.95 ✓
-4	1110		1.1	1.0	347	260	260	100	98	64		6.7	7		Stack temp, F 337 ✓
-3	1115	383.7	1.2	1.1	350	261	260	99	98	64		6.2	7	calO2	Meter temp, F 99.7
-2	1120 ✓	386.3	1.25	1.1	341	260	260	101	98	65		5.8		calO2	Static press, iwg -16.0
-1	1125	389.2	1.05	.94	349	260	260	101	99	65		6.0			Water collected, g
		391.20	12.79 ✓		342.8 ✓			198.7				6.30 ✓			O_2, % 6.61
															Sample time, min 125

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY _____ UNIT _____ TEST NO. 2-Baseline METHOD _____ PAGE 2 OF 2

SAMPLE LOCATION _____ TEST CONDITION _____ AMBIENT TEMPERATURE _____

OPERATOR/ASSISTANT _____ METER VOLUME START/END _____ / _____ DATE 7/29/99

PRE-TEST DATA:	EQUIPMENT INFO:
Barometric Pressure, In.Hg	Meter No.
Assumed Stack Pressure, iwg	Meter Yd
Assumed Moisture, %	ΔH @
Assumed Molecular Weight	Pitot ID, Cp
Assumed Stack Temperature	O_2/CO_2 Method
Assumed Meter Temperature	Teflon connecting line? (Y/N)
Average ΔP	Probe material
Stack diameter/area	Probe length
Sample time, min/point	Nozzle material
ΔH = _____ x ΔP	Nozzle diameter, in.
	Filter No.
	Filter material

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1			-		=	
2			-		=	
3			-		=	
4			-		=	
5			-		=	
6			-		=	
7			-		=	
8			-		=	
					Total	

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test				
Post-test				

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/_____
Stop				/_____
Avg/total				

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER In	METER out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
7-4	1132	391.38	.68	.79	308	260	260	101	99	70		5.9	6		Impingers Loaded
-4	1137	393.2	.94	.84	310	260	260	101	102	67		5.8	7	cal O_2	Impingers Recovered
-3	1142	396.0	.96	.85	327	260	260	102	106	67		5.7	7		Filter Loaded
-2	1147	398.4	.98	.88	333	270	260	102	100	68		5.9	7	-1610	Filter Recovered
-1	1152	400.8	1.05	.97	341	270	260	103	101	69		5.9	7	cal O_2	Probe Wash
	1158	403.80, 120	11.74 ✓		325.6 ✓			100.9	✓			5.84 ✓			
8-4	1159	403.190	1.1	.98	310	260	260	102	101	70		6.1	7		TEST AVERAGES/TOTALS
9-4	1204		1.1	.98	311	260	260	104	101	69		6.1	7		Calculated by:
-3	1209		1.1	.98	316	250	260	104	102	68		6.3	7	cal O_2	Checked by:
-2	1214	410.9	1.1	.98	317	260	260	105	102	70		5.9	8		ΔP, iwg
-1	1219	413.5	.65	.58	305	260	260	104	102	73		6.9	5		ΔH, iwg
=	1224				311.8 ✓			102.7 ✓				6.26 ✓			Sample vol, acf
end	1224	415.99	12.30 ✓												Stack temp, F
															Meter temp, F
															Static press, iwg
															Water collected, g
															O_2, %
															Sample time, min

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY American Municipal 4 UNIT 4 TEST NO. 3-Inlet METHOD OH Hg PAGE 1 OF 2
SAMPLE LOCATION ESP 4C Inlet TEST CONDITION Full load AMBIENT TEMPERATURE 100
OPERATOR/ASSISTANT MM/DA METER VOLUME START/END / DATE 7/28/99

PRE-TEST DATA:

Barometric Pressure, In.Hg	29.5
Assumed Stack Pressure, iwg	-16
Assumed Moisture, %	11
Assumed Molecular Weight	29
Assumed Stack Temperature	340
Assumed Meter Temperature	105
Average ΔP	1.0
Stack diameter/area	
Sample time, min/point	5
ΔH = _____ x ΔP	.9

EQUIPMENT INFO:

Meter No.	5-WLS
Meter Yd	.983
ΔH @	1.631
Pitot ID, Cp	.84
O_2/CO_2 Method	portable
Teflon connecting line? (Y/N)	Y
Probe material	teflon
Probe length	6'
Nozzle material	glass
Nozzle diameter, in.	.184
Filter No.	QT-13 Tare = ~~2.4890~~ 3.3666
Filter material	quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	1Cl	752.8	-	626.8	=	126.0
2	KCl	605.6	-	589.6	=	16.0
3	KCl	562.3	-	560.9	=	1.4
4	1% HNO_3/10% H_2O_2	690.1	-	686.5	=	3.6
5	1CM $KMnO_4$/10% H_2SO_4	599.1	-	596.7	=	2.4
6	1CM $KMnO_4$/10% H_2SO_4	608.1	-	607.5	=	0.6
7	1CM $KMnO_4$/10% H_2SO_4	540.5	-	540.2	=	0.3
8	SG	515.5	-	299.2	=	16.3
					Total	166.6
						50
						116.6

COMMENTS: add 50 ml DI H2O rinse

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	<.005	11	✓	MM
Post-test	.01	7	✓	MM

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

check @ 294.9/295.0
impinger purge

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER In	METER out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
9-4	1401	419.250	.84	.75	305	250	250	106	106	81 (ice)		7.0	5	cal O_2	Impingers Loaded
-4	1406	421.6	.82	.73	304	250	250	107	105	79		6.6	5		Impingers Recovered
-3	1411	423.9	.88	.78	330	250	260	108	107	76		6.7	5	cal O_2	Filter Loaded
-2	1416	426.2	.85	.76	327	260	260	108	106	75		5.9	5		Filter Recovered
-1	1421	428.5	.54	.48	313	260	250	108	107	72		6.7	4		Probe Wash MM
	10.950 ✓	430.20	.7804 ✓		315.8 ✓			106.8 ✓				6.48 ✓			
7-4	1431	430.28	.85	.75	318	250	260	110	110	74		6.1	5	cal O_2	TEST AVERAGES/TOTALS
-4	1435	432.6	.85	.75	320	260	260	110	109	68		5.9	5		Calculated by: MM
-3	1440	434.9	.84	.74	330	260	260	110	110	66		5.6	5		Checked by: MM
-2	1445	437.2	.87	.76	342	260	257	109	108	67		5.5	5	cal O_2	ΔP, iwg .7187 ✓
-1	1450	439.5	.81	.71	346	260	250	110	110	65		5.9	5	-15.0	ΔH, iwg .64 ✓
	11.40 ✓	441.680	.8939 ✓		332.4 ✓			110.6	109.6 ✓			5.80 ✓			Sample vol, acf 53.48
5-4	1454	442.40	1.05	.95	349	261	260	112	109	74		7.2	6	cal O_2	Stack temp, F 341.2
-4	1504	444.8	1.05	.95	352	260	260	113	110	70		6.1	6		Meter temp, F 111.0
-3	1509	447.4	.90	.80	357	260	260	113	111	72		6.0	6		Static press, iwg -15.0
-2	1514	449.8	.95	.85	351	260	260	113	111	70		5.8	6	cal O_2	Water collected, g
-1	1519	452.2	.59	.53	355	260	260	115	111	71	ice	5.9	5		O_2, % 6.82 ✓
	12.15 ✓	454.55	.4990 ✓		352.8 ✓			111.8 ✓				6.20 ✓			Sample time, min 125

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY _____ UNIT _____ TEST NO. 3-Inlet METHOD _____ PAGE 2 OF 2

SAMPLE LOCATION _____ TEST CONDITION _____ AMBIENT TEMPERATURE _____

OPERATOR/ASSISTANT _____ METER VOLUME START/END _____ / _____ DATE 7/29/99

PRE-TEST DATA:	EQUIPMENT INFO:
Barometric Pressure, In.Hg	Meter No.
Assumed Stack Pressure, iwg	Meter Yd
Assumed Moisture, %	Δ H @
Assumed Molecular Weight	Pitot ID, Cp
Assumed Stack Temperature	O_2/CO_2 Method
Assumed Meter Temperature	Teflon connecting line? (Y/N)
Average ΔP	Probe material
Stack diameter/area	Probe length
Sample time, min/point	Nozzle material
ΔH = _____ x ΔP	Nozzle diameter, in.
	Filter No.
	Filter material

All Grade

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1			-		=	
2			-		=	
3			-		=	
4			-		=	
5			-		=	
6			-		=	
7			-		=	
8			-		=	
					Total	

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test				
Post-test				

PRE-TEST METER CALIBRATION CHECK:

	Time	Δ H	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F STACK	PROBE	FILTER	METER in	METER out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg
3-4	1543	454.280	.90	.80	350	260	255	113	112	77	iced	7.6	6	cal O_2
-4	1548	456.8	.48	.42	341	260	255	114	112	72		7.5	4	
-3	1553	458.6	.61	.54	371	260	255	115	113	73		7.0	5	
-2	1558	460.5	.60	.52	366	260	255	116	114	75		6.8	5	cal O_2
-1	1603	462.5	.70	.62	360	260	255	115	114	74		6.7		
~~1-4~~	10.21 ✓	464.49	.6509 ✓		358.6 ✓			113.8 ✓				7.12 ✓		
1-4	1610	469.53	.65	.57	346	260	255	113	113	78	iced	8.5	5	cal O_2
-4	1615		.50	.45	346	260	255	113	113	72		8.7	4	
-3	1620	468.4	.57	.50	349	260	255	113	112	69		8.6	4	cal O_2
-2	1625	470.3	.48	.43	348	260	255	113	112	68		8.2	4	
-1	1630	472.1	.20	.18	343	260	255	114	112	71		8.4	3	
		broke nozzle coming out of Port 5 - replace w/ same size, look ✓ 0.00 @ 8 in vacuum												
		473.380	.4647 ✓		346.4 ✓			112.8 ✓				8.48 ✓		

CHAIN OF CUSTODY INFORMATION
Impingers Loaded
Impingers Recovered
Filter Loaded
Filter Recovered
Probe Wash
TEST AVERAGES/TOTALS
Calculated by:
Checked by:
Δ P, iwg
Δ H, iwg
Sample vol, acf
Stack temp, F
Meter temp, F
Static press, iwg
Water collected, g
O_2, %
Sample time, min

FOSSIL ENERGY RESEARCH CORPORATION

Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Ameren Meramec Unit 4 | UNIT 4 | TEST NO. 4-Inlet | METHOD OH Hg | PAGE 1 OF 2

SAMPLE LOCATION ESP Inlet | TEST CONDITION | AMBIENT TEMPERATURE 90

OPERATOR/ASSISTANT MM/PA | METER VOLUME START/END / | DATE 7/30/99

PRE-TEST DATA:	
Barometric Pressure, In.Hg	29.4
Assumed Stack Pressure, iwg	-16
Assumed Moisture, %	11
Assumed Molecular Weight	29
Assumed Stack Temperature	340
Assumed Meter Temperature	95
Average ΔP	.8
Stack diameter/area	
Sample time, min/point	5
ΔH = .09 x ΔP	.83

EQUIPMENT INFO:	
Meter No.	5-WCG
Meter Yd	.983
ΔH @	1.831
Pitot ID, Cp	.845-type
O_2/CO_2 Method	portable
Teflon connecting line? (Y/N)	Y
Probe material	Teflon
Probe length	6'
Nozzle material	SS .185
Nozzle diameter, in.	3.347
Filter No.	QT-33 dia=3.065
Filter material	Quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl	819.8	-	694.6	=	125.2
2	KCl	593.1	-	581.3	=	11.8
3	KCl	635.1	-	632.5	=	2.6
4	HNO_3/H_2O_2	576.6	-	574.0	=	2.6
5	$KMnO_4/H_2SO_4$	580.7	-	580.9	=	-0.2
6	$KMnO_4/H_2SO_4$	594.3	-	593.4	=	0.9
7	$KMnO_4/H_2SO_4$	569.8	-	570.0	=	-0.2
8	SG	682.3	-	672.6	=	14.7
					Total	150

COMMENTS: 107.4 ✓

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	<.01	11	✓	MM
Post-test	.01	5	✓	MM

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER In	METER out	IMP OUT	O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
1-4	0745	474.35	.38	.37	342	270	255	87	86	59	8.5	4	calO2	Impingers Loaded ✓
-4	0750	475.9	.32	.27	343	270	260	87	86	60	8.3	3		Impingers Recovered
-3	0755	477.2	.61	.52	349	270	260	88	87	59	7.9	4	calO2	Filter Loaded ✓
-2	0800	479.0	.54	.46	349	270	265	89	87	61	7.9	4		Filter Recovered
-1	0805	480.7	.25	.21	342	270	265	90	88	62	8.0	3		Probe Wash
	7.43 ✓	481.78	.4091 ✓	.36 ✓	345.0 ✓			87.5 ✓		1	8.12			
3-4	0807	481.80	.60	.51	328	260	265	91	90	67	7.5	4	calO2	TEST AVERAGES/TOTALS
-4	0812	483.6	.61	.52	331	270	265	93	91	64	7.3	4	-12.0	Calculated by: MM
-3	0817	485.5	.72	.61	365	270	260	95	93	66	6.8	5		Checked by: MMJ
-2	0822	487.5	.71	.60	364	280	260	95	93	66	6.2	5	calO2	ΔP, iwg .5970 ✓
-1	0827		.75	.64	357	280	260	97	95	68	6.1	5		ΔH, iwg .54 ✓
	9.695 ✓	491.495	.6766 ✓	.58 ✓	349.0 ✓			93.3 ✓			6.84 ✓			Sample vol, acf 45.71 ✓
2-4	841.5	491.63	.63	.54	335	270	260	99	98	70	6.1	5		Stack temp, F 334.5 ✓
-4	846.5	493.5	.63	.54	337	270	255	99	98	69	5.9	5	calO2	Meter temp, F 99.6 ✓
-3	851.5	495.5	.66	.56	347	270	255	102	100	67	5.7	5		Static press, iwg -12 ✓
-2	856.5	497.4	.67	.57	342	270	255	102	100	67	5.6	5		Water collected, g 107.4 ✓
-1	901.5	499.0	.79	.63	341	280	255	103	102	65	5.5	5	calO2	O_2, % 6.43 ✓
	9.7 ✓	501.23	.6654 ✓	.597 ✓	348.6			100.3 ✓			5.76 ✓			Sample time, min 120

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Meramec 4 UNIT 4 TEST NO. 4-tot METHOD Ont H PAGE 2 OF 2
SAMPLE LOCATION TEST CONDITION AMBIENT TEMPERATURE
OPERATOR/ASSISTANT MDM/PA METER VOLUME START/END / DATE 7/30/99

PRE-TEST DATA:	EQUIPMENT INFO:
Barometric Pressure, In.Hg	Meter No.
Assumed Stack Pressure, iwg	Meter Yd
Assumed Moisture, %	Δ H @
Assumed Molecular Weight	Pitot ID, Cp
Assumed Stack Temperature	O_2/CO_2 Method
Assumed Meter Temperature	Teflon connecting line? (Y/N)
Average ΔP	Probe material
Stack diameter/area	Probe length
Sample time, min/point	Nozzle material
ΔH = _____ x ΔP	Nozzle diameter, in.
	Filter No.
	Filter material

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1			-		=	
2			-		=	
3			-		=	
4			-		=	
5			-		=	
6			-		=	
7			-		=	
8			-		=	
					Total	

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test				
Post-test				

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER: In	METER: out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
7-4	0908	501.28	.58	.49	312	270	255	104	103	67		5.4	5		Impingers Loaded
-4	0913	503.2	.61	.52	313	270	255	105	104	66		5.4	5		Impingers Recovered
-3	0918	505.0	.60	.5	326	270	255	107	105	69		5.2	5	$calO_2$	Filter Loaded
-2	0923	506.9	.70	.60	333	270	255	107	106	69		5.4	5	calO	Filter Recovered
-1	0928	509.0	.71	.60	335	270	255	109	107	69		5.5	5		Probe Wash
	9.62	510.90	.6370	.54	324.4			108.8				5.38			
9-4	930.5	510.905	.55	.49	308	260	260	110	109	70		6.4	5	$calO_2$	TEST AVERAGES/TOTALS
-4	939.5		.58	.49	310	260	260	112	110	69		6.1	5		Calculated by:
-3	944.5	514.6	.64	.54	320	260	255	112	110	70		6.1	5		Checked by:
-2	949.5	516.5	.78	.66	324	270	255	112	112	70		5.5	5	$calO_2$	Δ P, iwg
-1	954.5	518.6	.42	.36	305	270	253	112	112	71		6.2	4		Δ H, iwg
	9.765	520.17	.5943	.51	313.4			111.1				6.06			Sample vol, acf
															Stack temp, F
end	0959.5														Meter temp, F
															Static press, iwg
															Water collected, g
															O_2, %
															Sample time, min

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Dunsen Mercury 4 UNIT 4 TEST NO. Stack - Field Blank METHOD OH Hg PAGE 1 OF 1
SAMPLE LOCATION Stack Unit 4 TEST CONDITION AMBIENT TEMPERATURE
OPERATOR/ASSISTANT DW/LP METER VOLUME START/END / DATE

PRE-TEST DATA:	EQUIPMENT INFO:
Barometric Pressure, In.Hg	Meter No.
Assumed Stack Pressure, iwg	Meter Yd
Assumed Moisture, %	Δ H @
Assumed Molecular Weight	Pitot ID, Cp
Assumed Stack Temperature	O_2/CO_2 Method
Assumed Meter Temperature	Teflon connecting line? (Y/N)
Average ΔP	Probe material
Stack diameter/area	Probe length
Sample time, min/point	Nozzle material
ΔH = _____ x ΔP	Nozzle diameter, in.
	Filter No. Q47-4 Tare = 0.1070
	Filter material Quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)	Wt (start)		Wt gain
1	KCl	702.3	637.7 + 50	=	
2	KCl	676.7	626.1	=	
3	KCl	563.1	563.1	=	
4	$NaOCl/H_2O_2$	716.0	715.7	=	
5	$KMnO_4/H_2SO_4$	597.5	579.3	=	
6	$KMnO_4/H_2SO_4$	608.2	608.0	=	
7	$KMnO_4/H_2SO_4$	554.4	554.1	=	
8	SG	851.4	850.6	=	
				Total	

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test				
Post-test				

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/___
Stop				/___
Avg/total				

check weight 794.9/795.0

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER: In	METER: out	IMP. OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
	1140	0.00													Impingers Loaded
	1340	0.00													Impingers Recovered
			Field Blank												Filter Loaded
															Filter Recovered
															Probe Wash / Line Wash
															TEST AVERAGES/TOTALS
															Calculated by:
															Checked by:
															Δ P, iwg
															Δ H, iwg
															Sample vol, acf
															Stack temp, F
															Meter temp, F
															Static press, iwg
															Water collected, g
															O_2, %
															Sample time, min

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Western Mercury Unit U | UNIT U | TEST NO. 1-Stack | METHOD OH Hg | PAGE 1 OF 1
SAMPLE LOCATION Unit U Stack | TEST CONDITION full load | AMBIENT TEMPERATURE
OPERATOR/ASSISTANT MH/LP | METER VOLUME START/END / | DATE 7-28-95

PRE-TEST DATA:

Barometric Pressure, In.Hg	25.38
Assumed Stack Pressure, iwg	-1.0
Assumed Moisture, %	8
Assumed Molecular Weight	28
Assumed Stack Temperature	310
Assumed Meter Temperature	90
Average ΔP	2.8
Stack diameter/area	
Sample time, min/point	10/17
ΔH = _____ x ΔP	

EQUIPMENT INFO:

Meter No.	H-Kinco
Meter Yd	1.001
ΔH @	2.30
Pitot ID, Cp	#33, .84
O_2/CO_2 Method	Port. O2
Teflon connecting line? (Y/N)	Yes
Probe material	~~Teflon~~
Probe length	10
Nozzle material	SS
Nozzle diameter, in.	.189
Filter No.	Q47-2 tare=0.1048
Filter material	Quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl	679.6	-	624.5	=	55.1
2	KCl	616.9	-	595.5	=	21.4
3	KCl	656.9	-	648.8	=	8.1
4	$KMnO_4/H_2O_2$	645.5	-	641.3	=	4.2
5	$KMnO_4/H_2O_2$	597.4	-	594.9	=	2.5
6	$KMnO_4/H_2O_2$	604.9	-	604.7	=	0.2
7	$KMnO_4/H_2O_2$	646.7	-	645.4	=	2.3
8	SG	318.7	-	306.4	=	12.3
					Total	106.1

COMMENTS: ~~Test~~ 5

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	.01	15"	ok	DW
Post-test				

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

check wt 294.9/295.0

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	Line ~~FILTER~~	METER In	METER out	IMP OUT	O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
w 3	925	694.230	2.9	2.5	320	248	245	98	97	54	7.0	10		Impingers Loaded
2	935	702.7	2.9	2.6	321	252	250	104	99	55	7.0	10		Impingers Recovered
1	945	710.8	2.4	2.2	321	263	255	113	101	55	6.7	10		Filter Loaded
stop	955	718.887												Filter Recovered
5 3	1000	718.887	3.8	2.55	323	255	240	104	101	63	7.0	9	-.38	Probe Wash
2	1010	727.1	2.9	2.6	323	250	250	108	101	66	7.0	9		
1	1020	735.5	2.4	2.2	321	255	251	103	97	61	7.0	9		TEST AVERAGES/TOTALS
	1030	743.630												Calculated by: MH
														Checked by:
														ΔP, iwg 2.71
														ΔH, iwg 2.60
														Sample vol, acf 49.400
														Stack temp, F 321.5
														Meter temp, F 102.1
														Static press, iwg -.38
														Water collected, g 106.1
														O_2, % 6.95
														Sample time, min

failed leak at mid point - melted sample line - test cancelled

2.7118

Ontarion Hydro

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Shawnee Plasma 4 | UNIT 4 | TEST NO. 2-Stack | METHOD OH 1hr | PAGE 1 OF 1
SAMPLE LOCATION Stack Unit 4 | TEST CONDITION Full load | AMBIENT TEMPERATURE 95
OPERATOR/ASSISTANT DW/LP | METER VOLUME START/END 746.064 / 938.4 | DATE 7-29-99

PRE-TEST DATA:

Barometric Pressure, In.Hg	29.38
Assumed Stack Pressure, iwg	-.4
Assumed Moisture, %	10
Assumed Molecular Weight	28
Assumed Stack Temperature	320
Assumed Meter Temperature	110
Average ΔP	2.x
Stack diameter/area	
Sample time, min/point	10/12
ΔH = _____ x ΔP	

EQUIPMENT INFO:

Meter No.	#1 - Fesco
Meter Yd	1.001
ΔH @	2.00
Pitot ID, Cp	# 33 .84
O_2/CO_2 Method	Port O_2/ca/c
Teflon connecting line? (Y/N)	yes
Probe material	
Probe length	10'
Nozzle material	Glass
Nozzle diameter, in.	0.185-.184
Filter No.	G47-3 Cp=.1026
Filter material	quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl	785.1	-	616.6	=	168.5
2	KCl	677.7	-	651.1	=	26.6
3	KCl	681.8	-	676.9	=	4.9
4	HNO_3/H_2O_2	687.6	-	686.0	=	1.6
5	KMnO4/H_2SO_4	550.9	-	554.2	=	-3.3
6	KMnO4/H_2SO_4	613.6	-	615.1	=	-1.5
7	KMnO4/H_2SO_4	582.7	-	586.4	=	-3.7
8	SG	740.0	-	707.4	=	32.6
					Total	225.7

COMMENTS: 50 ml 175.7

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	.01	20	ok	DW
Post-test	.01	20	ok	DW

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	FILTER	METER: In	METER: out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
N 3	1010	746.064	2.8	2.25	322	250	240	115	115	59		7.2	14		Impingers Loaded DW
2	1020	754.0	2.9	2.25	320	250	250	111	111	60		7.2	14		Impingers Recovered DW
1	1030	762.0	2.15	2.25	321	250	248	111	111	60		7.2	14		Filter Loaded DW
	1040	769.638													Filter Recovered DW
L 3	1045	776.538	2.6	2.25	321	250	247	110	110	60		7.1	14		Probe Wash DW
2	1055	777.5	2.7	2.25	321	251	243	111	113	60		7.1	14	-.4	
1	1105	785.5	2.7	2.25	321	250	243	110	112	62		7.3	14		TEST AVERAGES/TOTALS
	1115	792.900			leak	leak									Calculated by: DW
															Checked by:
5 3	1125	793.167	2.8	2.25	325	250	250	111	110	60		7.3	14		ΔP, iwg 2.5716
2	1135	800.8	2.7	2.15	325	247	239	113	111	60		7.3	14		ΔH, iwg 2.165
1	1145	808.1	2.3	2.15	325	250	239	114	112	60		7.7	14		Sample vol, acf 92.669
	1155	815.900													Stack temp, F 322.9
W 3	1200	815.900	2.8	2.1	325	247	250	115	113	59		7.4	14		Meter temp, F 112.5
2	1210	823.6	2.8	2.1	324	251	247	114	116	59		7.4	14		Static press, iwg -.4
1	1220	831.0	2.1	2.1	325	245	240	117	114	59		7.4	14		Water collected, g 175.7
	1230	838.400													O_2, % 7.2
															Sample time, min 120

2.6 21.574 2

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Ameren Meramec Unit 4 UNIT 4 TEST NO. 3-Stack METHOD OH-Idg PAGE 1 OF 1
SAMPLE LOCATION Stack TEST CONDITION AMBIENT TEMPERATURE 100°
OPERATOR/ASSISTANT OW/LP METER VOLUME START/END 839.000 / DATE 7-29-99

PRE-TEST DATA:

Barometric Pressure, In.Hg	29.38
Assumed Stack Pressure, iwg	-.40
Assumed Moisture, %	14
Assumed Molecular Weight	
Assumed Stack Temperature	
Assumed Meter Temperature	
Average ΔP	
Stack diameter/area	
Sample time, min/point	
ΔH = _____ x ΔP	(.92)

EQUIPMENT INFO:

Meter No.	#1- Ferco
Meter Yd	1.001
ΔH @	2.00
Pitot ID, Cp	
O_2/CO_2 Method	
Teflon connecting line? (Y/N)	
Probe material	
Probe length	
Nozzle material	glass
Nozzle diameter, in.	0.184
Filter No.	Q47-4 dave=0.1047
Filter material	quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl	722.8	-	580.0	=	142.6
2	KCl	627.9	-	591.5	=	36.4
3	KCl	672.5	-	657.4	=	15.1
4	HNO_3/H_2O_2	599.2	-	596.5	=	2.7
5	$KMnO_4/H_2SO_4$	599.0	-	595.9	=	3.1
6	$KMnO_4/H_2SO_4$	597.6	-	596.7	=	0.9
7	$KMnO_4/H_2SO_4$	640.1	-	638.9	=	1.6
8	SG	792.2	-	768.9	=	23.3 -50
					Total	175.9

COMMENTS:

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	.01	20	✓	AW
Post-test	.01	20	✓	AW

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/
Stop				/
Avg/total				

Chad 294.9/295.0
Impinger purge

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F: STACK	PROBE	Line FILTER	METER In	METER out	IMP OUT		O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
3	1400	839.000	2.6	2.4	325	250	245	112	112	ice		7.2			Impingers Loaded 13
2	1410	847.27	2.5	2.4	323	250	248	113	111	66		7.2			Impingers Recovered 13
1	1420	855.3	2.3	2.2	322	251	249	116	111	65		7.2			Filter Loaded 13
	1430	863.141													Filter Recovered 13
3	1433	863.141	2.5	2.4	328	250	250	115	112	64		7.2			Probe Wash AW
2	1443	871.170	2.5	2.4	327	249	250	120	114	65		7.1			
1	1453	879.250	2.3	2.2	324	251	249	116	111	65		7.1			TEST AVERAGES/TOTALS
	1503	887.015	LEAK CHECK		OK										Calculated by: MM
3	1511	887.300	2.5	2.4	327	250	249	114	111	66		7.3			Checked by: MM
2	1521	894.67	2.5	2.4	330	249	250	125	116	65		7.1			ΔP, iwg 2.306 ✓
1	1531	903.6	2.2	2.0	328	253	249	125	116	66		7.2			ΔH, iwg 2.18 ✓
	1541	911.169													Sample vol, acf 93.70 ✓
3	1544	911.169	2.5	2.3	329	251	250	118	115	60		7.2			Stack temp, F 325.8
2	1554	919.1	1.6	1.6	324	250	250	113	110	65		7.3			Meter temp, F 114.6 ✓
1	1604	926.26	1.6	1.5	323	249	249	112	110	66		7.3			Static press, iwg -.4
	1614	932.7													Water collected, g 175.9
															O_2, % 7.20
															Sample time, min 120

2.44487 ≈18.015 2.3 325 114

Ontarion Hydro

FOSSIL ENERGY RESEARCH CORPORATION
Ontario Hydro Mercury Speciation Sampling Data Sheet

FACILITY Ameren Meramec Unit 4 UNIT 4 TEST NO. 4-Stack METHOD OH-Hg PAGE 1 OF 1
SAMPLE LOCATION Stack TEST CONDITION AMBIENT TEMPERATURE 95°
OPERATOR/ASSISTANT DW/LP METER VOLUME START/END 933.87 / DATE 7-30-99

PRE-TEST DATA:

Barometric Pressure, In.Hg	29.2
Assumed Stack Pressure, iwg	-.40
Assumed Moisture, %	9
Assumed Molecular Weight	28
Assumed Stack Temperature	325
Assumed Meter Temperature	55
Average ΔP	
Stack diameter/area	
Sample time, min/point	10/12
ΔH = .92 x ΔP	.92

EQUIPMENT INFO:

Meter No.	-1 FERRCO
Meter Yd	1.001
ΔH @	2.000
Pitot ID, Cp	#33, .84
O_2/CO_2 Method	
Teflon connecting line? (Y/N)	Y
Probe material	
Probe length	
Nozzle material	GLASS
Nozzle diameter, in.	.185
Filter No.	Q.47-8 dry = 0.1576
Filter material	quartz

IMPINGER WEIGHTS:

Imp #	Contents	Wt (end)		Wt (start)		Wt gain
1	KCl	748.8	-	593.6	=	155.2
2	KCl	674.7	-	648.4	=	26.3
3	KCl	663.5	-	660.1	=	3.6
4	H_2O_2/H_2O	655.7	-	650.3	=	5.4
5	$KMnO_4/H_2SO_4$	554.9	-	554.3	=	0.6
6	$KMnO_4/H_2SO_4$	615.1	-	617.4	=	-2.3
7	$KMnO_4/H_2SO_4$	576.8	-	576.3	=	0.5
8	SG	715	-	686.8	=	24.7
					Total	50

COMMENTS: 164.2

LEAK CHECKS:

	CFM	Vacuum	Pitot	Initial
Pre-test	0	20	OK	LP
Post-test	0	20	OK	LP

PRE-TEST METER CALIBRATION CHECK:

	Time	ΔH	Meter Reading	Meter In/Out
Start				/__
Stop				/__
Avg/total				

SAMPLE POINT	TIME (clock)	METER VOLUME ft³	ΔP iwg	ΔH iwg	TEMPERATURES, F STACK	PROBE	Line ~~FILTER~~	METER in	METER out	IMP OUT	O_2	VAC.	STATIC PRESS. iwg	CHAIN OF CUSTODY INFORMATION
3	0747	933.87	2.1	1.9	299	246	238	87	90	ice	6.3	15	-.40	Impingers Loaded
2	0757	941.3	2.0	1.8	300	250	245	89	89	66	6.1	15		Impingers Recovered
1	0807	948.15	1.9	1.7	300	251	250	90	88	66	6.1	15		Filter Loaded
STOP	0817	955.0	—	—	—	—	—	—	—	—	—	—		Filter Recovered
3	0819	955.0	2.1	1.9	300	250	250	90	88	65	6.1	15		Probe Wash
2	0829	962.98	1.9	1.7	300	250	250	92	89	66	6.0	15		
1	0839	968.75	1.6	1.5	301	249	251	93	89	66	6.2	12		
STOP	0849	975.16	—	GOOD	LEAK CHK	—	—	—	—	—	—	—		TEST AVERAGES/TOTALS
3	0855	975.329	2.0	1.8	302	250	250	95	91	66	6.2	14		Calculated by: MM
2	0905	982.0	2.0	1.8	302	249	249	98	93	105	6.2	14		Checked by: ✓MM
1	0915	988.77	1.8	1.7	301	250	250	99	93	65	6.2	14		ΔP, iwg 1.8964 ✓
STOP	0925	995.463	—	—	—	—	—	—	—	—	—	—		ΔH, iwg 1.73 ✓
3	0429	995.463	2.0	1.8	306	250	250	100	96	66	6.2	14		Sample vol, acf 81.35 ✓
2	0939	002.15	1.9	1.7	307	251	249	107	100	67	6.2	14		Stack temp, F 301.8 ✓
1	0949	008.85	1.6	1.5	304	250	248	108	100	67	6.2	12		Meter temp, F 93.9 ✓
STOP	0959	015.22												Static press, iwg -.40
														Water collected, g 164.2 ✓
														O_2, % 6.17 ✓
														Sample time, min 120

41.29 1.9124 1.7 300 90 4:1

Fossil Energy Research Corp.
Preliminary Velocity Traverse and Cyclonic Flow Check Data Sheet

Test No. 1-Vel-Inlet
Client/Unit Ameren/Meramec 4
Location 4C Inlet

Date 7/28/99
Data by MDM
Start time 0700
Stop time

Barometric pressure 29.55
Static pressure, iwg

Port	Point	ΔP	Temp	Yaw Angle
1	1	.07	255	
	2	.43	266	
	3	.34	263	
	4	.36	289	
	5	.62	329	
3	1	1.1		
	2	.71		
	3	.78	323	
	4	.85	335	
	5	.90	332	
5	1	~~1.5~~	~~246~~	
	2	.7		
	3	.75		
	4	.8	320	
	5	.83	322	
7	1			
	2	.68		
	3	.7		
	4	.8		
	5	.85	296	

Port	Point	ΔP	Temp	Yaw Angle
9	1	~~.65~~		
	2	.65		
	3	.7		
	4	.78		
	5	.8	285	

Leak check: Pre-test
Post-test

Manometer zero: Pre-test
Post-test

Notes/Comments: Readings at pt 1 - air inleakage - will fix for hg test

Fossil Energy Research Corp.
Preliminary Velocity Traverse and Cyclonic Flow Check Data Sheet

Test No. 1 Pre
Client/Unit Merrimac
Location Stack

Date 7-28-95
Data by DL
Start time 730
Stop time 745

Barometric pressure 29.78
Static pressure, iwg -1.0

Port	Point	ΔP	Temp	Yaw Angle
N	3	3.2	311	<5°
	2	2.7	311	<5°
	1	2.4	311	<5°
E	E 3	2.2	310	<5°
	2	2.3	3.0	<5°
	1	3.1	309	<5°
S	3	2.4	310	<5°
	2	3.1	311	<5°
	1	3.3	311	<5°
		3.5	311	<5°
	3	3.1	311	<5°
	2	2.6	311	<5°
	1			

Port	Point	ΔP	Temp	Yaw Angle

Leak check: Pre-test ok
Post-test ok

Manometer zero: Pre-test ok
Post-test ok

Notes/Comments

Instructions:

1. Perform at the beginning and end of each test day.
2. Calibrate instrument on air.
3. Introduce mid range and zero cal gases. Read on lowest instrument scale possible
4. Linearity specification in ±2% of scale (±0.1% O_2 on 0-55 scale, ±0.2% on a 0-10% scale, and ±0.5% on 0-25% scale).

Mid range cal gas value 8.96 Bottle # SA 20637

Zero Bottle # 6061

Analyzer ID Ferro

Pre-Test No. 1- Data by [illegible] Date 2/28/99

Post-Test No. _____

0-25 scale

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?
Zero	0.0	0.0	0.0	Yes
8.96	9.1	-0.14	-0.6	Yes

Analyzer ID Delta

Pre-Test No. 1- Data by [illegible] Date 2/28/99

Post-Test No. _____

0.10 scale

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?
Zero	0.1	0.1	1.0	Yes
8.96	9.05	0.09	0.9	Yes

Analyzer ID _____

Pre-Test No. _____ Data by _____ Date _____

Post-Test No. _____

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?

Portable Analyzer Linearity Check

Instructions:

1. Perform at the beginning and end of each test day.
2. Calibrate instrument on air.
3. Introduce mid range and zero cal gases. Read on lowest instrument scale possible
4. Linearity specification in ±2% of scale (±0.1% O_2 on 0-55 scale, ±0.2% on a 0-10% scale, and ±0.5% on 0-25% scale).

Mid range cal gas value 8.96 Bottle # _____

Zero Bottle # _____

Analyzer ID Ferco

Pre-Test No. 2-Inlet, 3-Inlet Data by AB Date 7/29/99 OK

Post-Test No. _____

0-25% scale

Gas Value	Reading	Difference % O_2	% of Scale	Pass?
0.0	0.0	0.0	0.0	Yes
8.96	9.3	0.34	1.36	Yes

Analyzer ID Delta

Pre-Test No. 2-Stack, 3-Stack Data by AB Date 7/29/99

Post-Test No. _____

Gas Value	Reading	Difference % O_2	% of Scale	Pass?
0.0	0.0	0.0	0.0	Yes
8.96	8.90	0.06	0.24	Yes

Analyzer ID _____

Pre-Test No. _____ Data by _____ Date _____

Post-Test No. _____

Gas Value	Reading	Difference % O_2	% of Scale	Pass?

Portable Analyzer Linearity Check

Instructions:

1. Perform at the beginning and end of each test day.
2. Calibrate instrument on air.
3. Introduce mid range and zero cal gases. Read on lowest instrument scale possible
4. Linearity specification in ±2% of scale (±0.1% O_2 on 0-55 scale, ±0.2% on a 0-10% scale, and ±0.5% on 0-25% scale).

Mid range cal gas value 8.96 Bottle # _____

Zero Bottle # _____

Analyzer ID Ferro

Pre-Test No. _____ Data by JB Date 2/29/99

Post-Test No. 2-Inlet, 3-Inlet 0-25% scale

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?
0.0	0.0	0.0	0.0	Yes
8.96	9.1	0.14	0.56	Yes

Analyzer ID Delta

Pre-Test No. _____ Data by JB Date 2/29/99

Post-Test No. 2-Inlet, 3-Inlet 0-25% scale

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?
0.0	0.02	0.02	0.08	Yes
8.96	8.8	0.16	0.64	Yes

Analyzer ID _____

Pre-Test No. _____ Data by _____ Date _____

Post-Test No. _____

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?

Portable Analyzer Linearity Check

Instructions:

1. Perform at the beginning and end of each test day.
2. Calibrate instrument on air.
3. Introduce mid range and zero cal gases. Read on lowest instrument scale possible
4. Linearity specification in ±2% of scale (±0.1% O_2 on 0-55 scale, ±0.2% on a 0-10% scale, and ±0.5% on 0-25% scale).

Mid range cal gas value 8.96 Bottle # _____
Zero Bottle # _____

Analyzer ID Ferro
Pre-Test No. 4- Inlet Data by JS Date 7/30/99
Post-Test No. _____ 0-25 scale

Gas Value	Reading	Difference % O_2	% of Scale	Pass?
0.0	0.1	0.1	0.4	Yes
8.96	9.1	.14	0.56	Yes

Analyzer ID Keller
Pre-Test No. 4-Stack Data by JS Date 7/30/99
Post-Test No. _____ 0-25 scale

Gas Value	Reading	Difference % O_2	% of Scale	Pass?
0.0	0.1	0.1	0.4	Yes
8.96	8.9	0.06	0.2	Yes

Analyzer ID _____
Pre-Test No. _____ Data by _____ Date _____
Post-Test No. _____

Gas Value	Reading	Difference % O_2	% of Scale	Pass?

Portable Analyzer Linearity Check

Instructions:

1. Perform at the beginning and end of each test day.
2. Calibrate instrument on air.
3. Introduce mid range and zero cal gases. Read on lowest instrument scale possible
4. Linearity specification in ±2% of scale (±0.1% O_2 on 0-55 scale, ±0.2% on a 0-10% scale, and ±0.5% on 0-25% scale).

Mid range cal gas value 8.96

Bottle # _____

Zero Bottle # _____

Analyzer ID Ferco

Pre-Test No. _____

Post-Test No. 3-Inlet

Data by AB 0-25 to scale

Date 7/30/99

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?
0.0	0.1	0.1	0.4	Yes
8.96	9.15	0.19	0.76	Yes

Analyzer ID Delta

Pre-Test No. _____

Post-Test No. 4-Stack

Data by AB 0-25 to scale

Date 7/30/99

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?
0.0	0.1	0.1	0.4	Yes
8.96	9.0	0.04	0.16	Yes

Analyzer ID _____

Pre-Test No. _____

Post-Test No. _____

Data by _____

Date _____

Gas Value	Reading	Difference % O_2	Difference % of Scale	Pass?

Portable Analyzer Linearity Check

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER DELTA AIR

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN GMIS	vs 2658a	SA 9818	10.02%
CARBON DIOXIDE NTRM	82745x	SA 18781	17.89%

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT OXYGEN GMIS ANALYZER MAKE-MODEL-S/N Siemens Oxymat 5E S/N A12-839
   ANALYTICAL PRINCIPLE Paramagnetic LAST CALIBRATION DATE 04/05/99
   FIRST ANALYSIS DATE 04/14/99 SECOND ANALYSIS DATE

Z 0.00	R 10.02	C 8.96	CONC. 8.96	Z	R	C	CONC.
R 10.02	Z 0.00	C 8.96	CONC. 8.96	R	Z	C	CONC.
Z 0.00	C 8.96	R 10.02	CONC. 8.96	Z	C	R	CONC.

   U/M % MEAN TEST ASSAY 8.96 % U/M % MEAN TEST ASSAY

2. COMPONENT CARBON DIOXIDE NTRM ANALYZER MAKE-MODEL-S/N Siemens Ultramat 5E S/N A12-730
   ANALYTICAL PRINCIPLE NDIR LAST CALIBRATION DATE 04/05/99
   FIRST ANALYSIS DATE 04/14/99 SECOND ANALYSIS DATE

Z 0.00	R 17.90	C 17.96	CONC. 17.95	Z	R	C	CONC.
R 17.92	Z 0.00	C 18.02	CONC. 17.99	R	Z	C	CONC.
Z 0.00	C 18.00	R 17.94	CONC. 17.95	Z	C	R	CONC.

   U/M % MEAN TEST ASSAY 17.96 % U/M % MEAN TEST ASSAY

Values not valid below 150 psig

THIS CYLINDER NO. SA 20637
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. Rev. 9/97
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 04/14/99
EXPIRATION DATE 04/14/02 TERM 36 MONTHS

CERTIFIED CONCENTRATION

OXYGEN	8.96 %
CARBON DIOXIDE	17.96 %
NITROGEN	BALANCE

SA 20637

ANALYZED BY JOSEPH CHARLES

CERTIFIED BY PHU TIEN NGUYEN

IMPORTANT
Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limi the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use o information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event sha liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

APEX INSTRUMENTS
EPA Method 5
522 Series Meter Box Calibration
Pre-Test Orifice Method
English Meter Box Units, English K' Factor

Filename: C:\meter cal\Apex\[FERCO BOX 7 -99.xls]scenorth
Revised: 7/25/95 Version: 2.2

Model #: FERCO BOX
Serial #: 1-FERCO

Date: ----------> 07/19/99
Barometric Pressure: ----------> 29.95 (in. Hg)
Theoretical Critical Vacuum:---> 14.13 (in. Hg)

!!!!!!!!!
IMPORTAN For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
IMPORTAN The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).
!!!!!!!!!

---------- DRY GAS METER READINGS ----------

-CRITICAL ORIFICE READINGS-

dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Outlet (deg F)	Final Temps. Inlet (deg F)	Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Ambient Temperature – Initial (deg F)	Final (deg F)	Average (deg F)
0.32	17.00	660.110	665.510	5.400	89.0	86.0	89.0	86.0	40	0.239	19.0	88.0	89.0	88.5
0.71	11.00	665.510	670.552	5.042	88.0	87.0	90.0	87.0	48	0.347	19.0	90.0	90.0	90.0
1.30	11.00	653.403	660.110	6.707	86.0	87.0	89.0	86.0	55	0.459	17.0	85.0	87.0	86.0
2.15	8.00	670.552	676.750	6.198	90.0	87.0	94.0	88.0	63	0.589	15.0	91.0	90.0	90.5
4.20	6.00	647.000	653.403	6.403	86.0	85.0	85.0	87.0	73	0.820	17.0	84.0	84.0	84.0

********** RESULTS **********

— DRY GAS METER — VOLUME CORRECTE Vm(std) (cu ft)	VOLUME RRECTED Vm(std) (liters)	-------- ORIFICE -------- VOLUME CORRECTE Vcr(std) (cu ft)	VOLUME ORRECTE Vcr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)	-- DRY GAS METER -- CALIBRATION FACTOR Y Value (number)	Variation (number)	-------- ORIFICE -------- CALIBRATION FACTOR dH@ Value (in H2O)	Value (mm H2O)	Variation (in H2O)
5.215	147.7	5.196	147.1	5.394	0.996	-0.005	1.865	47.38	-0.135
4.869	137.9	4.875	138.0	5.075	1.001	0.000	1.965	49.91	-0.035
6.499	184.0	6.472	183.3	6.688	0.996	-0.005	2.043	51.90	0.043
5.988	169.6	6.015	170.3	6.267	1.005	0.003	2.065	52.46	0.065
6.262	177.4	6.318	178.9	6.505	1.009	0.008	2.063	52.39	0.062
		Average Y ------->			1.001		2.000	50.81	<------ Average dH@
							d	0.530	

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H20 that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +-0.2.

SIGNED: _____ Date: 7-19-99

EPA Method 5
Meter Box Calibration
Pre/Post-Test Orifice Method

System I.D.: S-WCS
Meter Serial #: NuTech

Date: 7/12/99
Barometric Pressure: 29.76 (in. Hg)

DRY GAS METER READINGS											CRITICAL ORIFICE READINGS				
dH (in H2O)	Start Time hh:mm:ss	Stop Time hh:mm:ss	Elapsed Time mm.mm	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Initial Temps. Outlet (deg F)	Final Temps. Inlet (deg F)	Final Temps. Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient	Actual Vacuum (in Hg)	Ambient Temperature Initial (deg F)	Ambient Temperature Final (deg F)
1.95	0	9	9	157.800	164.710	6.910	86	83	89	85	63	.588	19	90	
1.95	9	18	9	164.710	171.605	6.895	89	85	92	87	63	.587	20		
2.0	18	27	9	171.605	178.540	6.935	92	87	92	88	63	.586	20		90

RESULTS

DRY GAS METER VOLUME CORRECTED Vm(std) (cu ft)					ORIFICE VOLUME CORRECTED Vcr(std) (cu ft)		ORIFICE VOLUME NOMINAL Vcr (cu ft)		DRY GAS METER CALIBRATION FACTOR Y Value (number)	DRY GAS METER CALIBRATION FACTOR Variation (number)		ORIFICE CALIBRATION FACTOR dH@ Value (in H2O)		ORIFICE CALIBRATION FACTOR Variation (in H2O)	
6.678					6.719		7.039		1.006	-0.003		1.851		0.005	
6.633					6.715		7.036		1.012	.003		1.846		0.000	
6.653					6.715		7.036		1.009	0.000		1.841		-0.005	

Average Y ⟶ 1.009

1.846 ⟵ Average dH@

SIGNED:

Date: 7/12/99

EPA Method 5
Meter Box Calibration
Pre/Post-Test Orifice Method

System I.D.: 5WCS
Meter Serial #: Nutech

Date: 3/30/99 ~~(mm/dd)~~
Barometric Pressure: 27.86 (in. Hg)

DRY GAS METER READINGS											CRITICAL ORIFICE READINGS				
dH (in H2O)	Start Time hh:mm:ss	Stop Time hh:mm:ss	Elapsed Time mm.mm	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Initial Temps. Outlet (deg F)	Final Temps. Inlet (deg F)	Final Temps. Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient	Actual Vacuum (in Hg)	Ambient Temperature Initial (deg F)	Ambient Temperature Final (deg F)
0.28			16.50	50.8	55.964	5.164	65	65	67	68	40	0.239	20	65	65
0.60			11.50	56.4	61.675	5.275	67	67	68	69	48	0.347	19	67	67
1.10			9.00	62.1	67.586	5.486	68	69	69	69	55	0.459	15	67	67
1.90			7.00	68.2	73.695	5.495	69	69	69	69	63	0.589	15	67	67
3.50			5.00	74.8	80.207	5.407	69	69	69	69	73	0.820	14	67	67

RESULTS

DRY GAS METER VOLUME CORRECTED Vm(std) (cu ft)		ORIFICE VOLUME CORRECTED Vcr(std) (cu ft)		ORIFICE VOLUME NOMINAL Vcr (cu ft)		DRY GAS METER CALIBRATION FACTOR Y Value (number)	DRY GAS METER CALIBRATION FACTOR Variation (number)		ORIFICE CALIBRATION FACTOR dH@ Value (in H2O)		ORIFICE CALIBRATION FACTOR Variation (in H2O)	
4.826		4.795		5.122		0.994	0.010		1.742		-.040	
4.920		4.845		5.191		0.985	0.002		1.770		-.061	
5.114		5.013		5.376		0.980	-.003		1.853		-.022	
5.131		5.004		5.366		0.975	-.008		1.944		.113	
5.070		4.976		5.336		0.981	-.002		1.848		.016	

Average Y ⟶ 0.983

1.831 ⟵ Average dH@

SIGNED: Stafford Dean

Date: 3/30/99

DGM Orifice Calibration Log Sheet

FOSSIL ENERGY RESEARCH CORP

PITOT TUBE DIMENSIONAL CALIBRATION

Pitot tube ID	Inlet	Tube diameter (D_t)	3/8"
Date	7/27/99	P_A	
Data by	MDM	P_B	

(a) Face opening plane angle = 90 deg (Y/N)?	A	Y
	B	Y
(b) Face opening planes parallell to longitudinal axis (Y/N)?	A	Y
	B	Y
(c) Both legs equal length and centerline coincident?	A	Y
	B	Y
(d) $P_A = P_B$ (Y/N)?		Y
(e) $1.05\ D_t \leq P \leq 1.50\ D_t$ (Y/N)?		Y

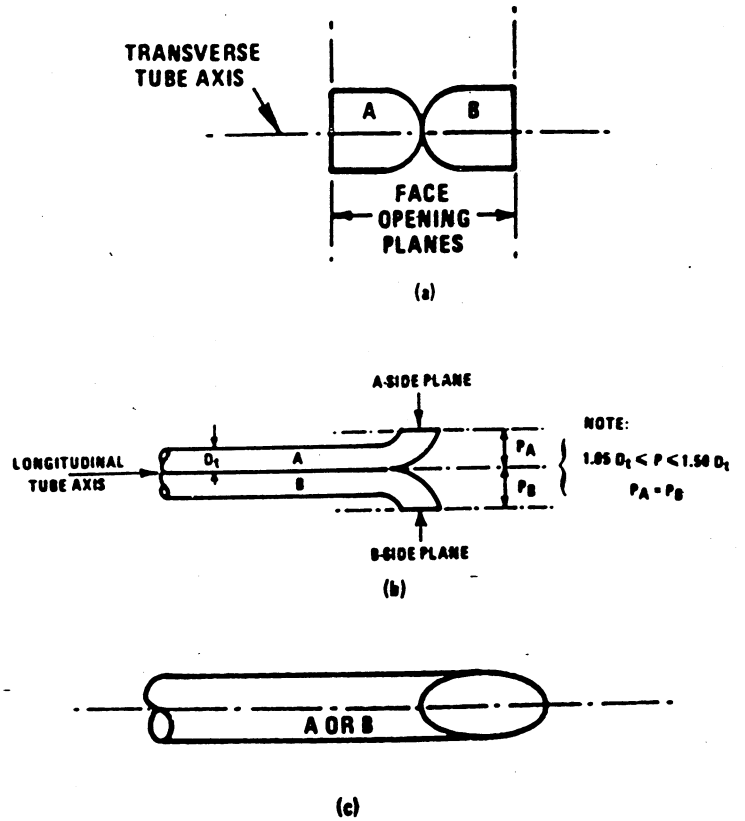

Figure 2-2. Properly constructed Type S pitot tube, shown in: (a) end view; face opening planes perpendicular to transverse axis; (b) top view; face opening planes parallel to longitudinal axis; (c) side view; both legs of equal length and centerlines coincident, when viewed from both sides. Baseline coefficient values of 0.84 may be assigned to pitot tubes constructed this way.

FOSSIL ENERGY RESEARCH CORP

PITOT TUBE DIMENSIONAL CALIBRATION

Pitot tube ID	Stack	Tube diameter (D_t)	3/8"
Date	7/27/99	P_A	
Data by	MDM	P_B	

(a) Face opening plane angle = 90 deg (Y/N)?	A	Y
	B	Y
(b) Face opening planes parallell to longitudinal axis (Y/N)?	A	Y
	B	Y
(c) Both legs equal length and centerline coincident?	A	Y
	B	Y
(d) $P_A = P_B$ (Y/N)?		Y
(e) $1.05\ D_t \leq P \leq 1.50\ D_t$ (Y/N)?		Y

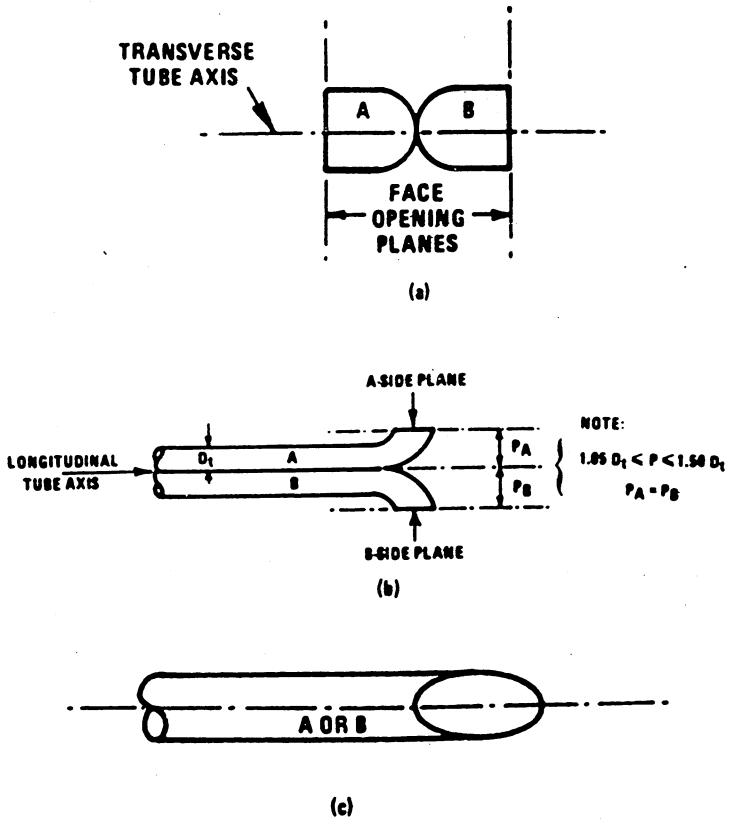

Figure 2-2. Properly constructed Type S pitot tube, shown in: (a) end view; face opening planes perpendicular to transverse axis; (b) top view; face opening planes parallel to longitudinal axis; (c) side view; both legs of equal length and centerlines coincident, when viewed from both sides. Baseline coefficient values of 0.84 may be assigned to pitot tubes constructed this way.

Appendix C. Chain-of-Custody Records

Chain-of-Custody Records

Reagent Chain of Custody

Project Number: Ameren Project Name: EPA Mercury Testing

Filters:

Type/Numbers

quartz thimble filters (QT-2, QT10-14, QT-19-43)
quartz 47mm filters (Q47-1 -63)
untared quartz filters

Reagents:

Type/Lot Numbers

10 gal ASTM Type II water (conductivity = 0.8 µmhos)
3 x 500 ml 30 to H_2O_2 - Lot # 992088, Hydrochloric acid Lot # 418110
Nitric Acid Lot # 118100, NaCl Lot # 986410, Sulfuric acid Lot # 318
Potassium Permanganate Lot No 987715, Hydroxylamine Sulfate Lot # 991
Potassium Chloride Lot # 986514 (Wash acid 8N HCl, 1:1 HNO_3)
8 x 400 ml 10 to H_2SO_4, 2l 5 to HNO_3 (Add H_2O_2) 1l 10 to HNO_3, 2l 0.1 N
5l KCl, abs solution, preweighed $KMnO_4$ (5g, 16g) in glass jar

Laboratory Supplies:

12 cases amber glass 500 ml bottle
4 cases amber glass 250 ml bottles
1000 ml amber glass bottles (reagent storage)
500, 100, 50 ml graduated cylinders, stir bars, funnels
pH paper, pasteur pipettes/bulbs, #1 Filter pap.

General Supplies:

Parafilm, tweezers, paper towels, balance & cal weight
wash bottles, silica gel, nozzle brushes, probe brushes (tel
stir plate,

(Glassware & containers acid washed)

Released By: [signature] Date: 7/16/99
transported Ferro trick P. Andersen

Received By: [signature] Date: 7/27/99

Ameren

Mercury ICR Program

Consumables Record Form and Tracking Log

Reagent	Supplier	Lot Number	Date rec'd	Date opened	Opened by	Meets inspection criteria	Date blank taken	Tests used
Quanta Thimble	Apex	NA	2/1/99	2/1/99	JS	Yes	2/29/99	
Quanta 47mm filter	Apex	NA	2/1/99	2/1/99	JS	Yes	2/29/99	
DI H_2O	Aminco/Kelco	NA	2/15/99	2/15/99	JS	Yes cond. = 0.8 µmhos	w/ reagent	
30% H_2O_2	Fisher	992088	2/1/99	2/1/99	JS	Yes	w/ $KMnO_4$/H_2O_2 reagent	2/29/99
conc. HCl	Fisher	418110	2/1/99	2/1/99	JS	Yes	Leaching - no blank	
Nitric Acid	Fisher	118100	2/1/99	2/1/99	JS	Yes	2/29/99	
NaCl	Fisher	986410	2/20/99	2/20/99	JS	Yes	w/ hydroxylamine	
Sulfuric Acid	Fisher	318061	2/1/99	2/1/99	JS	Yes	w/ $KMnO_4$/H_2SO_4 reagent	
Potassium Chloride	Fisher	986514	2/1/99	2/1/99	JS	Yes	2/29/99	
Hydroxylamine Sulfate	Fisher	991665	2/1/99	2/1/99	JS	Yes	2/29/99	
Potassium Permanganate	Fisher	987715	2/1/99	2/1/99	JS	Yes	w/ $KMnO_4$/H_2SO_4	

CHAIN OF CUSTODY FORM

CLIENT: Ameren

TEST DATE(S): 7/27, 7/29, 7/30/99

LOCATION: Meremac Unit 4

SAMPLER(S): Mark McDonnell, Dave Wandtke

SAMPLE LOCATION: Stack a ESP Inlet

PROJECT MANAGER: Mark McDonnell

TEST METHOD(S): Ontario Hydro Hg

DATE DUE: 8/30/99

OUTSIDE LAB REQUIRED: Yes - Philip Analytical

COMPLIANCE TEST: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
7/27/99	1700	Stack Field Blank	Filter # Q47-1	1	DW	
			H_2O	1	↓	
			KCl imp, 5% H_2O_2	1		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		
		Inlet Field Blank	Filter # Q47-2	1	MM	
			H_2O	1	↓	
			KCl imp, 5% H_2O_2	1		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1	↓	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	8/2/99 1930		02/08/99 20:30

ANALYSIS REQUIRED: Mercury by Ontario Hydro mercury speciation method

CHAIN OF CUSTODY FORM

CLIENT: Ameren

TEST DATE(S): 7/27, 7/29, 7/30/99

LOCATION: Meremac Unit 4

SAMPLER(S): MM, DW

SAMPLE LOCATION: Stack & ESP Inlet

PROJECT MANAGER: M.M

TEST METHOD(S): Old Hg

DATE DUE: 8/30/99

OUTSIDE LAB REQUIRED: Yes - Philip

COMPLIANCE TEST: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
7/29/99	1600	Reagent Blanks	10% HNO_3	1	TB	50 ml
			10% Hydroxylamine sulfate / 10% NaCl	1	TB	50 ml
			4% $KMnO_4$ / 10% H_2SO_4	1	TB	50 ml
			5% HNO_3 / 10% H_2O_2	1	TB	50 ml
			0.1 N HNO_3	1	TB	50 ml
			KCl	1	TB	50 ml
			47 mm quartz filter Q47-5,6,7	3	TB	~~50 ml~~ TB
			Quartz thimbles QT-19, 20, 21	3	TB	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME

ANALYSIS REQUIRED:

CHAIN OF CUSTODY FORM

CLIENT: Ameren

TEST DATE(S): 3/27, 3/28, 3/30/99

LOCATION: Meramec Unit 4

SAMPLER(S): MM, DW

SAMPLE LOCATION: Stack & ESP Inlet

PROJECT MANAGER: MM

TEST METHOD(S): OH 1-5

DATE DUE: 8/30/99

OUTSIDE LAB REQUIRED: Yes - Philip

COMPLIANCE TEST: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
3/29/99	1200	2-Stack	0.47-3 filter	1	DW	
			FH_2	1	↓	
			KCl imp & rinse	2		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		
		2-Inlet	QT-12	1	MM	
			FH_2	1	↓	
			KCl imp & rinse	2		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME

ANALYSIS REQUIRED:

7 4 15

CHAIN OF CUSTODY FORM

CLIENT: Pinecrest

TEST DATE(S): 7/27, 7/28, 7/30

LOCATION: Mercer Unit 4

SAMPLER(S): MM, DW

SAMPLE LOCATION: Stack + ESP Inlet

PROJECT MANAGER: MM

TEST METHOD(S): Ontario Hydro Hg

DATE DUE: 8/30/98

OUTSIDE LAB REQUIRED: Yes - Philip Analytical

COMPLIANCE TEST: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
7/30/98	1200	3-Stack	Q47-4	1	DW	
			Filter	1		
			KCl imp + rinse, blanks	2		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		
		3-Inlet	Q13, Q20	2	MM	
			Filter	1		
			KCl imp, filter, rinse	2		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME

ANALYSIS REQUIRED:

CHAIN OF CUSTODY FORM

CLIENT: Ameren

TEST DATE(S): 2/27, 2/29, 2/30

LOCATION: Meramec Unit 4

SAMPLER(S): MM / DW

SAMPLE LOCATION: Stack & ESP Inlet

PROJECT MANAGER: MM

TEST METHOD(S): Ontario Hydro Hg

DATE DUE: 8/30/99

OUTSIDE LAB REQUIRED: Yes Philip Analytical

COMPLIANCE TEST: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
2/30/99	1200	4-Stack	Q 47-8 filter	1		
			H_2O_2	1		
			KCl imp, H_2O_2 imp	2		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		
		4-Inlet	Thimble filter BJ-03	1		
			H_2O_2	1		
			KCl imp, H_2O_2 imp	2		
			HNO_3/H_2O_2 imp	1		
			$KMnO_4$ imp	1		

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME

ANALYSIS REQUIRED:

NOTICE OF SAMPLE RECEIPT-PHILIP ANALYTICAL SERVICES

Attention: Mark McDaniel
Client: Fossil Energy Research Corp.
Re Client Project: Ameren
FAX #: 949-859-7916
Phone #: 949-859-4466

Samples for: Blank Reagents
were received in good condition unless indicated below.

SAMPLE LISTING

Philip ID #	Sample ID	Date Sampled	Date Received
042497	RB 10% Hydroxylamine	99/07/29	99/08/06
042498	RB 10% HNO3	99/07/29	99/08/06

Comments: _____

_____

_____

Date 99/08/07

NOTICE OF SAMPLE RECEIPT-PHILIP ANALYTICAL SERVICES

Attention: Mark McDaniel
Client: Fossil Energy Research Corp.
Re Client Project: Ameren
FAX #: 949-859-7916
Phone #: 949-859-4466

Samples for: 'OH' Mercury
were received in good condition unless indicated below.

SAMPLE LISTING

Philip ID #	Sample ID	Date Sampled	Date Received
042477	Reagent Blank F.H.	99/07/29	99/08/03
042478	Stack FB F.H.	99/07/27	99/08/03
042479	MU4 Stack-R2 F.H.	99/07/29	99/08/03
042480	Stack-R3 F.H.	99/07/30	99/08/03
042481	Stack-R4 F.H.	99/07/30	99/08/03
042499	MU4 Inlet-FB F.H.	99/07/27	99/08/06
042500	MU4 Inlet-R2 F.H.	99/07/29	99/08/03
042501	MU4 Inlet-R3 F.H.	99/07/30	99/08/03
042502	MU4 Inlet-R4 F.H.	99/07/30	99/08/03
042515	NU2 Stack-FB F.H.	99/07/31	99/08/03
042516	NU2 Stack-R1 F.H.	99/07/31	99/08/03
042517	NU2 Stack-R2 F.H.	99/08/02	99/08/03
042518	NU2 Stack-R3 F.H.	99/08/02	99/08/03
042531	NU2 Inlet-FB F.H.	99/07/31	99/08/03
042532	NU2 Inlet-R1 F.H.	99/07/31	99/08/03
042533	NU2 Inlet-R2 F.H.	99/08/02	99/08/03
042534	NU2 Inlet-R3 F.H.	99/08/02	99/08/03
042487	Reagent Blank H2O2	99/07/29	99/08/03
042488	MU4 Stack-FB H2O2	99/07/27	99/08/03
042489	MU4 Stack-R2 H2O2	99/07/29	99/08/03
042490	MU4 Stack-R3 H2O2	99/07/30	99/08/03
042491	MU4 Stack-R4 H2O2	99/07/30	99/08/06
042507	MU4 Inlet-FB H2O2	99/07/27	99/08/03
042508	MU4 Inlet-R2 H2O2	99/07/29	99/08/03
042509	MU4 Inlet-R3 H2O2	99/07/30	99/08/03
042510	MU4 Inlet-R4 H2O2	99/07/30	99/08/03
042523	NU2 Stack-FB H2O2	99/07/31	99/08/03
042524	NU2 Stack-R1 H2O2	99/07/31	99/08/03
042525	NU2 Stack-R2 H2O2	99/08/02	99/08/03
042526	NU2 Stack-R3 H2O2	99/08/02	99/08/03
042539	NU2 Inlet-FB H2O2	99/07/31	99/08/03
042540	NU2 Inlet-R1 H2O2	99/07/31	99/08/03
042541	NU2 Inlet-R2 H2O2	99/08/02	99/08/03
042542	NU2 Inlet-R3 H2O2	99/08/02	99/08/03
042492	Reagent Blank KMNO4	99/07/29	99/08/06
042493	MU4 Stack-FB KMNO4	99/07/27	99/08/06
042494	MU4 Stack-R2 KMNO4	99/07/29	99/08/06

Comments:

① Please check sampling dates

② PO does not include shipping (pick-up) costs

Date 99/08/07

NOTICE OF SAMPLE RECEIPT-PHILIP ANALYTICAL SERVICES

Attention: Mark McDaniel
Client: Fossil Energy Research Corp.
Re Client Project: Ameren
FAX #: 949-859-7916
Phone #: 949-859-4466

Samples for: 014' Mercury
were received in good condition unless indicated below.

SAMPLE LISTING

Philip ID #	Sample ID	Date Sampled	Date Received
042495	MU4 Stack-R3 KMNO4	99/07/30	99/08/06
042496	MU4 Stack-R4 KMNO4	99/07/30	99/08/06
042511	MU4 Inlet-FB KMNO4	99/07/27	99/08/03
042512	MU4 Inlet-R2 KMNO4	99/07/29	99/08/03
042513	MU4 Inlet-R3 KMNO4	99/07/30	99/08/03
042514	MU4 Inlet-R4 KMNO4	99/07/30	99/08/03
042527	NU2 Stack-FB KMNO4	99/07/31	99/08/03
042528	NU2 Stack-R1 KMNO4	99/07/31	99/08/03
042529	NU2 Stack-R2 KMNO4	99/08/02	99/08/03
042530	NU2 Stack-R3 KMNO4	99/08/02	99/08/03
042543	NU2 Inlet-FB KMNO4	99/07/31	99/08/03
042544	NU2 Inlet-R1 KMNO4	99/07/31	99/08/03
042545	NU2 Inlet-R2 KMNO4	99/08/02	99/08/03
042546	NU2 Inlet-R3 KMNO4	99/08/02	99/08/03
042482	Reagent Blank-KCl	99/07/29	99/08/03
042483	MU4 Stack-FB KCl	99/07/27	99/08/03
042484	MU4 Stack-R2 KCl	99/07/29	99/08/03
042485	MU4 Stack-R3 KCl	99/07/30	99/08/03
042486	MU4 Stack-R4 KCl	99/07/30	99/08/03
042503	MU4 Inlet-FB KCl	99/07/27	99/08/03
042504	MU4 Inlet-R2 KCl	99/07/29	99/08/03
042505	MU4 Inlet-R3 KCl	99/07/30	99/08/03
042506	MU4 Inlet-R4 KCl	99/07/30	99/08/03
042519	NU2 Stack-FB KCl	99/07/31	99/08/03
042520	NU2 Stack-R1 KCl	99/07/31	99/08/03
042521	NU2 Stack-R2 KCl	99/08/02	99/08/03
042522	NU2 Stack-R3 KCl	99/08/02	99/08/03
042535	NU2 Inlet-FB KCl	99/07/31	99/08/03
042536	NU2 Inlet-R1 KCl	99/07/31	99/08/03
042537	NU2 Inlet-R2 KCl	99/08/02	99/08/03
042538	NU2 Inlet-R3 KCl	99/08/02	99/08/03

Comments: _____

_____

_____

Date 99/08/07

Appendix D. Analytical Lab Reports

Gas Samples

Coal Samples

PHILIP SERVICES

Mark McDannel
Fossil Energy Research Corp
Laguna Hills, CA
92653

December 3, 1999

Dear Mr. McDannel:

Re Draft ASTM Mercury Speciation Data – 'Ontario Hydro' Method:

Regretfully, we must inform you that there are likely calculation errors on some of the draft ASTM mercury speciation data reported to you in the past. The portions that may be impacted are the KCl and KMnO4 impingers which are likely reported high by a factor of $9/4^{th}$ relative to the correct value.

The error occurred where a correction factor for sample vs standard prep of 1.5 was applied to the data in the wrong direction - a multiplication rather than a division.

We are in progress of reviewing and reprocessing all data and will report the corrected data where appropriate by mid next week.

Of course quality data is of great concern to Philip and since this error has past several review stages before it has been identified, our review processes must be re-evaluated. We will also keep you informed as to the appropriated corrective actions that we implement to ensure that such an error will not repeat.

Should you have any questions in this regard please do not hesitate to contact me at extension 236 or the QA/QC scientist, Gerry Bengert, at extension 248.

Yours truly,

Ronald A. McLeod, Ph.D., C.Chem.
Principal Scientist

cc: Gerry Bengert

Certificate of Analysis

CLIENT INFORMATION		LABORATORY INFORMATION	
Attention:	Mark McDaniel	**Contact:**	Ron McLeod
Client Name:	Fossil Energy Research Corp.	**Project:**	AN990986
Project:	Ameren	**Date Received:**	99/08/03
Project Desc:	Stack & ESP Inlet	**Date Reported:**	99/10/08
Address:	23342 C South Pointe Laguna Hills, CA CA 92653	**Submission No.:**	9H0189
		Sample No.:	042476-042546
Fax Number:	949-859-7916		
Phone Number:	949-859-4466		

NOTES: *"-' = not analysed '<' = less than Method Detection Limit (MDL) 'NA' = no data available*
LOQ can by determined for all analytes by multiplying the appropriate MDL X 3.33
Solids data is based on dry weight except for biota analyses.
Organic analyses are not corrected for extraction recovery standards except for isotope dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)

Methods used by PASC are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', Nineteenth Edition. Other methods are based on the principles of MISA or EPA methodologies. New York State: ELAP Identification Number 10756.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied. Your samples will be retained at PASC for a period of three weeks from receipt of data or as per contract.

COMMENTS: **Revised Report: 991207**

Certified by: _____

			Method	Blank	Blank	Blank	Blank	Reagent	Stack	Stack	Stack	Stack	Stack	Stack
Client ID:			Blank	Spike #1	Spike #1	Spike #2	Spike #2	Blank F.H.	FB F.H.	FB F.H.	FB F.H.	FB F.H.	FB F.H.	FB F.H.
Lab No.:			042476 99	042476 99	042476 99	042476 99	042476 99	042477 99	042478 99	042478 99	042478 99	042478 99	042478 99	042478 99
Date Sampled:			-	-	-	-	-	99/07/29	99/07/27	99/07/27	99/07/27	99/07/27	99/07/27	99/07/27
Component	**MDL**	**Units**			% Recoveries		% Recoveries			Duplicate	M. Spike	MS % Rec.	MS Dup	MSD % Rec.
Mercury - filter	0.010	ug	<	0.10	100	0.10	100	<	0.011	0.011	0.12	110	0.12	100

			MU4 Stack-R2	Stack-R3	Stack-R4	NU2 Stack-FB	NU2 Stack-R1	NU2 Stack-R2	NU2 Stack-R3
Client ID:			F.H.	F.H.	F.H.	F.H.	F.H.	F.H.	F.H.
Lab No.:			042479 99	042480 99	042481 99	042515 99	042516 99	042517 99	042518 99
Date Sampled:			99/07/29	99/07/30	99/07/30	99/07/31	99/07/31	99/08/02	99/08/02
Component	**MDL**	**Units**							
Mercury - filter	0.010	ug	<	0.015	<	<	<	<	<

			Method Blank	Blank Spike #1	Blank Spike #1	Blank Spike #2	Blank Spike #2	Reagent Blank F.H.	MU4 Inlet-FB F.H.	MU4 Inlet-R2 F.H.	MU4 Inlet-R3 F.H.	MU4 Inlet-R4 F.H.
Client ID:												
Lab No.:			042476 99	042476 99	042476 99	042476 99	042476 99	042477 99	042499 99	042500 99	042501 99	042502 99
Date Sampled:			-	-	-	-	-	99/07/29	99/07/27	99/07/29	99/07/30	99/07/30
Component	**MDL**	**Units**			% Recoveries		% Recoveries					
Mercury - filter	0.010	ug	<	0.097	97	0.095	95	<	<0.080	9.3	10	5.4

			NU2 Inlet-FB	NU2 Inlet-R1	NU2 Inlet-R1	NU2 Inlet-R1	NU2 Inlet-R1	NU2 Inlet-R1	NU2 Inlet-R1	NU2 Inlet-R2
Client ID:			F.H.	F.H.	F.H.	F.H.	F.H.	F.H.	F.H.	F.H.
Lab No.:			042531 99	042532 99	042532 99	042532 99	042532 99	042532 99	042532 99	042533 99
Date Sampled:			99/07/31	99/07/31	99/07/31	99/07/31	99/07/31	99/07/31	99/07/31	99/08/02
Component	**MDL**	**Units**			Duplicate	M. Spike	MS % Rec.	MS Dup	MSD % Rec.	
Mercury - filter	0.010	ug	<0.080	<0.10	<0.10	0.98	97	0.99	99	<0.080

			NU2 Inlet-R3
	Client ID:		F.H.
	Lab No.:		042534 99
	Date Sampled:		99/08/02
Component	**MDL**	**Units**	
Mercury - filter	0.010	ug	<0.20

			MU4 Inlet-R3	MU4 Inlet-R4	NU2 Stack-FB	NU2 Stack-R1	NU2 Stack-R2	NU2 Stack-R3	NU2 Inlet-FB
	Client ID:		KMNO4	KMNO4	KMNO4	KMNO4	KMNO4	KMNO4	KMNO4
	Lab No.:		042513 99	042514 99	042527 99	042528 99	042529 99	042530 99	042543 99
	Date Sampled:		99/07/30	99/07/30	99/07/31	99/07/31	99/08/02	99/08/02	99/07/31
Component	**MDL**	**Units**							
Mercury - KMnO4	0.030	"	0.47	0.59	<	9.6	11.9	13.9	<

	Client ID:		Method Blank	Blank Spike #1	Blank Spike #1	Blank Spike #2	Blank Spike #2	Reagent Blank-KCl	MU4 Stack-FB KCl	MU4 Stack-FB KCl
	Lab No.:		042476 99	042476 99	042476 99	042476 99	042476 99	042482 99	042483 99	042483 99
	Date Sampled:		-	-	-	-	-	99/07/29	99/07/27	99/07/27
Component	**MDL**	**Units**			% Recoveries		% Recoveries			Duplicate
Mercury - KCl	0.030	ug	<	0.28	95	0.28	94	<	0.071	0.071

	Client ID:		MU4 Stack-FB KCl	MU4 Stack-FB KCl	MU4 Stack-FB KCl	MU4 Stack-FB KCl	MU4 Stack-R2 KCl	MU4 Stack-R3 KCl
	Lab No.:		042483 99	042483 99	042483 99	042483 99	042484 99	042485 99
	Date Sampled:		99/07/27	99/07/27	99/07/27	99/07/27	99/07/29	99/07/30
Component	**MDL**	**Units**	M. Spike	MS % Rec.	MS Dup	MSD % Rec.		
Mercury - KCl	0.030	ug	0.76	100	0.75	100	1.37	4.05

			MU4 Stack-R4	MU4 Inlet-FB	MU4 Inlet-R2	MU4 Inlet-R3	MU4 Inlet-R4	NU2 Stack-FB
	Client ID:		KCl	KCl	KCl	KCl	KCl	KCl
	Lab No.:		042486 99	042503 99	042504 99	042505 99	042506 99	042519 99
	Date Sampled:		99/07/30	99/07/27	99/07/29	99/07/30	99/07/30	99/07/31
Component	**MDL**	**Units**						
Mercury - KCl	0.030	ug	2.67	0.07	0.60	1.46	1.84	0.14

	Client ID:		NU2 Stack-R1 KCl	NU2 Stack-R2 KCl	NU2 Stack-R2 KCl	NU2 Stack-R2 KCl	NU2 Stack-R2 KCl	NU2 Stack-R2 KCl
	Lab No.:		042520 99	042521 99	042521 99	042521 99	042521 99	042521 99
	Date Sampled:		99/07/31	99/08/02	99/08/02	99/08/02	99/08/02	99/08/02
Component	**MDL**	**Units**			Duplicate	M. Spike	MS % Rec.	MS Dup
Mercury - KCl	0.030	ug	2.78	2.77	2.80	5.46	100	5.61

			NU2 Stack-R2	NU2 Stack-R3	NU2 Inlet-FB	NU2 Inlet-R1	NU2 Inlet-R2	NU2 Inlet-R3
	Client ID:		KCl	KCl	KCl	KCl	KCl	KCl
	Lab No.:		042521 99	042522 99	042535 99	042536 99	042537 99	042538 99
	Date Sampled:		99/08/02	99/08/02	99/07/31	99/07/31	99/08/02	99/08/02
Component	**MDL**	**Units**	MSD % Rec.					
Mercury - KCl	0.030	ug	110	3.70	0.12	0.71	0.72	1.96

			Method Blank	Blank Spike #1	Blank Spike #1	Blank Spike #2	Blank Spike #2	Reagent Blank H2O2	MU4 Stack-FB H2O2	MU4 Stack-R2 H2O2	MU4 Stack-R2 H2O2
Client ID:											
Lab No.:			042476 99	042476 99	042476 99	042476 99	042476 99	042487 99	042488 99	042489 99	042489 99
Date Sampled:			-	-	-	-	-	99/07/29	99/07/27	99/07/29	99/07/29
Component	**MDL**	**Units**			% Recoveries		% Recoveries				Duplicate
Final volume - H2O2		ml	250	-	-	-	-	250	250	250	-
Mercury - H202	0.010	ug	<	0.051	100	0.050	100	<0.25	<0.25	<0.25	<0.25

			MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R3	MU4 Stack-R4	MU4 Inlet-FB
Client ID:			H2O2	H2O2	H2O2	H2O2	H2O2	H2O2	H2O2
Lab No.:			042489 99	042489 99	042489 99	042489 99	042490 99	042491 99	042507 99
Date Sampled:			99/07/29	99/07/29	99/07/29	99/07/29	99/07/30	99/07/30	99/07/27
Component	**MDL**	**Units**	M. Spike	MS % Rec.	MS Dup	MSD % Rec.			
Final volume - H2O2		ml	-	-	-	-	250	250	250
Mercury - H202	0.010	ug	2.7	100	2.7	100	<0.25	<0.25	<0.25

			MU4 Inlet-R2	MU4 Inlet-R3	MU4 Inlet-R4	NU2 Stack-FB	NU2 Stack-R1	NU2 Stack-R1	NU2 Stack-R1
	Client ID:		H2O2	H2O2	H2O2	H2O2	H2O2	H2O2	H2O2
	Lab No.:		042508 99	042509 99	042510 99	042523 99	042524 99	042524 99	042524 99
	Date Sampled:		99/07/29	99/07/30	99/07/30	99/07/31	99/07/31	99/07/31	99/07/31
Component	**MDL**	**Units**						Duplicate	M. Spike
Final volume - H2O2		ml	250	250	250	250	250	-	-
Mercury - H202	0.010	ug	<0.25	<0.25	<0.25	<0.25	0.60	0.51	3.2

			NU2 Stack-R1	NU2 Stack-R1	NU2 Stack-R1	NU2 Stack-R2	NU2 Stack-R3	NU2 Inlet-FB	NU2 Inlet-R1
	Client ID:		H2O2	H2O2	H2O2	H2O2	H2O2	H2O2	H2O2
	Lab No.:		042524 99	042524 99	042524 99	042525 99	042526 99	042539 99	042540 99
	Date Sampled:		99/07/31	99/07/31	99/07/31	99/08/02	99/08/02	99/07/31	99/07/31
Component	**MDL**	**Units**	MS % Rec.	MS Dup	MSD % Rec.				
Final volume - H2O2		ml	-	-	-	250	250	250	250
Mercury - H202	0.010	ug	110	3.2	110	<0.25	0.50	<0.25	0.32

			NU2 Inlet-R2	NU2 Inlet-R3
	Client ID:		H2O2	H2O2
	Lab No.:		042541 99	042542 99
	Date Sampled:		99/08/02	99/08/02
Component	**MDL**	**Units**		
Final volume - H2O2		ml	250	250
Mercury - H202	0.010	ug	<0.25	<0.25

			Method	Blank	Blank	Blank	Blank	Reagent	MU4 Stack-FB	MU4 Stack-R2
	Client ID:		Blank	Spike #1	Spike #1	Spike #2	Spike #2	Blank KMNO4	KMNO4	KMNO4
	Lab No.:		042476 99	042476 99	042476 99	042476 99	042476 99	042492 99	042493 99	042494 99
	Date Sampled:		-	-	-	-	-	99/07/29	99/07/27	99/07/29
Component	**MDL**	**Units**			% Recoveries		% Recoveries			
Mercury - KMnO4	0.030	"	<	0.30	99	0.30	99	<	<	1.45

			MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R2	MU4 Stack-R3	MU4 Stack-R4
	Client ID:		KMNO4	KMNO4	KMNO4	KMNO4	KMNO4	KMNO4	KMNO4
	Lab No.:		042494 99	042494 99	042494 99	042494 99	042494 99	042495 99	042496 99
	Date Sampled:		99/07/29	99/07/29	99/07/29	99/07/29	99/07/29	99/07/30	99/07/30
Component	**MDL**	**Units**	Duplicate	M. Spike	MS % Rec.	MS Dup	MSD % Rec.		
Mercury - KMnO4	0.030	"	1.45	3.1	97	3.1	99	2.1	1.41

	Client ID:		MU4 Inlet-FB KMNO4	MU4 Inlet-R2 KMNO4	MU4 Inlet-R2 KMNO4	MU4 Inlet-R2 KMNO4	MU4 Inlet-R2 KMNO4	MU4 Inlet-R2 KMNO4	MU4 Inlet-R2 KMNO4
	Lab No.:		042511 99	042512 99	042512 99	042512 99	042512 99	042512 99	042512 99
	Date Sampled:		99/07/27	99/07/29	99/07/29	99/07/29	99/07/29	99/07/29	99/07/29
Component	**MDL**	**Units**			Duplicate	M. Spike	MS % Rec.	MS Dup	MSD % Rec.
Mercury - KMnO4	0.030	"	<	0.18	0.17	0.49	95	0.49	94

			NU2 Inlet-R1	NU2 Inlet-R2	NU2 Inlet-R3
	Client ID:		KMNO4	KMNO4	KMNO4
	Lab No.:		042544 99	042545 99	042546 99
	Date Sampled:		99/07/31	99/08/02	99/08/02
Component	**MDL**	**Units**			
Mercury - KMnO4	0.030	"	11.6	11.4	11.0

	Client ID:		RB 10% Hydroxylamine	RB 10% HNO3
	Lab No.:		042497 99	042498 99
	Date Sampled:		99/07/29	99/07/29
Component	**MDL**	**Units**		
Impinger volume - hydroxylamine		mL	50	-
Impinger volume measured		"	-	50
Mercury	0.05	ug/L	-	<
Mercury - hydroxalamine	0.010	ug	<	-

Batch Code:	**0824ABD2**			
Mercury	042498 99			
Run Date:	99/08/24			
Date of Sample Prep:	99/08/24			
Batch Code:	**1001MGHY**			
Mercury - hydroxalamine	042497 99			
Run Date:	99/10/01			
Date of Sample Prep:	99/10/01			
Batch Code:	**10031BKC**	**10032BKC**	**10032BKC**	**10033BKC**
Mercury - KCl	042476 99	042483 99	042519 99	042521 99
	042482 99	042484 99	042520 99	042522 99
		042485 99		042535 99
		042486 99		042536 99
		042503 99		042537 99
		042504 99		042538 99
		042505 99		
		042506 99		
Run Date:	99/10/03	99/10/03	99/10/03	99/10/03
Date of Sample Prep:	99/10/03	99/10/03	99/10/03	99/10/03
Batch Code:	**10041BMN**	**10042BMN**	**10042BMN**	
Mercury - KMnO4	042476 99	042512 99	042527 99	
	042492 99		042528 99	
	042493 99		042529 99	
	042494 99		042530 99	
	042495 99		042543 99	
	042496 99		042544 99	
	042511 99		042545 99	
	042513 99		042546 99	
	042514 99			
Run Date:	99/10/04	99/10/04	99/10/04	
Date of Sample Prep:	99/10/04	99/10/04	99/10/04	
Batch Code:	**10012N2B**	**10013N2B**		
Mercury - H202	042476 99	042523 99		
	042487 99	042524 99		
	042488 99	042525 99		
	042489 99	042526 99		
	042490 99	042539 99		
	042491 99	042540 99		
	042507 99	042541 99		
	042508 99	042542 99		
	042509 99			
	042510 99			
Run Date:	99/10/01	99/10/01		
Date of Sample Prep:	99/10/01	99/10/01		
Batch Code:	**10081GFL**			

Mercury - filter (Stack)	042476 99	
	042477 99	
	042478 99	
	042479 99	
	042480 99	
	042481 99	
	042515 99	
	042516 99	
	042517 99	
	042518 99	
Run Date:	99/10/08	
Date of Sample Prep:	99/10/08	
Batch Code:	**10101GFB**	**10101GFT**
Mercury - filter (Inlets)	042476 99	042477 99
	042499 99	042534 99
	042500 99	
	042501 99	
	042502 99	
	042531 99	
	042532 99	
	042533 99	
Run Date:	99/10/10	99/10/10
Date of Sample Prep:	99/10/10	99/10/10

Coal Full Proximate Analysis Report
Laboratory Services Department
AmerenUE

Lab Sample No.: UE15969
Original Sample ID: M1661 - Run 2
Sample Description: Coal from EPA Mercury speciation tests
Sample Pt. Description: Meramec #4 stack test
Other Information: As-fired feeder composites
Collection Date: 29-Jul-99 12:00 PM

Date Received: 05-Aug-99
Report Date: 27-Aug-99
Requestor: Bob Hof 612 + FAX
CC: Steve Whitworth 602 + FAX
Dave Wetteroff 643
Brian Schmidt 613

Parameter	Results	Units	Analysis Code	Analyst
Air Dry Loss	8.69	Weight %	U1013	MJS
Chlorine in Coal (dry)	3200	µg/g	U1003	MJS
Mercury in Coal (dry)	0.085	µg/g	U1024	ARD
Mercury in NIST 1630a (dry)	0.099	µg/g	U1024STD	ARD
Calorific Value (Isoperibol)				
Calorific Value (As - Received)	11387	BTU/lb	$U1001	MJS
Calorific Value (As - Determined)	12471	BTU/lb		MJS
Calorific Value (Dry)	13254	BTU/lb		MJS
Calorific Value (DAF)	14367	BTU/lb		MJS
Short Proximate Analysis				
Moisture (As - Received)	14.09	Weight %	$U1020	MJS
Moisture (As - Determined)	5.91	Weight %		MJS
Ash (As - Received)	6.66	Weight %		MJS
Ash (As - Determined)	7.29	Weight %		MJS
Ash (Dry)	7.76	Weight %		MJS
Total Sulfur in Coal (LECO)				
Sulfur (As - Received)	0.77	Weight %	$U1012	STD
Sulfur (As - Determined)	0.84	Weight %		STD
Sulfur (Dry)	0.89	Weight %		STD
Sulfur (DAF)	0.97	Weight %		STD

Comments:

The sulfur was determined by Standard Laboratories.

Following is a chart showing Lab Codes used by Ameren/ ASTM Lab Codes:

Approved By: fpc 8-27-99

Ameren	ASTM Method
U1013	D2013
U1024	D3684
U1003	D4208
$U1001	D1989
$U1020	D5142
$U1012	D4239

Coal Full Proximate Analysis Report
Laboratory Services Department
AmerenUE

Lab Sample No.: UE15970
Original Sample ID: M1662 - Run 3
Sample Description: Coal from EPA Mercury speciation tests
Sample Pt. Description: Meramec #4 stack test
Other Information: As-fired feeder composites
Collection Date: 29-Jul-99 12:00 PM

Date Received: 05-Aug-99
Report Date: 27-Aug-99
Requestor: Bob Hof 612 + FAX
CC: Steve Whitworth 602 + FAX
Dave Wetteroff 643
Brian Schmidt 613

Parameter	Results	Units	Analysis Code	Analyst
Air Dry Loss	8.00	Weight %	U1013	MJS
Chlorine in Coal (dry)	3660	ug/g	U1003	MJS
Mercury in Coal (dry)	0.120	µg/g	U1024	ARD
Mercury in NIST 1630a (dry)	0.099	µg/g	U1024STD	ARD
Calorific Value (Isoperibol)				
Calorific Value (As - Received)	12075	BTU/lb	$U1001	MJS
Calorific Value (As - Determined)	13125	BTU/lb		MJS
Calorific Value (Dry)	13499	BTU/lb		MJS
Calorific Value (DAF)	14701	BTU/lb		MJS
Short Proximate Analysis				
Moisture (As - Received)	10.86	Weight %	$U1020	MJS
Moisture (As - Determined)	2.77	Weight %		MJS
Ash (As - Received)	7.31	Weight %		MJS
Ash (As - Determined)	7.95	Weight %		MJS
Ash (Dry)	8.18	Weight %		MJS
Total Sulfur in Coal (LECO)				
Sulfur (As - Received)	1.15	Weight %	$U1012	STD
Sulfur (As - Determined)	1.25	Weight %		STD
Sulfur (Dry)	1.29	Weight %		STD
Sulfur (DAF)	1.40	Weight %		STD

Comments:

The sulfur was determined by Standard Laboratories.

Approved By: [signature] 8-27-99

Coal Full Proximate Analysis Report
Laboratory Services Department
AmerenUE

Lab Sample No.: UE15971
Original Sample ID: M1663 - Run 4
Sample Description: Coal from EPA Mercury speciation tests
Sample Pt. Description: Meramec #4 stack test
Other Information: As-fired feeder composites
Collection Date: 30-Jul-99 12:00 PM

Date Received: 05-Aug-99
Report Date: 27-Aug-99
Requestor: Bob Hof 612 + FAX
CC: Steve Whitworth 602 + FAX
Dave Wetteroff 643
Brian Schmidt 613

Parameter	Results	Units	Analysis Code	Analyst
Air Dry Loss	8.64	Weight,%	U1013	MJS
Chlorine in Coal (dry)	3800	ug/g	U1003	MJS
Mercury in Coal (dry)	0.068	µg/g	U1024	ARD
Mercury in NIST 1630a (dry)	0.099	µg/g	U1024STD	ARD
Calorific Value (Isoperibol)				
Calorific Value (As - Received)	11813	BTU/lb	$U1001	MJS
Calorific Value (As - Determined)	12930	BTU/lb		MJS
Calorific Value (Dry)	13415	BTU/lb		MJS
Calorific Value (DAF)	14559	BTU/lb		MJS
Short Proximate Analysis				
Moisture (As - Received)	11.95	Weight %	$U1020	MJS
Moisture (As - Determined)	3.62	Weight %		MJS
Ash (As - Received)	6.92	Weight %		MJS
Ash (As - Determined)	7.57	Weight %		MJS
Ash (Dry)	7.85	Weight,%		MJS
Total Sulfur in Coal (LECO)				
Sulfur (As - Received)	1.11	Weight %	$U1012	STD
Sulfur (As - Determined)	1.22	Weight %		STD
Sulfur (Dry)	1.27	Weight %		STD
Sulfur (DAF)	1.37	Weight %		STD

Comments:

The sulfur was determined by Standard Laboratories.

Approved By: [signature] 8-27-99

Appendix E. Audit Data Sheets

(no audits performed)

Appendix F. List of Participants

Appendix F. List of Participants

List of Participants		
Meramec 4 Mercury ICR Testing		
Name	*Position on Test Team*	*Affiliation*
Mark McDannel	Team Leader, Inlet Sampling Leader	Fossil Energy Research Corp.
Paul Anderson	Inlet Assistant	Fossil Energy Research Corp.
Dave Wonderly	Stack Sampling Leader	Delta Air Quality Services
Lawrence Pedregon	Stack Assistant	Delta Air Quality Services
Arlene Bell	Project Chemist, Sample Recovery and Custody	Delta Air Quality Services
Ron McLeod	Project Manager, Gas Sample Analyses	Phillip Analytical Services
Robert Hof	Ameren Program Manager, On-Site Coordinator	Ameren
Stephen Cuppett	Coal Sample Analyses.	Ameren

Appendix G. Additional Information

CEMS Data

Unit Operating Data

ESP Operating Data

Meramec 4 Unit Data

The following sheet lists unit data that was recorded for these tests. Group 1, which includes unit load, is included here. The other groups are maintained on file at FERCo and Ameren.

Unit 4 Hg Testing Data Points

Group 1		Group 2	
4PT1446	Barometric Pressure	4FT1401	Feedwater Flow
4AT1101D	Opacity	4TRW361C	FW to Economizer Temp.
4MEGAWT	Megawatts	4AFDFANAF	4A FD Fan Air Flow
4PT1552S	Selected Throttle Press.	4O2AVG	Average Flue Gas O2
4FT1550	Main Steam Flow	4TRW360G	Ljungstrm 4A Gas In Temp.
4TE1352A	SH Steam Temp 4A	4TRW360C	Ljungstrm 4A Gas Out Temp.
4TE1357A	Hot RH 4A Steam Temp	4TRW360A	Ljungstrm 4A Air In Temp
4PT1577S	Condenser Backpressure	4TI1103A	Ljung 4A Avg Air Out Temp

Group 3		Group 4	
4PT1219A	Lngstrm AH 4A Gas In Pr	4TRW360H	Ljungstrm 4B Gas In Temp
4PT1200A	ID Fan 4A Suction Press	4TRW360F	Ljungstrm 4B Gas Out Temp
4IT1212A	ID Fan 4A Current	4TRW360D	Ljungstrm 4B Air In Temp
4CD1201AZT	ID Fan 4A Inlet Dmpr Pos	4TI1103B	Ljung AH 4B Avg Air Out Temp
4ST1202A	ID Fan 4A Speed	4PT1200B	ID Fan 4B Suction Press
4TRW548P	Ambient Air Temp	4IT1212B	ID Fan 4B Current
4TOTFUELC	Total Corrected Fuel Flow	4CD1201BZT	ID Fan 4B Inlet Dmpr Pos
4TOTAIR	Total Air Flow	4PT1400A	Drum Pressure 4-1

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
12:39:44	29-Jul-99	1	29.64	,	0.4	,	355.7	,	2088	,	2836.7	,	943	,	984	,	5	,
12:39:28	29-Jul-99	2	29.64	,	0.4	,	356.1	,	2091	,	2836.7	,	943	,	984	,	5	,
12:39:12	29-Jul-99	3	29.64	,	0.4	,	356.1	,	2091	,	2836.7	,	943	,	984	,	5	,
12:38:56	29-Jul-99	4	29.64	,	0.4	,	355.7	,	2088	,	2833.3	,	943	,	984	,	5	,
12:38:40	29-Jul-99	5	29.64	,	0.4	,	355.2	,	2088	,	2833.3	,	943	,	984	,	5	,
12:38:24	29-Jul-99	6	29.64	,	0.4	,	355.6	,	2091	,	2833.3	,	943	,	984	,	5	,
12:38:08	29-Jul-99	7	29.64	,	0.4	,	356.3	,	2091	,	2836.7	,	943	,	984	,	5	,
12:37:52	29-Jul-99	8	29.64	,	0.4	,	355.8	,	2088	,	2832.8	,	943	,	984	,	5	,
12:37:36	29-Jul-99	9	29.64	,	0.4	,	356	,	2091	,	2836.2	,	943	,	984	,	5	,
12:37:20	29-Jul-99	10	29.64	,	0.4	,	356.1	,	2091	,	2836.2	,	943	,	984	,	5	,
12:37:04	29-Jul-99	11	29.64	,	0.4	,	355.6	,	2091	,	2836.2	,	942	,	984	,	5	,
12:36:48	29-Jul-99	12	29.64	,	0.4	,	355.5	,	2088	,	2836.2	,	942	,	984	,	5	,
12:36:32	29-Jul-99	13	29.64	,	0.4	,	355.2	,	2088	,	2836.2	,	942	,	982	,	5	,
12:36:16	29-Jul-99	14	29.64	,	0.4	,	355.7	,	2088	,	2836.2	,	942	,	982	,	5	,
12:36:00	29-Jul-99	15	29.64	,	0.4	,	355.4	,	2088	,	2832.8	,	942	,	982	,	5	,
12:35:44	29-Jul-99	16	29.64	,	0.4	,	355.3	,	2088	,	2836.2	,	942	,	982	,	5	,
12:35:28	29-Jul-99	17	29.64	,	0.4	,	355	,	2088	,	2836.2	,	942	,	982	,	5	,
12:35:12	29-Jul-99	18	29.64	,	0.4	,	355	,	2088	,	2836.2	,	942	,	982	,	5	,
12:34:56	29-Jul-99	19	29.64	,	0.4	,	355.3	,	2088	,	2836.2	,	942	,	982	,	5	,
12:34:40	29-Jul-99	20	29.64	,	0.4	,	356	,	2088	,	2832.8	,	942	,	982	,	5	,
12:34:24	29-Jul-99	21	29.64	,	0.4	,	354.8	,	2085	,	2832.8	,	942	,	982	,	5	,
12:34:08	29-Jul-99	22	29.64	,	0.4	,	355.4	,	2085	,	2832.8	,	942	,	982	,	5	,
12:33:52	29-Jul-99	23	29.64	,	0.4	,	354.7	,	2085	,	2832.8	,	942	,	982	,	5	,
12:33:36	29-Jul-99	24	29.64	,	0.4	,	354.8	,	2085	,	2832.8	,	942	,	982	,	5	,
12:33:20	29-Jul-99	25	29.64	,	0.4	,	355.4	,	2085	,	2832.8	,	942	,	982	,	5	,
12:33:04	29-Jul-99	26	29.64	,	0.4	,	355	,	2085	,	2832.8	,	942	,	982	,	5	,
12:32:48	29-Jul-99	27	29.64	,	0.4	,	355	,	2085	,	2832.8	,	942	,	982	,	5	,
12:32:32	29-Jul-99	28	29.64	,	0.4	,	355.9	,	2088	,	2832.8	,	942	,	982	,	5	,
12:32:16	29-Jul-99	29	29.64	,	0.4	,	355.6	,	2091	,	2836.7	,	942	,	982	,	5	,
12:32:00	29-Jul-99	30	29.64	,	0.4	,	356.3	,	2091	,	2836.7	,	942	,	982	,	5	,
12:31:44	29-Jul-99	31	29.64	,	0.4	,	355.4	,	2088	,	2836.7	,	942	,	982	,	5	,
12:31:28	29-Jul-99	32	29.64	,	0.4	,	355.9	,	2088	,	2836.7	,	942	,	982	,	5	,
12:31:12	29-Jul-99	33	29.64	,	0.4	,	355.9	,	2088	,	2832.8	,	942	,	982	,	5	,
12:30:56	29-Jul-99	34	29.64	,	0.4	,	355.5	,	2088	,	2832.8	,	942	,	983	,	5	,
12:30:40	29-Jul-99	35	29.64	,	0.4	,	355.9	,	2088	,	2836.7	,	942	,	983	,	5	,
12:30:24	29-Jul-99	36	29.64	,	0.4	,	355.8	,	2088	,	2833.3	,	942	,	983	,	5	,
12:30:08	29-Jul-99	37	29.64	,	0.4	,	355.5	,	2088	,	2833.3	,	942	,	983	,	5	,
12:29:52	29-Jul-99	38	29.64	,	0.4	,	355.4	,	2088	,	2833.3	,	942	,	983	,	5	,
12:29:36	29-Jul-99	39	29.64	,	0.4	,	355.2	,	2091	,	2833.3	,	942	,	983	,	5	,
12:29:20	29-Jul-99	40	29.64	,	0.4	,	356.2	,	2091	,	2837.2	,	942	,	983	,	5	,
12:29:04	29-Jul-99	41	29.64	,	0.4	,	355.6	,	2088	,	2837.2	,	942	,	983	,	5	,
12:28:48	29-Jul-99	42	29.64	,	0.4	,	355.8	,	2091	,	2833.8	,	942	,	983	,	5	,
12:28:32	29-Jul-99	43	29.64	,	0.4	,	355.5	,	2088	,	2833.8	,	942	,	983	,	5	,
12:28:16	29-Jul-99	44	29.64	,	0.4	,	355.9	,	2088	,	2833.8	,	942	,	983	,	5	,
12:28:00	29-Jul-99	45	29.64	,	0.4	,	355.9	,	2091	,	2837.2	,	942	,	983	,	5	,
12:27:44	29-Jul-99	46	29.64	,	0.4	,	356	,	2088	,	2837.2	,	942	,	983	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
12:27:28	29-Jul-99	47	29.64	,	0.4	,	355.8	,	2088	,	2833.3	,	944	,	983	,	5	,
12:27:12	29-Jul-99	48	29.64	,	0.4	,	356.1	,	2088	,	2833.3	,	944	,	983	,	5	,
12:26:56	29-Jul-99	49	29.64	,	0.4	,	355.8	,	2088	,	2833.3	,	944	,	983	,	5	,
12:26:40	29-Jul-99	50	29.64	,	0.4	,	355.9	,	2091	,	2836.7	,	944	,	983	,	5	,
12:26:24	29-Jul-99	51	29.64	,	0.4	,	355.5	,	2091	,	2833.3	,	944	,	983	,	5	,
12:26:08	29-Jul-99	52	29.64	,	0.4	,	355.7	,	2091	,	2836.7	,	944	,	983	,	5	,
12:25:52	29-Jul-99	53	29.64	,	0.4	,	355.8	,	2091	,	2836.7	,	944	,	983	,	5	,
12:25:36	29-Jul-99	54	29.64	,	0.4	,	356	,	2091	,	2836.7	,	944	,	983	,	5	,
12:25:20	29-Jul-99	55	29.64	,	0.4	,	356	,	2091	,	2836.7	,	944	,	983	,	5	,
12:25:04	29-Jul-99	56	29.64	,	0.4	,	356.5	,	2094	,	2836.7	,	944	,	983	,	5	,
12:24:48	29-Jul-99	57	29.64	,	0.4	,	356.8	,	2094	,	2840.1	,	944	,	983	,	5	,
12:24:32	29-Jul-99	58	29.64	,	0.4	,	356.6	,	2091	,	2840.1	,	944	,	983	,	5	,
12:24:16	29-Jul-99	59	29.64	,	0.4	,	356.2	,	2091	,	2836.7	,	944	,	983	,	5	,
12:24:00	29-Jul-99	60	29.64	,	0.4	,	356.3	,	2091	,	2836.7	,	944	,	983	,	5	,
12:23:44	29-Jul-99	61	29.64	,	0.4	,	356.3	,	2091	,	2836.7	,	942	,	983	,	5	,
12:23:28	29-Jul-99	62	29.64	,	0.4	,	356.3	,	2088	,	2836.7	,	942	,	983	,	5	,
12:23:12	29-Jul-99	63	29.64	,	0.4	,	355.7	,	2088	,	2836.7	,	942	,	982	,	5	,
12:22:56	29-Jul-99	64	29.64	,	0.4	,	356.1	,	2085	,	2832.4	,	942	,	982	,	5	,
12:22:40	29-Jul-99	65	29.64	,	0.4	,	355.7	,	2085	,	2832.4	,	942	,	982	,	5	,
12:22:24	29-Jul-99	66	29.64	,	0.4	,	354.9	,	2085	,	2832.4	,	942	,	982	,	5	,
12:22:08	29-Jul-99	67	29.64	,	0.4	,	354.8	,	2085	,	2832.4	,	942	,	982	,	5	,
12:21:52	29-Jul-99	68	29.64	,	0.4	,	354.7	,	2085	,	2832.4	,	942	,	982	,	5	,
12:21:36	29-Jul-99	69	29.64	,	0.4	,	355.2	,	2085	,	2832.4	,	944	,	982	,	5	,
12:21:20	29-Jul-99	70	29.64	,	0.4	,	355.5	,	2085	,	2832.4	,	944	,	982	,	5	,
12:21:04	29-Jul-99	71	29.64	,	0.4	,	355.1	,	2088	,	2832.4	,	944	,	982	,	5	,
12:20:48	29-Jul-99	72	29.64	,	0.4	,	355.5	,	2091	,	2835.7	,	944	,	982	,	5	,
12:20:32	29-Jul-99	73	29.64	,	0.4	,	355.7	,	2091	,	2835.7	,	944	,	982	,	5	,
12:20:16	29-Jul-99	74	29.64	,	0.4	,	356.1	,	2091	,	2835.7	,	944	,	982	,	5	,
12:20:00	29-Jul-99	75	29.64	,	0.4	,	356.2	,	2091	,	2835.7	,	944	,	982	,	5	,
12:19:44	29-Jul-99	76	29.64	,	0.4	,	356.1	,	2091	,	2835.7	,	944	,	982	,	5	,
12:19:28	29-Jul-99	77	29.64	,	0.4	,	356.5	,	2091	,	2839.1	,	944	,	982	,	5	,
12:19:12	29-Jul-99	78	29.64	,	0.4	,	356.1	,	2091	,	2839.1	,	944	,	982	,	5	,
12:18:56	29-Jul-99	79	29.64	,	0.4	,	356.1	,	2091	,	2839.1	,	944	,	982	,	5	,
12:18:40	29-Jul-99	80	29.64	,	0.4	,	355.8	,	2091	,	2835.3	,	944	,	982	,	5	,
12:18:24	29-Jul-99	81	29.64	,	0.4	,	355.9	,	2091	,	2835.3	,	944	,	982	,	5	,
12:18:08	29-Jul-99	82	29.64	,	0.4	,	355.5	,	2091	,	2835.3	,	944	,	982	,	5	,
12:17:52	29-Jul-99	83	29.64	,	0.4	,	355.8	,	2091	,	2835.3	,	944	,	982	,	5	,
12:17:36	29-Jul-99	84	29.64	,	0.4	,	355.6	,	2091	,	2835.3	,	944	,	982	,	5	,
12:17:20	29-Jul-99	85	29.64	,	0.4	,	356.5	,	2091	,	2838.6	,	944	,	982	,	5	,
12:17:04	29-Jul-99	86	29.64	,	0.4	,	356.1	,	2091	,	2835.3	,	944	,	982	,	5	,
12:16:48	29-Jul-99	87	29.64	,	0.4	,	356.3	,	2091	,	2835.3	,	945	,	982	,	5	,
12:16:32	29-Jul-99	88	29.64	,	0.4	,	356.4	,	2091	,	2835.3	,	945	,	982	,	5	,
12:16:16	29-Jul-99	89	29.64	,	0.4	,	356.4	,	2091	,	2835.3	,	945	,	982	,	5	,
12:16:00	29-Jul-99	90	29.64	,	0.4	,	356.3	,	2091	,	2835.3	,	945	,	982	,	5	,
12:15:44	29-Jul-99	91	29.64	,	0.4	,	356	,	2094	,	2835.3	,	945	,	982	,	5	,
12:15:28	29-Jul-99	92	29.64	,	0.4	,	356.5	,	2094	,	2838.6	,	944	,	982	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
12:15:12	29-Jul-99	93	29.64	,	0.4	,	356.5	,	2091	,	2838.6	,	944	,	982	,	5	,
12:14:56	29-Jul-99	94	29.64	,	0.4	,	356.6	,	2091	,	2838.6	,	944	,	982	,	5	,
12:14:40	29-Jul-99	95	29.64	,	0.4	,	356	,	2091	,	2834.8	,	944	,	982	,	5	,
12:14:24	29-Jul-99	96	29.64	,	0.4	,	356.4	,	2091	,	2834.8	,	944	,	982	,	5	,
12:14:08	29-Jul-99	97	29.64	,	0.4	,	356.1	,	2091	,	2834.8	,	944	,	982	,	5	,
12:13:52	29-Jul-99	98	29.64	,	0.4	,	356	,	2091	,	2838.2	,	944	,	982	,	5	,
12:13:36	29-Jul-99	99	29.64	,	0.4	,	356.1	,	2091	,	2838.2	,	944	,	982	,	5	,
12:13:20	29-Jul-99	100	29.64	,	0.4	,	356.5	,	2091	,	2838.2	,	944	,	982	,	5	,
12:13:04	29-Jul-99	101	29.64	,	0.4	,	356.1	,	2091	,	2838.2	,	944	,	982	,	5	,
12:12:48	29-Jul-99	102	29.64	,	0.4	,	355.6	,	2088	,	2834.8	,	944	,	982	,	5	,
12:12:32	29-Jul-99	103	29.64	,	0.4	,	355.4	,	2088	,	2834.8	,	944	,	982	,	5	,
12:12:16	29-Jul-99	104	29.64	,	0.4	,	355.4	,	2088	,	2831.4	,	944	,	982	,	5	,
12:12:00	29-Jul-99	105	29.64	,	0.4	,	355.4	,	2088	,	2835.3	,	944	,	982	,	5	,
12:11:44	29-Jul-99	106	29.64	,	0.4	,	355.4	,	2088	,	2835.3	,	944	,	982	,	5	,
12:11:28	29-Jul-99	107	29.64	,	0.4	,	356	,	2088	,	2835.3	,	944	,	982	,	5	,
12:11:12	29-Jul-99	108	29.64	,	0.4	,	355.5	,	2088	,	2835.3	,	944	,	982	,	5	,
12:10:56	29-Jul-99	109	29.64	,	0.4	,	355.9	,	2088	,	2835.3	,	944	,	982	,	5	,
12:10:40	29-Jul-99	110	29.64	,	0.4	,	355.6	,	2091	,	2835.3	,	944	,	982	,	5	,
12:10:24	29-Jul-99	111	29.64	,	0.4	,	356	,	2091	,	2838.6	,	944	,	982	,	5	,
12:10:08	29-Jul-99	112	29.64	,	0.4	,	356.6	,	2094	,	2838.6	,	944	,	982	,	5	,
12:09:52	29-Jul-99	113	29.64	,	0.4	,	355.6	,	2091	,	2838.6	,	944	,	982	,	5	,
12:09:36	29-Jul-99	114	29.64	,	0.4	,	355.4	,	2088	,	2835.3	,	944	,	982	,	5	,
12:09:20	29-Jul-99	115	29.64	,	0.4	,	355.2	,	2088	,	2835.3	,	942	,	982	,	5	,
12:09:04	29-Jul-99	116	29.64	,	0.4	,	355.4	,	2088	,	2835.3	,	942	,	982	,	5	,
12:08:48	29-Jul-99	117	29.64	,	0.4	,	355	,	2088	,	2835.3	,	942	,	982	,	5	,
12:08:32	29-Jul-99	118	29.64	,	0.4	,	355.5	,	2088	,	2835.3	,	942	,	982	,	5	,
12:08:16	29-Jul-99	119	29.64	,	0.4	,	355.5	,	2088	,	2835.3	,	942	,	982	,	5	,
12:08:00	29-Jul-99	120	29.64	,	0.4	,	355.7	,	2088	,	2835.3	,	942	,	982	,	5	,
12:07:44	29-Jul-99	121	29.64	,	0.4	,	355.5	,	2091	,	2835.3	,	942	,	981	,	5	,
12:07:28	29-Jul-99	122	29.64	,	0.4	,	356	,	2091	,	2835.3	,	942	,	981	,	5	,
12:07:12	29-Jul-99	123	29.64	,	0.4	,	355.5	,	2091	,	2835.3	,	942	,	981	,	5	,
12:06:56	29-Jul-99	124	29.64	,	0.4	,	356.1	,	2091	,	2835.3	,	942	,	981	,	5	,
12:06:40	29-Jul-99	125	29.64	,	0.4	,	355.3	,	2091	,	2835.3	,	942	,	981	,	5	,
12:06:24	29-Jul-99	126	29.64	,	0.4	,	355.7	,	2088	,	2835.3	,	942	,	981	,	5	,
12:06:08	29-Jul-99	127	29.64	,	0.4	,	355.6	,	2088	,	2835.3	,	942	,	981	,	5	,
12:05:52	29-Jul-99	128	29.64	,	0.4	,	355.5	,	2091	,	2835.3	,	944	,	981	,	5	,
12:05:36	29-Jul-99	129	29.64	,	0.4	,	356.3	,	2091	,	2835.3	,	944	,	981	,	5	,
12:05:20	29-Jul-99	130	29.64	,	0.4	,	356.5	,	2094	,	2838.6	,	944	,	981	,	5	,
12:05:04	29-Jul-99	131	29.64	,	0.4	,	356.1	,	2094	,	2838.6	,	944	,	981	,	5	,
12:04:48	29-Jul-99	132	29.64	,	0.4	,	356.5	,	2094	,	2838.6	,	944	,	981	,	5	,
12:04:32	29-Jul-99	133	29.64	,	0.4	,	356.1	,	2094	,	2838.6	,	944	,	981	,	5	,
12:04:16	29-Jul-99	134	29.64	,	0.4	,	356.5	,	2094	,	2838.6	,	944	,	981	,	5	,
12:04:00	29-Jul-99	135	29.64	,	0.4	,	357	,	2094	,	2838.6	,	944	,	981	,	5	,
12:03:44	29-Jul-99	136	29.64	,	0.4	,	357.3	,	2097	,	2838.6	,	944	,	981	,	5	,
12:03:28	29-Jul-99	137	29.64	,	0.4	,	356.6	,	2094	,	2838.6	,	944	,	981	,	5	,
12:03:12	29-Jul-99	138	29.64	,	0.4	,	355.9	,	2094	,	2838.6	,	942	,	981	,	5	,

Historic	al Tabular	Trend	1 12:3		9:59	29-Jul-99												
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
12:02:56	29-Jul-99	139	29.64	,	0.4	,	356.4	,	2094	,	2838.6	,	942	,	981	,	5	,
12:02:40	29-Jul-99	140	29.64	,	0.4	,	356.5	,	2094	,	2838.6	,	942	,	981	,	5	,
12:02:24	29-Jul-99	141	29.64	,	0.4	,	357	,	2094	,	2838.6	,	942	,	981	,	5	,
12:02:08	29-Jul-99	142	29.64	,	0.4	,	356.6	,	2091	,	2838.6	,	942	,	981	,	5	,
12:01:52	29-Jul-99	143	29.64	,	0.4	,	355.6	,	2091	,	2838.6	,	942	,	981	,	5	,
12:01:36	29-Jul-99	144	29.64	,	0.4	,	356	,	2087	,	2834.8	,	942	,	981	,	5	,
12:01:20	29-Jul-99	145	29.64	,	0.4	,	356.1	,	2087	,	2834.8	,	942	,	981	,	5	,
12:01:04	29-Jul-99	146	29.64	,	0.4	,	355.2	,	2090	,	2834.8	,	942	,	981	,	5	,
12:00:48	29-Jul-99	147	29.64	,	0.4	,	355.9	,	2090	,	2834.8	,	942	,	981	,	5	,
12:00:32	29-Jul-99	148	29.64	,	0.4	,	355.6	,	2090	,	2834.8	,	942	,	981	,	5	,
12:00:16	29-Jul-99	149	29.64	,	0.4	,	355.3	,	2090	,	2834.8	,	942	,	981	,	5	,
12:00:00	29-Jul-99	150	29.64	,	0.4	,	356.3	,	2090	,	2838.2	,	942	,	981	,	5	,
11:59:44	29-Jul-99	151	29.64	,	0.4	,	356.3	,	2090	,	2838.2	,	942	,	981	,	5	,
11:59:28	29-Jul-99	152	29.64	,	0.4	,	355.8	,	2090	,	2834.3	,	942	,	981	,	5	,
11:59:12	29-Jul-99	153	29.64	,	0.4	,	356.5	,	2090	,	2834.3	,	942	,	981	,	5	,
11:58:56	29-Jul-99	154	29.64	,	0.4	,	356.7	,	2090	,	2837.7	,	942	,	981	,	5	,
11:58:40	29-Jul-99	155	29.64	,	0.4	,	356.2	,	2090	,	2834.3	,	942	,	981	,	5	,
11:58:24	29-Jul-99	156	29.64	,	0.4	,	356.2	,	2090	,	2834.3	,	942	,	981	,	5	,
11:58:08	29-Jul-99	157	29.64	,	0.4	,	356	,	2090	,	2834.3	,	942	,	981	,	5	,
11:57:52	29-Jul-99	158	29.64	,	0.4	,	356.1	,	2090	,	2834.3	,	942	,	981	,	5	,
11:57:36	29-Jul-99	159	29.64	,	0.4	,	356.5	,	2090	,	2834.3	,	942	,	981	,	4	,
11:57:20	29-Jul-99	160	29.64	,	0.4	,	356.4	,	2090	,	2834.3	,	942	,	981	,	4	,
11:57:04	29-Jul-99	161	29.64	,	0.4	,	356.1	,	2090	,	2834.3	,	942	,	982	,	5	,
11:56:48	29-Jul-99	162	29.64	,	0.4	,	356.8	,	2090	,	2837.7	,	942	,	982	,	5	,
11:56:32	29-Jul-99	163	29.64	,	0.4	,	356.8	,	2090	,	2837.7	,	942	,	982	,	5	,
11:56:16	29-Jul-99	164	29.64	,	0.4	,	356.4	,	2090	,	2837.7	,	942	,	982	,	5	,
11:56:00	29-Jul-99	165	29.64	,	0.4	,	357	,	2093	,	2837.7	,	942	,	982	,	5	,
11:55:44	29-Jul-99	166	29.64	,	0.4	,	356.7	,	2093	,	2837.7	,	942	,	982	,	5	,
11:55:28	29-Jul-99	167	29.64	,	0.4	,	357.3	,	2093	,	2837.7	,	942	,	982	,	5	,
11:55:12	29-Jul-99	168	29.64	,	0.4	,	357.2	,	2093	,	2837.7	,	942	,	982	,	5	,
11:54:56	29-Jul-99	169	29.64	,	0.4	,	357.2	,	2093	,	2837.7	,	942	,	982	,	5	,
11:54:40	29-Jul-99	170	29.64	,	0.4	,	356.7	,	2090	,	2833.3	,	942	,	982	,	5	,
11:54:24	29-Jul-99	171	29.64	,	0.4	,	357.1	,	2090	,	2836.7	,	942	,	982	,	5	,
11:54:08	29-Jul-99	172	29.64	,	0.4	,	357.1	,	2093	,	2836.7	,	942	,	982	,	5	,
11:53:52	29-Jul-99	173	29.64	,	0.4	,	357.1	,	2093	,	2836.7	,	942	,	982	,	5	,
11:53:36	29-Jul-99	174	29.64	,	0.4	,	357	,	2093	,	2836.7	,	942	,	982	,	5	,
11:53:20	29-Jul-99	175	29.64	,	0.4	,	356.8	,	2093	,	2836.7	,	942	,	982	,	5	,
11:53:04	29-Jul-99	176	29.64	,	0.4	,	357.2	,	2096	,	2840.1	,	942	,	982	,	5	,
11:52:48	29-Jul-99	177	29.64	,	0.4	,	357.2	,	2093	,	2840.1	,	944	,	982	,	5	,
11:52:32	29-Jul-99	178	29.64	,	0.4	,	357.3	,	2096	,	2840.1	,	944	,	982	,	5	,
11:52:16	29-Jul-99	179	29.64	,	0.4	,	357.4	,	2096	,	2840.1	,	944	,	982	,	5	,
11:52:00	29-Jul-99	180	29.64	,	0.4	,	357.4	,	2096	,	2840.1	,	944	,	982	,	5	,
11:51:44	29-Jul-99	181	29.64	,	0.4	,	357.8	,	2096	,	2836.7	,	944	,	982	,	5	,
11:51:28	29-Jul-99	182	29.64	,	0.4	,	358	,	2096	,	2841.1	,	944	,	982	,	5	,
11:51:12	29-Jul-99	183	29.64	,	0.4	,	357.2	,	2096	,	2841.6	,	944	,	982	,	5	,
11:50:56	29-Jul-99	184	29.64	,	0.4	,	357.3	,	2096	,	2838.2	,	944	,	982	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
11:50:40	29-Jul-99	185	29.64	,	0.4	,	357.6	,	2096	,	2841.6	,	944	,	982	,	5	,
11:50:24	29-Jul-99	186	29.64	,	0.4	,	357.6	,	2096	,	2841.6	,	944	,	982	,	5	,
11:50:08	29-Jul-99	187	29.64	,	0.4	,	357.7	,	2099	,	2841.6	,	944	,	982	,	5	,
11:49:52	29-Jul-99	188	29.64	,	0.4	,	357.8	,	2099	,	2841.6	,	944	,	982	,	5	,
11:49:36	29-Jul-99	189	29.64	,	0.4	,	357.3	,	2096	,	2841.6	,	944	,	982	,	5	,
11:49:20	29-Jul-99	190	29.64	,	0.4	,	357.6	,	2096	,	2841.6	,	942	,	982	,	5	,
11:49:04	29-Jul-99	191	29.64	,	0.4	,	356.9	,	2096	,	2841.6	,	942	,	982	,	5	,
11:48:48	29-Jul-99	192	29.64	,	0.4	,	356.8	,	2096	,	2841.6	,	942	,	982	,	5	,
11:48:32	29-Jul-99	193	29.64	,	0.4	,	357.3	,	2096	,	2841.6	,	942	,	982	,	5	,
11:48:16	29-Jul-99	194	29.64	,	0.4	,	356.5	,	2093	,	2837.7	,	942	,	982	,	5	,
11:48:00	29-Jul-99	195	29.64	,	0.4	,	356	,	2093	,	2837.7	,	942	,	982	,	5	,
11:47:44	29-Jul-99	196	29.64	,	0.4	,	355.7	,	2090	,	2837.7	,	942	,	982	,	5	,
11:47:28	29-Jul-99	197	29.64	,	0.4	,	355.7	,	2090	,	2837.7	,	942	,	982	,	5	,
11:47:12	29-Jul-99	198	29.64	,	0.4	,	355.9	,	2090	,	2837.7	,	944	,	982	,	5	,
11:46:56	29-Jul-99	199	29.64	,	0.4	,	355.7	,	2090	,	2837.7	,	944	,	982	,	5	,
11:46:40	29-Jul-99	200	29.64	,	0.4	,	355.9	,	2093	,	2837.7	,	944	,	982	,	5	,
11:46:24	29-Jul-99	201	29.64	,	0.4	,	356.2	,	2093	,	2837.7	,	944	,	982	,	5	,
11:46:08	29-Jul-99	202	29.64	,	0.4	,	356.5	,	2096	,	2841.1	,	944	,	982	,	5	,
11:45:52	29-Jul-99	203	29.64	,	0.4	,	356.6	,	2096	,	2841.1	,	944	,	982	,	5	,
11:45:36	29-Jul-99	204	29.64	,	0.4	,	356.3	,	2096	,	2841.1	,	944	,	982	,	5	,
11:45:20	29-Jul-99	205	29.64	,	0.4	,	356.6	,	2096	,	2840.6	,	944	,	982	,	5	,
11:45:04	29-Jul-99	206	29.64	,	0.4	,	356.6	,	2096	,	2840.6	,	944	,	982	,	5	,
11:44:48	29-Jul-99	207	29.64	,	0.4	,	356.7	,	2093	,	2840.6	,	944	,	982	,	5	,
11:44:32	29-Jul-99	208	29.64	,	0.4	,	356.7	,	2093	,	2840.6	,	944	,	982	,	5	,
11:44:16	29-Jul-99	209	29.64	,	0.4	,	355.9	,	2093	,	2840.6	,	944	,	982	,	5	,
11:44:00	29-Jul-99	210	29.64	,	0.4	,	356	,	2093	,	2837.2	,	944	,	982	,	5	,
11:43:44	29-Jul-99	211	29.64	,	0.4	,	356.1	,	2093	,	2837.2	,	944	,	982	,	5	,
11:43:28	29-Jul-99	212	29.64	,	0.4	,	355.8	,	2093	,	2837.2	,	944	,	982	,	5	,
11:43:12	29-Jul-99	213	29.64	,	0.4	,	356.3	,	2096	,	2841.1	,	944	,	982	,	5	,
11:42:56	29-Jul-99	214	29.64	,	0.4	,	356.4	,	2096	,	2841.1	,	944	,	982	,	5	,
11:42:40	29-Jul-99	215	29.64	,	0.4	,	356.3	,	2096	,	2841.1	,	944	,	982	,	5	,
11:42:24	29-Jul-99	216	29.64	,	0.4	,	356.5	,	2096	,	2841.1	,	944	,	982	,	5	,
11:42:08	29-Jul-99	217	29.64	,	0.4	,	356.2	,	2096	,	2841.1	,	944	,	982	,	5	,
11:41:52	29-Jul-99	218	29.64	,	0.4	,	356.6	,	2096	,	2841.6	,	942	,	982	,	5	,
11:41:36	29-Jul-99	219	29.64	,	0.4	,	356.7	,	2096	,	2841.6	,	942	,	982	,	5	,
11:41:20	29-Jul-99	220	29.64	,	0.4	,	356.3	,	2096	,	2837.7	,	944	,	982	,	5	,
11:41:04	29-Jul-99	221	29.64	,	0.4	,	356	,	2093	,	2837.7	,	944	,	982	,	5	,
11:40:48	29-Jul-99	222	29.64	,	0.4	,	355.9	,	2093	,	2837.7	,	944	,	982	,	5	,
11:40:32	29-Jul-99	223	29.64	,	0.4	,	356.1	,	2090	,	2837.7	,	944	,	982	,	5	,
11:40:16	29-Jul-99	224	29.64	,	0.4	,	355.8	,	2093	,	2837.7	,	944	,	982	,	5	,
11:40:00	29-Jul-99	225	29.64	,	0.4	,	356.4	,	2093	,	2837.7	,	944	,	982	,	5	,
11:39:44	29-Jul-99	226	29.64	,	0.4	,	356.7	,	2093	,	2837.7	,	944	,	982	,	5	,
11:39:28	29-Jul-99	227	29.64	,	0.4	,	355.9	,	2093	,	2837.7	,	944	,	982	,	5	,
11:39:12	29-Jul-99	228	29.64	,	0.4	,	356.4	,	2093	,	2837.7	,	944	,	982	,	5	,
11:38:56	29-Jul-99	229	29.64	,	0.4	,	356.5	,	2096	,	2837.7	,	945	,	982	,	5	,
11:38:40	29-Jul-99	230	29.64	,	0.4	,	356.5	,	2096	,	2837.7	,	945	,	982	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
11:38:24	29-Jul-99	231	29.64	,	0.4	,	356.4	,	2096	,	2837.7	,	945	,	982	,	5	,
11:38:08	29-Jul-99	232	29.64	,	0.4	,	356.3	,	2096	,	2841.1	,	945	,	982	,	5	,
11:37:52	29-Jul-99	233	29.64	,	0.4	,	356.6	,	2096	,	2841.1	,	945	,	982	,	5	,
11:37:36	29-Jul-99	234	29.64	,	0.4	,	356.6	,	2096	,	2841.1	,	944	,	981	,	5	,
11:37:20	29-Jul-99	235	29.64	,	0.4	,	356.6	,	2096	,	2841.1	,	944	,	981	,	5	,
11:37:04	29-Jul-99	236	29.64	,	0.4	,	356.2	,	2096	,	2841.1	,	944	,	981	,	5	,
11:36:48	29-Jul-99	237	29.64	,	0.4	,	356.3	,	2096	,	2841.1	,	944	,	981	,	5	,
11:36:32	29-Jul-99	238	29.64	,	0.4	,	356.6	,	2096	,	2841.1	,	944	,	981	,	5	,
11:36:16	29-Jul-99	239	29.64	,	0.4	,	356.5	,	2093	,	2841.1	,	944	,	981	,	5	,
11:36:00	29-Jul-99	240	29.64	,	0.4	,	356.1	,	2093	,	2837.2	,	944	,	981	,	5	,
11:35:44	29-Jul-99	241	29.64	,	0.4	,	356.1	,	2093	,	2837.2	,	944	,	981	,	5	,
11:35:28	29-Jul-99	242	29.64	,	0.4	,	356.6	,	2093	,	2840.6	,	944	,	981	,	5	,
11:35:12	29-Jul-99	243	29.64	,	0.4	,	356.4	,	2093	,	2840.6	,	944	,	981	,	5	,
11:34:56	29-Jul-99	244	29.64	,	0.4	,	356.3	,	2093	,	2837.2	,	944	,	981	,	5	,
11:34:40	29-Jul-99	245	29.64	,	0.4	,	355.9	,	2093	,	2837.2	,	944	,	981	,	5	,
11:34:24	29-Jul-99	246	29.64	,	0.4	,	356.4	,	2093	,	2837.2	,	944	,	981	,	5	,
11:34:08	29-Jul-99	247	29.64	,	0.4	,	356.2	,	2093	,	2837.2	,	944	,	981	,	5	,
11:33:52	29-Jul-99	248	29.64	,	0.4	,	356.2	,	2093	,	2837.2	,	944	,	981	,	5	,
11:33:36	29-Jul-99	249	29.64	,	0.4	,	356.1	,	2093	,	2837.2	,	944	,	981	,	5	,
11:33:20	29-Jul-99	250	29.64	,	0.4	,	357	,	2093	,	2841.1	,	944	,	981	,	5	,
11:33:04	29-Jul-99	251	29.64	,	0.4	,	356.5	,	2093	,	2837.7	,	944	,	981	,	5	,
11:32:48	29-Jul-99	252	29.64	,	0.4	,	356	,	2093	,	2837.7	,	944	,	981	,	5	,
11:32:32	29-Jul-99	253	29.64	,	0.4	,	356.3	,	2093	,	2837.7	,	944	,	981	,	5	,
11:32:16	29-Jul-99	254	29.64	,	0.4	,	356.4	,	2093	,	2837.7	,	944	,	981	,	5	,
11:32:00	29-Jul-99	255	29.64	,	0.4	,	356	,	2093	,	2841.6	,	944	,	981	,	5	,
11:31:44	29-Jul-99	256	29.64	,	0.4	,	356.5	,	2096	,	2841.6	,	944	,	981	,	5	,
11:31:28	29-Jul-99	257	29.64	,	0.4	,	356.1	,	2096	,	2838.2	,	944	,	981	,	5	,
11:31:12	29-Jul-99	258	29.64	,	0.4	,	355.9	,	2096	,	2838.2	,	944	,	981	,	5	,
11:30:56	29-Jul-99	259	29.64	,	0.4	,	356.7	,	2099	,	2842.5	,	944	,	981	,	5	,
11:30:40	29-Jul-99	260	29.64	,	0.4	,	356.8	,	2099	,	2842.5	,	944	,	981	,	5	,
11:30:24	29-Jul-99	261	29.64	,	0.4	,	356.7	,	2099	,	2842.5	,	944	,	981	,	5	,
11:30:08	29-Jul-99	262	29.64	,	0.4	,	357.5	,	2099	,	2842.5	,	944	,	981	,	5	,
11:29:52	29-Jul-99	263	29.64	,	0.4	,	357	,	2099	,	2842.5	,	944	,	981	,	5	,
11:29:36	29-Jul-99	264	29.64	,	0.4	,	357.2	,	2099	,	2842.5	,	944	,	981	,	5	,
11:29:20	29-Jul-99	265	29.64	,	0.4	,	356.7	,	2099	,	2842.5	,	944	,	981	,	5	,
11:29:04	29-Jul-99	266	29.64	,	0.4	,	356.9	,	2096	,	2842.5	,	944	,	981	,	5	,
11:28:48	29-Jul-99	267	29.64	,	0.4	,	356.4	,	2096	,	2842.5	,	944	,	981	,	5	,
11:28:32	29-Jul-99	268	29.64	,	0.4	,	357.1	,	2096	,	2842.5	,	944	,	982	,	5	,
11:28:16	29-Jul-99	269	29.64	,	0.4	,	357.3	,	2099	,	2842.5	,	945	,	982	,	5	,
11:28:00	29-Jul-99	270	29.64	,	0.4	,	357.2	,	2096	,	2842.5	,	945	,	982	,	5	,
11:27:44	29-Jul-99	271	29.64	,	0.4	,	357	,	2096	,	2842.5	,	945	,	982	,	5	,
11:27:28	29-Jul-99	272	29.64	,	0.4	,	357	,	2096	,	2842.5	,	945	,	982	,	5	,
11:27:12	29-Jul-99	273	29.64	,	0.4	,	357.1	,	2096	,	2839.1	,	945	,	982	,	5	,
11:26:56	29-Jul-99	274	29.64	,	0.4	,	357.1	,	2099	,	2842.5	,	947	,	982	,	5	,
11:26:40	29-Jul-99	275	29.64	,	0.4	,	357.2	,	2099	,	2842.5	,	947	,	982	,	5	,
11:26:24	29-Jul-99	276	29.64	,	0.4	,	358	,	2099	,	2842.5	,	947	,	982	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
11:26:08	29-Jul-99	277	29.64	,	0.4	,	357.3	,	2099	,	2842.5	,	947	,	982	,	5	,
11:25:52	29-Jul-99	278	29.64	,	0.4	,	357.8	,	2103	,	2842.5	,	947	,	982	,	5	,
11:25:36	29-Jul-99	279	29.64	,	0.4	,	357.6	,	2103	,	2842.5	,	947	,	982	,	5	,
11:25:20	29-Jul-99	280	29.64	,	0.4	,	357.8	,	2099	,	2845.9	,	947	,	982	,	5	,
11:25:04	29-Jul-99	281	29.64	,	0.4	,	357.8	,	2099	,	2845.9	,	947	,	982	,	5	,
11:24:48	29-Jul-99	282	29.64	,	0.4	,	357.7	,	2099	,	2845.9	,	947	,	982	,	5	,
11:24:32	29-Jul-99	283	29.64	,	0.4	,	358	,	2099	,	2845.4	,	947	,	982	,	5	,
11:24:16	29-Jul-99	284	29.64	,	0.4	,	357.5	,	2099	,	2845.4	,	947	,	982	,	5	,
11:24:00	29-Jul-99	285	29.64	,	0.4	,	358	,	2099	,	2845.4	,	947	,	982	,	5	,
11:23:44	29-Jul-99	286	29.64	,	0.4	,	357	,	2096	,	2842	,	947	,	982	,	5	,
11:23:28	29-Jul-99	287	29.64	,	0.4	,	356.8	,	2093	,	2842	,	945	,	982	,	5	,
11:23:12	29-Jul-99	288	29.64	,	0.4	,	356.2	,	2090	,	2838.6	,	945	,	982	,	5	,
11:22:56	29-Jul-99	289	29.64	,	0.4	,	356.1	,	2090	,	2838.6	,	945	,	982	,	5	,
11:22:40	29-Jul-99	290	29.64	,	0.4	,	355.6	,	2090	,	2835.3	,	945	,	982	,	5	,
11:22:24	29-Jul-99	291	29.64	,	0.4	,	355.8	,	2087	,	2835.3	,	945	,	982	,	5	,
11:22:08	29-Jul-99	292	29.64	,	0.4	,	355.5	,	2087	,	2835.3	,	944	,	982	,	5	,
11:21:52	29-Jul-99	293	29.64	,	0.4	,	355.3	,	2087	,	2835.3	,	944	,	982	,	5	,
11:21:36	29-Jul-99	294	29.64	,	0.4	,	356.2	,	2087	,	2835.3	,	944	,	982	,	5	,
11:21:20	29-Jul-99	295	29.64	,	0.4	,	355	,	2084	,	2835.3	,	944	,	982	,	5	,
11:21:04	29-Jul-99	296	29.64	,	0.4	,	354.9	,	2084	,	2835.3	,	944	,	982	,	5	,
11:20:48	29-Jul-99	297	29.64	,	0.4	,	355.5	,	2084	,	2831.9	,	945	,	982	,	5	,
11:20:32	29-Jul-99	298	29.64	,	0.4	,	355.5	,	2084	,	2831.9	,	945	,	982	,	5	,
11:20:16	29-Jul-99	299	29.64	,	0.4	,	354.9	,	2084	,	2831.9	,	945	,	982	,	5	,
11:20:00	29-Jul-99	300	29.64	,	0.4	,	356	,	2087	,	2835.3	,	945	,	982	,	5	,
11:19:44	29-Jul-99	301	29.64	,	0.4	,	356.2	,	2090	,	2835.3	,	947	,	982	,	5	,
11:19:28	29-Jul-99	302	29.64	,	0.4	,	356.2	,	2093	,	2839.1	,	947	,	982	,	5	,
11:19:12	29-Jul-99	303	29.64	,	0.4	,	356.5	,	2093	,	2839.1	,	947	,	982	,	5	,
11:18:56	29-Jul-99	304	29.64	,	0.4	,	356.8	,	2096	,	2839.1	,	947	,	982	,	5	,
11:18:40	29-Jul-99	305	29.64	,	0.4	,	357	,	2096	,	2843	,	947	,	982	,	5	,
11:18:24	29-Jul-99	306	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	947	,	982	,	5	,
11:18:08	29-Jul-99	307	29.64	,	0.4	,	357.4	,	2093	,	2839.1	,	947	,	982	,	5	,
11:17:52	29-Jul-99	308	29.64	,	0.4	,	357.5	,	2096	,	2842.5	,	947	,	982	,	5	,
11:17:36	29-Jul-99	309	29.64	,	0.4	,	357.6	,	2096	,	2842.5	,	947	,	982	,	5	,
11:17:20	29-Jul-99	310	29.64	,	0.4	,	357.6	,	2096	,	2842.5	,	947	,	982	,	5	,
11:17:04	29-Jul-99	311	29.64	,	0.4	,	356.9	,	2096	,	2842.5	,	947	,	982	,	5	,
11:16:48	29-Jul-99	312	29.64	,	0.4	,	357.1	,	2096	,	2842.5	,	947	,	982	,	5	,
11:16:32	29-Jul-99	313	29.64	,	0.4	,	356.9	,	2096	,	2842.5	,	947	,	982	,	5	,
11:16:16	29-Jul-99	314	29.64	,	0.4	,	357.5	,	2099	,	2842.5	,	947	,	982	,	5	,
11:16:00	29-Jul-99	315	29.64	,	0.4	,	357.4	,	2096	,	2842.5	,	947	,	982	,	5	,
11:15:44	29-Jul-99	316	29.64	,	0.4	,	357.6	,	2096	,	2842.5	,	947	,	982	,	5	,
11:15:28	29-Jul-99	317	29.64	,	0.4	,	357.4	,	2096	,	2839.1	,	947	,	983	,	5	,
11:15:12	29-Jul-99	318	29.64	,	0.4	,	358	,	2096	,	2842.5	,	949	,	983	,	5	,
11:14:56	29-Jul-99	319	29.64	,	0.4	,	357.1	,	2096	,	2842.5	,	949	,	983	,	5	,
11:14:40	29-Jul-99	320	29.64	,	0.4	,	357.4	,	2096	,	2842.5	,	949	,	983	,	5	,
11:14:24	29-Jul-99	321	29.64	,	0.4	,	357.8	,	2099	,	2842.5	,	949	,	985	,	5	,
11:14:08	29-Jul-99	322	29.64	,	0.4	,	358.3	,	2099	,	2842.5	,	949	,	985	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
11:13:52	29-Jul-99	323	29.64	,	0.4	,	358.3	,	2099	,	2842.5	,	949	,	985	,	5	,
11:13:36	29-Jul-99	324	29.64	,	0.4	,	357.8	,	2099	,	2842.5	,	949	,	985	,	5	,
11:13:20	29-Jul-99	325	29.64	,	0.4	,	358.2	,	2099	,	2842.5	,	949	,	985	,	5	,
11:13:04	29-Jul-99	326	29.64	,	0.4	,	357.8	,	2096	,	2842.5	,	949	,	985	,	5	,
11:12:48	29-Jul-99	327	29.64	,	0.4	,	357.4	,	2096	,	2842.5	,	949	,	985	,	5	,
11:12:32	29-Jul-99	328	29.64	,	0.4	,	357.8	,	2099	,	2842.5	,	949	,	985	,	5	,
11:12:16	29-Jul-99	329	29.64	,	0.4	,	357.7	,	2096	,	2842.5	,	949	,	985	,	5	,
11:12:00	29-Jul-99	330	29.64	,	0.4	,	357	,	2096	,	2842.5	,	950	,	986	,	5	,
11:11:44	29-Jul-99	331	29.64	,	0.4	,	357.1	,	2099	,	2842.5	,	950	,	986	,	5	,
11:11:28	29-Jul-99	332	29.64	,	0.4	,	358	,	2099	,	2845.9	,	950	,	986	,	5	,
11:11:12	29-Jul-99	333	29.64	,	0.4	,	358	,	2099	,	2842.5	,	950	,	986	,	5	,
11:10:56	29-Jul-99	334	29.64	,	0.4	,	357.9	,	2096	,	2842.5	,	950	,	986	,	5	,
11:10:40	29-Jul-99	335	29.64	,	0.4	,	356.9	,	2096	,	2839.1	,	950	,	987	,	5	,
11:10:24	29-Jul-99	336	29.64	,	0.4	,	357.2	,	2093	,	2839.1	,	950	,	987	,	5	,
11:10:08	29-Jul-99	337	29.64	,	0.4	,	356.2	,	2093	,	2839.1	,	952	,	987	,	5	,
11:09:52	29-Jul-99	338	29.64	,	0.4	,	357.4	,	2093	,	2839.1	,	952	,	989	,	5	,
11:09:36	29-Jul-99	339	29.64	,	0.4	,	357	,	2093	,	2839.1	,	952	,	989	,	5	,
11:09:20	29-Jul-99	340	29.64	,	0.4	,	356.9	,	2093	,	2842.5	,	952	,	989	,	5	,
11:09:04	29-Jul-99	341	29.64	,	0.4	,	357.4	,	2093	,	2842.5	,	952	,	989	,	5	,
11:08:48	29-Jul-99	342	29.64	,	0.4	,	357.4	,	2093	,	2839.1	,	952	,	989	,	5	,
11:08:32	29-Jul-99	343	29.64	,	0.4	,	356.9	,	2090	,	2839.1	,	952	,	989	,	5	,
11:08:16	29-Jul-99	344	29.64	,	0.4	,	356	,	2087	,	2835.7	,	952	,	989	,	5	,
11:08:00	29-Jul-99	345	29.64	,	0.4	,	356.8	,	2087	,	2835.7	,	952	,	989	,	5	,
11:07:44	29-Jul-99	346	29.64	,	0.4	,	356.1	,	2087	,	2835.7	,	952	,	989	,	5	,
11:07:28	29-Jul-99	347	29.64	,	0.4	,	356.2	,	2087	,	2835.7	,	952	,	989	,	5	,
11:07:12	29-Jul-99	348	29.64	,	0.4	,	356	,	2087	,	2835.7	,	952	,	989	,	5	,
11:06:56	29-Jul-99	349	29.64	,	0.4	,	356.8	,	2090	,	2835.7	,	953	,	989	,	5	,
11:06:40	29-Jul-99	350	29.64	,	0.4	,	356.8	,	2090	,	2835.7	,	953	,	990	,	5	,
11:06:24	29-Jul-99	351	29.64	,	0.4	,	356.9	,	2093	,	2839.1	,	953	,	990	,	5	,
11:06:08	29-Jul-99	352	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	953	,	990	,	5	,
11:05:52	29-Jul-99	353	29.64	,	0.4	,	357.2	,	2093	,	2839.1	,	953	,	990	,	5	,
11:05:36	29-Jul-99	354	29.64	,	0.4	,	357.2	,	2093	,	2839.1	,	953	,	990	,	5	,
11:05:20	29-Jul-99	355	29.64	,	0.4	,	357	,	2093	,	2839.1	,	953	,	990	,	5	,
11:05:04	29-Jul-99	356	29.64	,	0.4	,	357.5	,	2093	,	2839.1	,	952	,	990	,	5	,
11:04:48	29-Jul-99	357	29.64	,	0.4	,	357.7	,	2093	,	2842.5	,	952	,	990	,	5	,
11:04:32	29-Jul-99	358	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	952	,	990	,	5	,
11:04:16	29-Jul-99	359	29.64	,	0.4	,	357.5	,	2093	,	2839.1	,	952	,	990	,	5	,
11:04:00	29-Jul-99	360	29.64	,	0.4	,	358	,	2093	,	2839.1	,	952	,	990	,	5	,
11:03:44	29-Jul-99	361	29.64	,	0.4	,	357.4	,	2093	,	2839.1	,	952	,	990	,	5	,
11:03:28	29-Jul-99	362	29.64	,	0.4	,	357.8	,	2090	,	2839.1	,	952	,	990	,	5	,
11:03:12	29-Jul-99	363	29.64	,	0.4	,	357.3	,	2090	,	2839.1	,	952	,	990	,	5	,
11:02:56	29-Jul-99	364	29.64	,	0.4	,	356.6	,	2090	,	2839.1	,	952	,	990	,	5	,
11:02:40	29-Jul-99	365	29.64	,	0.4	,	356.5	,	2090	,	2839.1	,	953	,	990	,	5	,
11:02:24	29-Jul-99	366	29.64	,	0.4	,	357.2	,	2090	,	2835.7	,	953	,	990	,	5	,
11:02:08	29-Jul-99	367	29.64	,	0.4	,	357.2	,	2090	,	2835.7	,	953	,	990	,	5	,
11:01:52	29-Jul-99	368	29.64	,	0.4	,	357.4	,	2093	,	2839.6	,	953	,	990	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
11:01:36	29-Jul-99	369	29.64	,	0.4	,	357.4	,	2093	,	2839.6	,	953	,	990	,	5	,
11:01:20	29-Jul-99	370	29.64	,	0.4	,	357.6	,	2090	,	2839.6	,	953	,	990	,	5	,
11:01:04	29-Jul-99	371	29.64	,	0.4	,	356.9	,	2090	,	2839.6	,	953	,	990	,	5	,
11:00:48	29-Jul-99	372	29.64	,	0.4	,	357.3	,	2090	,	2839.6	,	953	,	990	,	5	,
11:00:32	29-Jul-99	373	29.64	,	0.4	,	357.2	,	2090	,	2839.6	,	953	,	990	,	5	,
11:00:16	29-Jul-99	374	29.64	,	0.4	,	357.2	,	2090	,	2839.6	,	953	,	990	,	5	,
11:00:00	29-Jul-99	375	29.64	,	0.4	,	357	,	2090	,	2836.2	,	953	,	990	,	5	,
10:59:44	29-Jul-99	376	29.64	,	0.4	,	356.9	,	2090	,	2839.6	,	953	,	990	,	5	,
10:59:28	29-Jul-99	377	29.64	,	0.4	,	357.4	,	2093	,	2839.6	,	953	,	990	,	5	,
10:59:12	29-Jul-99	378	29.64	,	0.4	,	358.1	,	2093	,	2839.6	,	953	,	990	,	5	,
10:58:56	29-Jul-99	379	29.64	,	0.4	,	357.1	,	2093	,	2839.6	,	953	,	990	,	5	,
10:58:40	29-Jul-99	380	29.64	,	0.4	,	357.2	,	2093	,	2839.6	,	953	,	990	,	5	,
10:58:24	29-Jul-99	381	29.64	,	0.4	,	358.1	,	2090	,	2839.6	,	953	,	990	,	5	,
10:58:08	29-Jul-99	382	29.64	,	0.4	,	356.7	,	2090	,	2836.2	,	952	,	990	,	5	,
10:57:52	29-Jul-99	383	29.64	,	0.4	,	357.1	,	2090	,	2839.6	,	952	,	990	,	5	,
10:57:36	29-Jul-99	384	29.64	,	0.4	,	357.1	,	2090	,	2836.2	,	952	,	990	,	5	,
10:57:20	29-Jul-99	385	29.64	,	0.4	,	356.6	,	2090	,	2835.7	,	952	,	990	,	5	,
10:57:04	29-Jul-99	386	29.64	,	0.4	,	356.6	,	2087	,	2835.7	,	952	,	990	,	5	,
10:56:48	29-Jul-99	387	29.64	,	0.4	,	356.4	,	2087	,	2835.7	,	952	,	990	,	5	,
10:56:32	29-Jul-99	388	29.64	,	0.4	,	355.9	,	2087	,	2835.7	,	952	,	990	,	5	,
10:56:16	29-Jul-99	389	29.64	,	0.4	,	356.4	,	2087	,	2835.7	,	952	,	990	,	5	,
10:56:00	29-Jul-99	390	29.64	,	0.4	,	357	,	2087	,	2835.7	,	952	,	990	,	5	,
10:55:44	29-Jul-99	391	29.64	,	0.4	,	356.3	,	2090	,	2835.7	,	952	,	990	,	5	,
10:55:28	29-Jul-99	392	29.64	,	0.4	,	356.7	,	2087	,	2835.7	,	952	,	990	,	5	,
10:55:12	29-Jul-99	393	29.64	,	0.4	,	356.4	,	2087	,	2835.7	,	952	,	990	,	5	,
10:54:56	29-Jul-99	394	29.64	,	0.4	,	356.9	,	2087	,	2835.7	,	952	,	990	,	5	,
10:54:40	29-Jul-99	395	29.64	,	0.4	,	356.9	,	2087	,	2835.7	,	952	,	990	,	5	,
10:54:24	29-Jul-99	396	29.64	,	0.4	,	356.5	,	2087	,	2835.7	,	952	,	990	,	5	,
10:54:08	29-Jul-99	397	29.64	,	0.4	,	356.9	,	2090	,	2835.7	,	952	,	990	,	5	,
10:53:52	29-Jul-99	398	29.64	,	0.4	,	357.2	,	2090	,	2835.7	,	952	,	990	,	5	,
10:53:36	29-Jul-99	399	29.64	,	0.4	,	357.3	,	2087	,	2835.7	,	952	,	990	,	5	,
10:53:20	29-Jul-99	400	29.64	,	0.4	,	356.9	,	2087	,	2835.7	,	952	,	990	,	5	,
10:53:04	29-Jul-99	401	29.64	,	0.4	,	356.9	,	2090	,	2835.7	,	952	,	990	,	5	,
10:52:48	29-Jul-99	402	29.64	,	0.4	,	356.9	,	2090	,	2835.7	,	952	,	990	,	5	,
10:52:32	29-Jul-99	403	29.64	,	0.4	,	357	,	2090	,	2835.7	,	952	,	990	,	5	,
10:52:16	29-Jul-99	404	29.64	,	0.4	,	357.4	,	2090	,	2835.7	,	952	,	990	,	5	,
10:52:00	29-Jul-99	405	29.64	,	0.4	,	357.2	,	2093	,	2839.1	,	952	,	990	,	5	,
10:51:44	29-Jul-99	406	29.64	,	0.4	,	357.6	,	2093	,	2839.1	,	952	,	990	,	5	,
10:51:28	29-Jul-99	407	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	952	,	990	,	5	,
10:51:12	29-Jul-99	408	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	952	,	990	,	5	,
10:50:56	29-Jul-99	409	29.64	,	0.4	,	357.2	,	2093	,	2839.1	,	952	,	990	,	5	,
10:50:40	29-Jul-99	410	29.64	,	0.4	,	357	,	2090	,	2839.1	,	952	,	990	,	5	,
10:50:24	29-Jul-99	411	29.64	,	0.4	,	356.6	,	2090	,	2835.7	,	952	,	990	,	5	,
10:50:08	29-Jul-99	412	29.64	,	0.4	,	357	,	2090	,	2835.7	,	952	,	990	,	5	,
10:49:52	29-Jul-99	413	29.64	,	0.4	,	357.3	,	2090	,	2839.6	,	952	,	990	,	5	,
10:49:36	29-Jul-99	414	29.64	,	0.4	,	356.9	,	2090	,	2836.2	,	952	,	990	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:49:20	29-Jul-99	415	29.64	,	0.4	,	356.5	,	2090	,	2836.2	,	952	,	990	,	5	,
10:49:04	29-Jul-99	416	29.64	,	0.4	,	357	,	2090	,	2836.2	,	952	,	992	,	5	,
10:48:48	29-Jul-99	417	29.64	,	0.4	,	357.1	,	2093	,	2839.6	,	952	,	992	,	5	,
10:48:32	29-Jul-99	418	29.64	,	0.4	,	357.1	,	2093	,	2839.6	,	952	,	992	,	5	,
10:48:16	29-Jul-99	419	29.64	,	0.4	,	357.5	,	2093	,	2839.6	,	952	,	992	,	5	,
10:48:00	29-Jul-99	420	29.64	,	0.4	,	357.4	,	2093	,	2839.6	,	952	,	992	,	5	,
10:47:44	29-Jul-99	421	29.64	,	0.4	,	357.7	,	2096	,	2843	,	952	,	992	,	5	,
10:47:28	29-Jul-99	422	29.64	,	0.4	,	357.7	,	2096	,	2843	,	952	,	992	,	5	,
10:47:12	29-Jul-99	423	29.64	,	0.4	,	357.7	,	2096	,	2839.6	,	952	,	992	,	5	,
10:46:56	29-Jul-99	424	29.64	,	0.4	,	357.5	,	2096	,	2839.6	,	952	,	992	,	5	,
10:46:40	29-Jul-99	425	29.64	,	0.4	,	357.7	,	2096	,	2839.6	,	952	,	992	,	5	,
10:46:24	29-Jul-99	426	29.64	,	0.4	,	357.7	,	2096	,	2839.6	,	952	,	992	,	5	,
10:46:08	29-Jul-99	427	29.64	,	0.4	,	357.1	,	2093	,	2839.6	,	952	,	992	,	5	,
10:45:52	29-Jul-99	428	29.64	,	0.4	,	357.3	,	2093	,	2839.6	,	952	,	992	,	5	,
10:45:36	29-Jul-99	429	29.64	,	0.4	,	357.5	,	2093	,	2839.6	,	952	,	992	,	5	,
10:45:20	29-Jul-99	430	29.64	,	0.4	,	357.5	,	2093	,	2839.6	,	952	,	992	,	5	,
10:45:04	29-Jul-99	431	29.64	,	0.4	,	357.4	,	2093	,	2839.6	,	952	,	992	,	5	,
10:44:48	29-Jul-99	432	29.64	,	0.4	,	357.6	,	2093	,	2839.6	,	952	,	992	,	5	,
10:44:32	29-Jul-99	433	29.64	,	0.4	,	357.6	,	2093	,	2839.6	,	952	,	992	,	5	,
10:44:16	29-Jul-99	434	29.64	,	0.4	,	357.7	,	2093	,	2839.6	,	952	,	992	,	5	,
10:44:00	29-Jul-99	435	29.64	,	0.4	,	357.6	,	2093	,	2839.6	,	953	,	992	,	5	,
10:43:44	29-Jul-99	436	29.64	,	0.4	,	357.4	,	2096	,	2839.6	,	953	,	992	,	5	,
10:43:28	29-Jul-99	437	29.64	,	0.4	,	358.3	,	2096	,	2839.6	,	953	,	992	,	5	,
10:43:12	29-Jul-99	438	29.64	,	0.4	,	357.8	,	2096	,	2843.5	,	953	,	990	,	5	,
10:42:56	29-Jul-99	439	29.64	,	0.4	,	358.3	,	2096	,	2843.5	,	953	,	990	,	5	,
10:42:40	29-Jul-99	440	29.64	,	0.4	,	358.4	,	2096	,	2843.5	,	953	,	990	,	5	,
10:42:24	29-Jul-99	441	29.64	,	0.4	,	357.6	,	2096	,	2843.5	,	953	,	990	,	5	,
10:42:08	29-Jul-99	442	29.64	,	0.4	,	357.9	,	2096	,	2840.1	,	953	,	990	,	5	,
10:41:52	29-Jul-99	443	29.64	,	0.4	,	358	,	2096	,	2840.1	,	953	,	990	,	5	,
10:41:36	29-Jul-99	444	29.64	,	0.4	,	357.8	,	2093	,	2840.1	,	953	,	990	,	5	,
10:41:20	29-Jul-99	445	29.64	,	0.4	,	357.9	,	2093	,	2840.1	,	953	,	990	,	5	,
10:41:04	29-Jul-99	446	29.64	,	0.4	,	357.6	,	2096	,	2840.1	,	955	,	990	,	5	,
10:40:48	29-Jul-99	447	29.64	,	0.4	,	357.6	,	2093	,	2840.1	,	955	,	990	,	5	,
10:40:32	29-Jul-99	448	29.64	,	0.4	,	357.6	,	2093	,	2840.1	,	955	,	990	,	5	,
10:40:16	29-Jul-99	449	29.64	,	0.4	,	357.6	,	2096	,	2840.1	,	955	,	990	,	5	,
10:40:00	29-Jul-99	450	29.64	,	0.4	,	357.4	,	2093	,	2840.1	,	955	,	990	,	5	,
10:39:44	29-Jul-99	451	29.64	,	0.4	,	357	,	2093	,	2840.1	,	955	,	989	,	5	,
10:39:28	29-Jul-99	452	29.64	,	0.4	,	356.5	,	2093	,	2840.1	,	955	,	989	,	5	,
10:39:12	29-Jul-99	453	29.64	,	0.4	,	357.3	,	2093	,	2840.1	,	955	,	989	,	5	,
10:38:56	29-Jul-99	454	29.64	,	0.4	,	356.5	,	2093	,	2840.1	,	955	,	989	,	5	,
10:38:40	29-Jul-99	455	29.64	,	0.4	,	356.5	,	2093	,	2840.1	,	955	,	989	,	5	,
10:38:24	29-Jul-99	456	29.64	,	0.4	,	356.4	,	2093	,	2840.1	,	953	,	989	,	5	,
10:38:08	29-Jul-99	457	29.64	,	0.4	,	356.4	,	2090	,	2840.1	,	953	,	989	,	5	,
10:37:52	29-Jul-99	458	29.64	,	0.4	,	356.1	,	2090	,	2840.1	,	953	,	989	,	5	,
10:37:36	29-Jul-99	459	29.64	,	0.4	,	356.1	,	2090	,	2840.1	,	953	,	989	,	5	,
10:37:20	29-Jul-99	460	29.64	,	0.4	,	355.8	,	2090	,	2836.2	,	953	,	989	,	5	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:37:04	29-Jul-99	461	29.64	,	0.4	,	355.9	,	2090	,	2836.2	,	953	,	989	,	5	,
10:36:48	29-Jul-99	462	29.64	,	0.4	,	355.7	,	2090	,	2836.2	,	953	,	988	,	5	,
10:36:32	29-Jul-99	463	29.64	,	0.4	,	355.4	,	2087	,	2836.2	,	953	,	988	,	5	,
10:36:16	29-Jul-99	464	29.64	,	0.4	,	355.1	,	2087	,	2836.2	,	953	,	988	,	5	,
10:36:00	29-Jul-99	465	29.64	,	0.4	,	355.1	,	2087	,	2832.8	,	953	,	988	,	5	,
10:35:44	29-Jul-99	466	29.64	,	0.4	,	355	,	2084	,	2832.8	,	953	,	988	,	5	,
10:35:28	29-Jul-99	467	29.64	,	0.4	,	355	,	2084	,	2832.8	,	953	,	988	,	5	,
10:35:12	29-Jul-99	468	29.64	,	0.4	,	354.5	,	2084	,	2832.8	,	953	,	988	,	5	,
10:34:56	29-Jul-99	469	29.64	,	0.4	,	354.8	,	2084	,	2832.8	,	953	,	988	,	5	,
10:34:40	29-Jul-99	470	29.64	,	0.4	,	355.4	,	2087	,	2836.2	,	953	,	988	,	5	,
10:34:24	29-Jul-99	471	29.64	,	0.4	,	355.6	,	2087	,	2836.2	,	953	,	988	,	5	,
10:34:08	29-Jul-99	472	29.64	,	0.4	,	355.6	,	2090	,	2836.2	,	953	,	988	,	5	,
10:33:52	29-Jul-99	473	29.64	,	0.4	,	356.1	,	2090	,	2836.2	,	953	,	988	,	5	,
10:33:36	29-Jul-99	474	29.64	,	0.4	,	355.9	,	2090	,	2836.2	,	952	,	988	,	5	,
10:33:20	29-Jul-99	475	29.64	,	0.4	,	355.9	,	2090	,	2836.2	,	952	,	988	,	5	,
10:33:04	29-Jul-99	476	29.64	,	0.4	,	356.1	,	2090	,	2835.7	,	952	,	988	,	5	,
10:32:48	29-Jul-99	477	29.64	,	0.4	,	356	,	2090	,	2835.7	,	952	,	988	,	5	,
10:32:32	29-Jul-99	478	29.64	,	0.4	,	355.7	,	2090	,	2835.7	,	952	,	988	,	5	,
10:32:16	29-Jul-99	479	29.64	,	0.4	,	356.1	,	2087	,	2835.7	,	952	,	988	,	5	,
10:32:00	29-Jul-99	480	29.64	,	0.4	,	356.3	,	2087	,	2835.7	,	952	,	988	,	5	,
10:31:44	29-Jul-99	481	29.64	,	0.4	,	356.2	,	2087	,	2835.7	,	952	,	988	,	5	,
10:31:28	29-Jul-99	482	29.64	,	0.4	,	356.3	,	2090	,	2835.7	,	953	,	988	,	5	,
10:31:12	29-Jul-99	483	29.64	,	0.4	,	355.9	,	2090	,	2835.7	,	953	,	988	,	5	,
10:30:56	29-Jul-99	484	29.64	,	0.4	,	356.3	,	2090	,	2835.7	,	953	,	988	,	5	,
10:30:40	29-Jul-99	485	29.64	,	0.4	,	356.8	,	2090	,	2839.1	,	953	,	988	,	5	,
10:30:24	29-Jul-99	486	29.64	,	0.4	,	356.3	,	2090	,	2838.6	,	953	,	988	,	5	,
10:30:08	29-Jul-99	487	29.64	,	0.4	,	356.5	,	2090	,	2838.6	,	953	,	988	,	5	,
10:29:52	29-Jul-99	488	29.64	,	0.4	,	356.5	,	2093	,	2838.6	,	953	,	988	,	5	,
10:29:36	29-Jul-99	489	29.64	,	0.4	,	356.9	,	2093	,	2842	,	953	,	988	,	5	,
10:29:20	29-Jul-99	490	29.64	,	0.4	,	356.4	,	2093	,	2842	,	953	,	988	,	5	,
10:29:04	29-Jul-99	491	29.64	,	0.4	,	356.9	,	2093	,	2842	,	953	,	988	,	5	,
10:28:48	29-Jul-99	492	29.64	,	0.4	,	357.2	,	2093	,	2838.6	,	953	,	988	,	4	,
10:28:32	29-Jul-99	493	29.64	,	0.4	,	356.4	,	2090	,	2838.6	,	953	,	988	,	4	,
10:28:16	29-Jul-99	494	29.64	,	0.4	,	356.2	,	2090	,	2838.6	,	953	,	988	,	4	,
10:28:00	29-Jul-99	495	29.64	,	0.4	,	356.6	,	2090	,	2838.6	,	953	,	988	,	4	,
10:27:44	29-Jul-99	496	29.64	,	0.4	,	357.4	,	2093	,	2838.6	,	953	,	988	,	4	,
10:27:28	29-Jul-99	497	29.64	,	0.4	,	357.2	,	2093	,	2838.6	,	953	,	988	,	4	,
10:27:12	29-Jul-99	498	29.64	,	0.4	,	357.2	,	2093	,	2842.5	,	953	,	986	,	4	,
10:26:56	29-Jul-99	499	29.64	,	0.4	,	356.6	,	2093	,	2839.1	,	953	,	986	,	4	,
10:26:40	29-Jul-99	500	29.64	,	0.4	,	356.6	,	2093	,	2839.1	,	953	,	986	,	4	,
10:26:24	29-Jul-99	501	29.64	,	0.4	,	356.7	,	2093	,	2839.1	,	953	,	986	,	4	,
10:26:08	29-Jul-99	502	29.64	,	0.4	,	356.2	,	2093	,	2835.7	,	953	,	986	,	4	,
10:25:52	29-Jul-99	503	29.64	,	0.4	,	356.7	,	2093	,	2839.1	,	953	,	986	,	4	,
10:25:36	29-Jul-99	504	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	953	,	986	,	4	,
10:25:20	29-Jul-99	505	29.64	,	0.4	,	356.4	,	2093	,	2839.1	,	953	,	986	,	4	,
10:25:04	29-Jul-99	506	29.64	,	0.4	,	356.4	,	2093	,	2839.1	,	953	,	986	,	4	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:24:48	29-Jul-99	507	29.64	,	0.4	,	356.6	,	2093	,	2839.1	,	953	,	986	,	4	,
10:24:32	29-Jul-99	508	29.64	,	0.4	,	356.9	,	2090	,	2839.1	,	953	,	986	,	4	,
10:24:16	29-Jul-99	509	29.64	,	0.4	,	356.5	,	2090	,	2839.1	,	953	,	986	,	4	,
10:24:00	29-Jul-99	510	29.64	,	0.4	,	356.5	,	2090	,	2839.1	,	952	,	986	,	4	,
10:23:44	29-Jul-99	511	29.64	,	0.4	,	356.6	,	2090	,	2839.1	,	952	,	986	,	4	,
10:23:28	29-Jul-99	512	29.64	,	0.4	,	355.8	,	2090	,	2839.1	,	952	,	986	,	4	,
10:23:12	29-Jul-99	513	29.64	,	0.4	,	356.5	,	2087	,	2835.7	,	952	,	986	,	4	,
10:22:56	29-Jul-99	514	29.64	,	0.4	,	356.2	,	2087	,	2835.7	,	952	,	986	,	4	,
10:22:40	29-Jul-99	515	29.64	,	0.4	,	356.2	,	2087	,	2835.7	,	952	,	986	,	4	,
10:22:24	29-Jul-99	516	29.64	,	0.4	,	356.2	,	2090	,	2835.7	,	952	,	986	,	4	,
10:22:08	29-Jul-99	517	29.64	,	0.4	,	355.9	,	2087	,	2835.7	,	952	,	986	,	4	,
10:21:52	29-Jul-99	518	29.64	,	0.4	,	355.8	,	2087	,	2835.7	,	952	,	986	,	4	,
10:21:36	29-Jul-99	519	29.64	,	0.4	,	355.5	,	2087	,	2835.7	,	952	,	986	,	4	,
10:21:20	29-Jul-99	520	29.64	,	0.4	,	355.6	,	2087	,	2835.7	,	952	,	986	,	4	,
10:21:04	29-Jul-99	521	29.64	,	0.4	,	356.3	,	2090	,	2835.7	,	952	,	986	,	4	,
10:20:48	29-Jul-99	522	29.64	,	0.4	,	356.1	,	2090	,	2839.1	,	952	,	986	,	4	,
10:20:32	29-Jul-99	523	29.64	,	0.4	,	356.2	,	2093	,	2839.1	,	953	,	986	,	4	,
10:20:16	29-Jul-99	524	29.64	,	0.4	,	357.4	,	2093	,	2839.1	,	953	,	986	,	4	,
10:20:00	29-Jul-99	525	29.64	,	0.4	,	357	,	2096	,	2839.1	,	953	,	986	,	4	,
10:19:44	29-Jul-99	526	29.64	,	0.4	,	357.3	,	2093	,	2839.1	,	953	,	986	,	4	,
10:19:28	29-Jul-99	527	29.64	,	0.4	,	357.3	,	2093	,	2839.1	,	953	,	986	,	4	,
10:19:12	29-Jul-99	528	29.64	,	0.4	,	357.4	,	2093	,	2839.1	,	953	,	986	,	4	,
10:18:56	29-Jul-99	529	29.64	,	0.4	,	356.8	,	2096	,	2842.5	,	953	,	986	,	4	,
10:18:40	29-Jul-99	530	29.64	,	0.4	,	357.3	,	2093	,	2839.1	,	953	,	986	,	4	,
10:18:24	29-Jul-99	531	29.64	,	0.4	,	356.8	,	2093	,	2839.1	,	953	,	986	,	4	,
10:18:08	29-Jul-99	532	29.64	,	0.4	,	357.3	,	2093	,	2839.1	,	953	,	986	,	4	,
10:17:52	29-Jul-99	533	29.64	,	0.4	,	357.1	,	2093	,	2839.1	,	953	,	986	,	4	,
10:17:36	29-Jul-99	534	29.64	,	0.4	,	357.1	,	2096	,	2843	,	953	,	986	,	4	,
10:17:20	29-Jul-99	535	29.64	,	0.4	,	357.1	,	2096	,	2843	,	951	,	986	,	4	,
10:17:04	29-Jul-99	536	29.64	,	0.4	,	357.5	,	2093	,	2843	,	951	,	986	,	4	,
10:16:48	29-Jul-99	537	29.64	,	0.4	,	357.6	,	2093	,	2843	,	951	,	986	,	4	,
10:16:32	29-Jul-99	538	29.64	,	0.4	,	356.2	,	2093	,	2839.6	,	951	,	986	,	4	,
10:16:16	29-Jul-99	539	29.64	,	0.4	,	356.3	,	2090	,	2839.6	,	951	,	985	,	4	,
10:16:00	29-Jul-99	540	29.64	,	0.4	,	356.3	,	2090	,	2836.2	,	951	,	985	,	4	,
10:15:44	29-Jul-99	541	29.64	,	0.4	,	355.7	,	2090	,	2836.2	,	951	,	985	,	4	,
10:15:28	29-Jul-99	542	29.64	,	0.4	,	355.9	,	2090	,	2836.2	,	953	,	985	,	4	,
10:15:12	29-Jul-99	543	29.64	,	0.4	,	355.9	,	2090	,	2836.2	,	953	,	985	,	4	,
10:14:56	29-Jul-99	544	29.64	,	0.4	,	356.4	,	2090	,	2836.2	,	953	,	985	,	4	,
10:14:40	29-Jul-99	545	29.64	,	0.4	,	356.4	,	2090	,	2836.2	,	953	,	985	,	4	,
10:14:24	29-Jul-99	546	29.64	,	0.4	,	356.8	,	2093	,	2839.6	,	953	,	985	,	4	,
10:14:08	29-Jul-99	547	29.64	,	0.4	,	356.4	,	2093	,	2839.6	,	953	,	985	,	4	,
10:13:52	29-Jul-99	548	29.64	,	0.4	,	356.1	,	2093	,	2839.6	,	953	,	985	,	4	,
10:13:36	29-Jul-99	549	29.64	,	0.4	,	356.4	,	2093	,	2839.6	,	953	,	985	,	4	,
10:13:20	29-Jul-99	550	29.64	,	0.4	,	356.3	,	2093	,	2839.6	,	953	,	985	,	4	,
10:13:04	29-Jul-99	551	29.64	,	0.4	,	356.1	,	2090	,	2839.6	,	953	,	985	,	4	,
10:12:48	29-Jul-99	552	29,64	,	0.4	,	356.2	,	2090	,	2836.2	,	953	,	985	,	4	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL	ACTU VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:12:32	29-Jul-99	553	29.64	,	0.4	,	356.1	,		2090 ,	2836.2	,	951	,	985	,	4	,
10:12:16	29-Jul-99	554	29.64	,	0.4	,	356	,		2090 ,	2836.2	,	951	,	985	,	4	,
10:12:00	29-Jul-99	555	29.64	,	0.4	,	356.1	,		2090 ,	2839.6	,	951	,	985	,	4	,
10:11:44	29-Jul-99	556	29.64	,	0.4	,	355.9	,		2087 ,	2836.2	,	951	,	985	,	4	,
10:11:28	29-Jul-99	557	29.64	,	0.4	,	355.6	,		2087 ,	2836.2	,	951	,	985	,	4	,
10:11:12	29-Jul-99	558	29.64	,	0.4	,	356.1	,		2087 ,	2836.2	,	951	,	985	,	4	,
10:10:56	29-Jul-99	559	29.64	,	0.4	,	356.1	,		2087 ,	2836.2	,	951	,	985	,	4	,
10:10:40	29-Jul-99	560	29.64	,	0.4	,	355.7	,		2087 ,	2832.4	,	951	,	984	,	4	,
10:10:24	29-Jul-99	561	29.64	,	0.4	,	355.3	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:10:08	29-Jul-99	562	29.64	,	0.4	,	355.7	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:09:52	29-Jul-99	563	29.64	,	0.4	,	355.8	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:09:36	29-Jul-99	564	29.64	,	0.4	,	355.6	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:09:20	29-Jul-99	565	29.64	,	0.4	,	355.7	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:09:04	29-Jul-99	566	29.64	,	0.4	,	356	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:08:48	29-Jul-99	567	29.64	,	0.4	,	356.3	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:08:32	29-Jul-99	568	29.64	,	0.4	,	356.2	,		2087 ,	2835.7	,	951	,	984	,	4	,
10:08:16	29-Jul-99	569	29.64	,	0.4	,	356.3	,		2087 ,	2835.7	,	953	,	984	,	4	,
10:08:00	29-Jul-99	570	29.64	,	0.4	,	356.1	,		2090 ,	2835.7	,	953	,	984	,	4	,
10:07:44	29-Jul-99	571	29.64	,	0.4	,	356.1	,		2087 ,	2834.8	,	953	,	984	,	4	,
10:07:28	29-Jul-99	572	29.64	,	0.4	,	356	,		2090 ,	2834.8	,	953	,	984	,	4	,
10:07:12	29-Jul-99	573	29.64	,	0.4	,	356.4	,		2090 ,	2838.6	,	953	,	984	,	4	,
10:06:56	29-Jul-99	574	29.64	,	0.4	,	356.5	,		2093 ,	2838.6	,	951	,	984	,	4	,
10:06:40	29-Jul-99	575	29.64	,	0.4	,	356.2	,		2093 ,	2842	,	951	,	984	,	4	,
10:06:24	29-Jul-99	576	29.64	,	0.4	,	356.9	,		2093 ,	2838.6	,	951	,	984	,	4	,
10:06:08	29-Jul-99	577	29.64	,	0.4	,	356.6	,		2093 ,	2842	,	951	,	984	,	4	,
10:05:52	29-Jul-99	578	29.64	,	0.4	,	356.4	,		2090 ,	2838.6	,	951	,	984	,	4	,
10:05:36	29-Jul-99	579	29.64	,	0.4	,	355.7	,		2087 ,	2835.3	,	951	,	984	,	4	,
10:05:20	29-Jul-99	580	29.64	,	0.4	,	355.9	,		2087 ,	2835.3	,	951	,	984	,	4	,
10:05:04	29-Jul-99	581	29.64	,	0.4	,	355.8	,		2087 ,	2835.3	,	951	,	984	,	4	,
10:04:48	29-Jul-99	582	29.64	,	0.4	,	355.9	,		2090 ,	2835.3	,	951	,	984	,	4	,
10:04:32	29-Jul-99	583	29.64	,	0.4	,	356.4	,		2090 ,	2838.6	,	950	,	984	,	4	,
10:04:16	29-Jul-99	584	29.64	,	0.4	,	356.4	,		2090 ,	2838.6	,	950	,	984	,	4	,
10:04:00	29-Jul-99	585	29.64	,	0.4	,	356.4	,		2090 ,	2838.6	,	950	,	984	,	4	,
10:03:44	29-Jul-99	586	29.64	,	0.4	,	356.5	,		2087 ,	2835.3	,	950	,	984	,	4	,
10:03:28	29-Jul-99	587	29.64	,	0.4	,	355.7	,		2087 ,	2835.3	,	950	,	984	,	4	,
10:03:12	29-Jul-99	588	29.64	,	0.4	,	355.9	,		2087 ,	2835.3	,	950	,	984	,	4	,
10:02:56	29-Jul-99	589	29.64	,	0.4	,	355.8	,		2087 ,	2835.3	,	950	,	984	,	4	,
10:02:40	29-Jul-99	590	29.64	,	0.4	,	355.6	,		2087 ,	2835.3	,	950	,	984	,	4	,
10:02:24	29-Jul-99	591	29.64	,	0.4	,	355.7	,		2087 ,	2835.3	,	950	,	984	,	4	,
10:02:08	29-Jul-99	592	29.64	,	0.4	,	355.3	,		2087 ,	2835.3	,	952	,	984	,	4	,
10:01:52	29-Jul-99	593	29.64	,	0.4	,	356	,		2090 ,	2835.3	,	952	,	984	,	4	,
10:01:36	29-Jul-99	594	29.64	,	0.4	,	355.7	,		2090 ,	2835.3	,	952	,	984	,	4	,
10:01:20	29-Jul-99	595	29.64	,	0.4	,	356.9	,		2090 ,	2838.6	,	952	,	984	,	4	,
10:01:04	29-Jul-99	596	29.64	,	0.4	,	356.5	,		2093 ,	2838.6	,	952	,	984	,	4	,
10:00:48	29-Jul-99	597	29.64	,	0.4	,	356.5	,		2093 ,	2838.6	,	952	,	984	,	4	,
10:00:32	29-Jul-99	598	29,64	,	0.4	,	357	,		2093 ,	2842	,	952	,	984	,	4	,

Historic	al Tabular	Trend	1 12:3	9:59	29-Jul-99													
(1)4PT1	446	(2	)4AT1101	D	-3	4MEGAWT			(4)4PT155	S								
(5)4FT1	550	(6	)4TE1352	A	-7	4TE1357	A		(8)4PT157	S								
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:00:16	29-Jul-99	599	29.64	,	0.4	,	357.1	,	2096	,	2842	,	952	,	984	,	4	,
10:00:00	29-Jul-99	600	29.64	,	0.4	,	357.1	,	2096	,	2842	,	952	,	984	,	4	,

Historic al Tabular Trend 1 16:5 4:59 29-Jul-99

(1)4PT1 446 (2)4AT1101 D -3 4MEGAWT (4)4PT1552 S

(5)4FT1 550 (6)4TE1352 A -7 4TE1357 A (8)4PT1577 S

Time	-7 Date	-1 -8 INHG		-2 PCT		-3 MW		-4 PSIG		-5 KPPH		-6 DEG F	
	DEG F												
ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL	ACTUAL	VAL	ACTUAL	VAL	
16:54:41		29-Jul-99		1	29.54	","	-0.4	","	284.1	","	1985	","	2287.3
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16:54:22		29-Jul-99		2	29.54	","	-0.4	","	283.5	","	1985	","	2287.3
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16:54:03		29-Jul-99		3	29.54	","	-0.4	","	283.8	","	1982	","	2290.3
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16:53:44		29-Jul-99		4	29.54	","	-0.4	","	283.5	","	1982	","	2287.3
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16:53:25		29-Jul-99		5	29.54	","	-0.4	","	283.1	","	1982	","	2287.3
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16:53:06		29-Jul-99		6	29.54	","	-0.4	","	283.4	","	1982	","	2287.3
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16:52:47		29-Jul-99		7	29.54	","	-0.4	","	282.2	","	1976	","	2284.3
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16:52:28		29-Jul-99		8	29.54	","	-0.4	","	282.2	","	1973	","	2281.3
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16:52:09		29-Jul-99		9	29.54	","	-0.4	","	281.5	","	1973	","	2281.3
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16:48:02		29-Jul-99		22	29.54	","	-0.4	","	282.1	","	1973	","	2281.3
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16:11:18		29-Jul-99		138	29.54	","	-0.4	","	280.8	","	1973	","	2282.5

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16:10:59	29-Jul-99	139	29.54	","	-0.4	","	281.7	","	1973	","	2282.5	
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16:10:40	29-Jul-99	140	29.54	","	-0.4	","	280.7	","	1973	","	2282.5	
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14:03:41	29-Jul-99	541	29.59	","	0.4	","	344.4	","	2018	","	2791.3	
","	967	","	988	","	4	","						
14:03:22	29-Jul-99	542	29.59	","	0.4	","	344.8	","	2021	","	2795.3	
","	967	","	988	","	4	","						
14:03:03	29-Jul-99	543	29.59	","	0.4	","	344.4	","	2018	","	2791.8	
","	967	","	988	","	4	","						
14:02:44	29-Jul-99	544	29.59	","	0.4	","	344	","	2018	","	2791.8	
","	967	","	988	","	4	","						
14:02:25	29-Jul-99	545	29.59	","	0.4	","	343.9	","	2018	","	2791.8	
","	967	","	988	","	4	","						
14:02:06	29-Jul-99	546	29.59	","	0.4	","	343.9	","	2018	","	2791.8	

","	967	","	988	","	4	","							
14:01:47		29-Jul-99		547	29.59	","	0.4	","	343.9	","	2018	","	2791.8
","	967	","	988	","	4	","							
14:01:28		29-Jul-99		548	29.59	","	0.4	","	343.9	","	2018	","	2792.8
","	967	","	988	","	4	","							
14:01:09		29-Jul-99		549	29.59	","	0.4	","	344.6	","	2018	","	2792.8
","	965	","	988	","	4	","							
14:00:50		29-Jul-99		550	29.59	","	0.4	","	344.7	","	2018	","	2792.8
","	965	","	988	","	4	","							
14:00:31		29-Jul-99		551	29.59	","	0.4	","	344.8	","	2021	","	2792.8
","	965	","	988	","	4	","							
14:00:12		29-Jul-99		552	29.59	","	0.4	","	344.8	","	2021	","	2792.8
","	965	","	988	","	4	","							
13:59:53		29-Jul-99		553	29.59	","	0.4	","	344.8	","	2021	","	2792.8
","	963	","	988	","	4	","							
13:59:34		29-Jul-99		554	29.59	","	0.4	","	344	","	2015	","	2792.8
","	963	","	988	","	4	","							
13:59:15		29-Jul-99		555	29.59	","	0.4	","	343.1	","	2015	","	2789.4
","	963	","	988	","	4	","							
13:58:56		29-Jul-99		556	29.59	","	0.4	","	343	","	2012	","	2789.4
","	963	","	988	","	4	","							
13:58:37		29-Jul-99		557	29.59	","	0.4	","	342.9	","	2012	","	2789.4
","	965	","	988	","	4	","							
13:58:18		29-Jul-99		558	29.59	","	0.4	","	343.3	","	2018	","	2789.4
","	965	","	988	","	4	","							
13:57:59		29-Jul-99		559	29.59	","	0.4	","	343.6	","	2015	","	2789.4
","	965	","	988	","	4	","							
13:57:40		29-Jul-99		560	29.59	","	0.4	","	342.9	","	2015	","	2789.4
","	965	","	988	","	4	","							
13:57:21		29-Jul-99		561	29.59	","	0.4	","	343.4	","	2015	","	2789.4
","	965	","	986	","	4	","							
13:57:02		29-Jul-99		562	29.59	","	0.4	","	343.4	","	2015	","	2789.4
","	965	","	986	","	4	","							
13:56:43		29-Jul-99		563	29.59	","	0.4	","	343.5	","	2015	","	2789.4
","	965	","	986	","	4	","							
13:56:24		29-Jul-99		564	29.59	","	0.4	","	344	","	2018	","	2792.8
","	965	","	986	","	4	","							
13:56:05		29-Jul-99		565	29.59	","	0.4	","	344.4	","	2018	","	2792.8
","	963	","	986	","	4	","							
13:55:46		29-Jul-99		566	29.59	","	0.4	","	344.4	","	2018	","	2792.8
","	963	","	986	","	4	","							
13:55:27		29-Jul-99		567	29.59	","	0.4	","	344.2	","	2018	","	2792.8
","	963	","	986	","	4	","							
13:55:08		29-Jul-99		568	29.59	","	0.4	","	344.5	","	2018	","	2792.8
","	963	","	986	","	4	","							
13:54:49		29-Jul-99		569	29.59	","	0.4	","	344.5	","	2018	","	2792.8
","	962	","	986	","	4	","							
13:54:30		29-Jul-99		570	29.59	","	0.4	","	344.3	","	2015	","	2789.4

","	962	","	986	","	4	","						
13:54:11		29-Jul-99	571	29.59	","	0.4	","	343.8	","	2015	","	2789.4
","	962	","	986	","	4	","						
13:53:52		29-Jul-99	572	29.59	","	0.4	","	344.1	","	2015	","	2789.4
","	962	","	986	","	4	","						
13:53:33		29-Jul-99	573	29.59	","	0.4	","	343.7	","	2015	","	2789.4
","	962	","	986	","	4	","						
13:53:14		29-Jul-99	574	29.59	","	0.4	","	343.6	","	2012	","	2789.4
","	962	","	987	","	4	","						
13:52:55		29-Jul-99	575	29.59	","	0.4	","	343.1	","	2012	","	2785.4
","	962	","	987	","	4	","						
13:52:36		29-Jul-99	576	29.59	","	0.4	","	343.9	","	2015	","	2789.4
","	962	","	987	","	4	","						
13:52:17		29-Jul-99	577	29.59	","	0.4	","	343.9	","	2015	","	2789.4
","	962	","	987	","	4	","						
13:51:58		29-Jul-99	578	29.59	","	0.4	","	343.8	","	2015	","	2789.4
","	962	","	987	","	4	","						
13:51:39		29-Jul-99	579	29.59	","	0.4	","	344.2	","	2015	","	2789.4
","	962	","	987	","	4	","						
13:51:20		29-Jul-99	580	29.59	","	0.4	","	343.9	","	2015	","	2789.4
","	962	","	987	","	4	","						
13:51:01		29-Jul-99	581	29.59	","	0.4	","	344.4	","	2018	","	2789.4
","	963	","	987	","	4	","						
13:50:42		29-Jul-99	582	29.59	","	0.4	","	344.7	","	2021	","	2792.8
","	963	","	987	","	4	","						
13:50:23		29-Jul-99	583	29.59	","	0.4	","	345.2	","	2021	","	2792.8
","	963	","	987	","	4	","						
13:50:04		29-Jul-99	584	29.59	","	0.4	","	345	","	2018	","	2792.8
","	963	","	987	","	4	","						
13:49:45		29-Jul-99	585	29.59	","	0.4	","	345.2	","	2021	","	2792.8
","	963	","	987	","	4	","						
13:49:26		29-Jul-99	586	29.59	","	0.4	","	345.3	","	2024	","	2796.2
","	963	","	987	","	4	","						
13:49:07		29-Jul-99	587	29.59	","	0.4	","	346	","	2027	","	2796.2
","	962	","	987	","	4	","						
13:48:48		29-Jul-99	588	29.59	","	0.4	","	345.6	","	2024	","	2796.2
","	962	","	987	","	4	","						
13:48:29		29-Jul-99	589	29.59	","	0.4	","	345	","	2021	","	2796.2
","	962	","	987	","	4	","						
13:48:10		29-Jul-99	590	29.59	","	0.4	","	345.5	","	2021	","	2792.8
","	962	","	987	","	4	","						
13:47:51		29-Jul-99	591	29.59	","	0.4	","	345.2	","	2021	","	2792.8
","	962	","	987	","	4	","						
13:47:32		29-Jul-99	592	29.59	","	0.4	","	345.2	","	2018	","	2792.8
","	962	","	987	","	4	","						
13:47:13		29-Jul-99	593	29.59	","	0.4	","	344.8	","	2021	","	2792.8
","	962	","	987	","	4	","						
13:46:54		29-Jul-99	594	29.59	","	0.4	","	344.6	","	2021	","	2792.8

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","     962     ","     987     ","     4       ","
13:46:35        29-Jul-99       595     29.59   ","     0.4     ","     345.5   ","     2021    ","     2792.8
","     962     ","     987     ","     4       ","
13:46:16        29-Jul-99       596     29.59   ","     0.4     ","     345.3   ","     2021    ","     2792.8
","     962     ","     987     ","     4       ","
13:45:57        29-Jul-99       597     29.59   ","     0.4     ","     345.5   ","     2021    ","     2796.2
","     962     ","     987     ","     4       ","
13:45:38        29-Jul-99       598     29.59   ","     0.4     ","     345.3   ","     2021    ","     2792.8
","     962     ","     987     ","     4       ","
13:45:19        29-Jul-99       599     29.59   ","     0.4     ","     345.3   ","     2024    ","     2796.2
","     962     ","     987     ","     4       ","
13:45:00        29-Jul-99       600     29.59   ","     0.4     ","     345.4   ","     2024    ","     2792.8
","     962     ","     987     ","     4       ","
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Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:19:43	30-Jul-99	1	29.6	,	0.4	,	306	,	1790	,	2636	,	980	,	987	,	4	,
10:19:26	30-Jul-99	2	29.6	,	0.4	,	305.6	,	1787	,	2636	,	980	,	987	,	4	,
10:19:09	30-Jul-99	3	29.6	,	0.4	,	305.1	,	1787	,	2632.8	,	980	,	987	,	4	,
10:18:52	30-Jul-99	4	29.6	,	0.4	,	305.3	,	1784	,	2632.8	,	980	,	987	,	4	,
10:18:35	30-Jul-99	5	29.6	,	0.4	,	305.2	,	1784	,	2632.8	,	980	,	987	,	4	,
10:18:18	30-Jul-99	6	29.6	,	0.4	,	304.7	,	1784	,	2632.8	,	980	,	987	,	4	,
10:18:01	30-Jul-99	7	29.6	,	0.4	,	304.4	,	1781	,	2629.2	,	980	,	987	,	4	,
10:17:44	30-Jul-99	8	29.6	,	0.4	,	304.6	,	1778	,	2629.2	,	980	,	987	,	4	,
10:17:27	30-Jul-99	9	29.6	,	0.4	,	304.3	,	1774	,	2626	,	980	,	987	,	4	,
10:17:10	30-Jul-99	10	29.6	,	0.4	,	303.6	,	1774	,	2622.9	,	978	,	987	,	4	,
10:16:53	30-Jul-99	11	29.6	,	0.4	,	302.8	,	1774	,	2622.9	,	978	,	986	,	4	,
10:16:36	30-Jul-99	12	29.6	,	0.4	,	302.8	,	1771	,	2622.9	,	978	,	986	,	4	,
10:16:19	30-Jul-99	13	29.6	,	0.4	,	302.3	,	1768	,	2622.9	,	978	,	986	,	4	,
10:16:02	30-Jul-99	14	29.6	,	0.4	,	302.6	,	1768	,	2619.8	,	978	,	986	,	4	,
10:15:45	30-Jul-99	15	29.6	,	0.4	,	302.8	,	1768	,	2619.8	,	977	,	986	,	4	,
10:15:28	30-Jul-99	16	29.6	,	0.4	,	301.6	,	1765	,	2619.8	,	977	,	986	,	4	,
10:15:11	30-Jul-99	17	29.6	,	0.4	,	302	,	1762	,	2616.6	,	977	,	986	,	4	,
10:14:54	30-Jul-99	18	29.6	,	0.4	,	301.7	,	1765	,	2616.6	,	977	,	986	,	4	,
10:14:37	30-Jul-99	19	29.6	,	0.4	,	302.1	,	1765	,	2616.6	,	977	,	986	,	4	,
10:14:20	30-Jul-99	20	29.6	,	0.4	,	302	,	1765	,	2616.6	,	977	,	986	,	4	,
10:14:03	30-Jul-99	21	29.6	,	0.4	,	302.1	,	1765	,	2616.6	,	977	,	986	,	4	,
10:13:46	30-Jul-99	22	29.6	,	0.4	,	302	,	1765	,	2616.6	,	977	,	986	,	4	,
10:13:29	30-Jul-99	23	29.6	,	0.4	,	301.6	,	1762	,	2616.6	,	977	,	986	,	4	,
10:13:12	30-Jul-99	24	29.6	,	0.4	,	301.3	,	1762	,	2616.6	,	977	,	984	,	4	,
10:12:55	30-Jul-99	25	29.6	,	0.4	,	301.6	,	1765	,	2616.6	,	977	,	984	,	4	,
10:12:38	30-Jul-99	26	29.6	,	0.4	,	302.5	,	1765	,	2619.8	,	977	,	984	,	4	,
10:12:21	30-Jul-99	27	29.6	,	0.4	,	302.7	,	1765	,	2619.8	,	977	,	984	,	4	,
10:12:04	30-Jul-99	28	29.6	,	0.4	,	303	,	1762	,	2616.6	,	977	,	984	,	4	,
10:11:47	30-Jul-99	29	29.6	,	0.4	,	302.1	,	1762	,	2613.5	,	977	,	984	,	4	,
10:11:30	30-Jul-99	30	29.6	,	0.4	,	301.3	,	1762	,	2613.5	,	977	,	984	,	4	,
10:11:13	30-Jul-99	31	29.6	,	0.4	,	301.8	,	1762	,	2613.5	,	977	,	984	,	4	,
10:10:56	30-Jul-99	32	29.6	,	0.4	,	301.3	,	1759	,	2613.5	,	977	,	984	,	4	,
10:10:39	30-Jul-99	33	29.6	,	0.4	,	301.7	,	1759	,	2613.5	,	977	,	984	,	4	,
10:10:22	30-Jul-99	34	29.6	,	0.4	,	301	,	1759	,	2613.5	,	977	,	984	,	4	,
10:10:05	30-Jul-99	35	29.59	,	0.4	,	301.4	,	1762	,	2613.5	,	977	,	984	,	4	,
10:09:48	30-Jul-99	36	29.59	,	0.4	,	302.2	,	1762	,	2613.5	,	977	,	984	,	4	,
10:09:31	30-Jul-99	37	29.59	,	0.4	,	302.2	,	1765	,	2617.1	,	977	,	984	,	4	,
10:09:14	30-Jul-99	38	29.59	,	0.4	,	301.9	,	1762	,	2617.1	,	977	,	984	,	4	,
10:08:57	30-Jul-99	39	29.59	,	0.4	,	301.8	,	1759	,	2614	,	978	,	984	,	4	,
10:08:40	30-Jul-99	40	29.59	,	0.4	,	301.9	,	1759	,	2614	,	978	,	986	,	4	,
10:08:23	30-Jul-99	41	29.59	,	0.4	,	301.8	,	1762	,	2617.1	,	978	,	986	,	4	,
10:08:06	30-Jul-99	42	29.59	,	0.4	,	301.6	,	1765	,	2617.1	,	978	,	986	,	4	,
10:07:49	30-Jul-99	43	29.59	,	0.4	,	301.9	,	1768	,	2620.3	,	977	,	986	,	4	,
10:07:32	30-Jul-99	44	29.59	,	0.4	,	302.9	,	1768	,	2620.3	,	977	,	986	,	4	,
10:07:15	30-Jul-99	45	29.59	,	0.4	,	302.5	,	1765	,	2620.3	,	977	,	986	,	4	,
10:06:58	30-Jul-99	46	29.59	,	0.4	,	302	,	1765	,	2620.3	,	977	,	986	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
10:06:41	30-Jul-99	47	29.59	,	0.4	,	301.4	,	1762	,	2617.1	,	978	,	987	,	4	,
10:06:24	30-Jul-99	48	29.59	,	0.4	,	301.8	,	1762	,	2617.1	,	978	,	987	,	4	,
10:06:07	30-Jul-99	49	29.59	,	0.4	,	301.3	,	1762	,	2614	,	978	,	987	,	4	,
10:05:50	30-Jul-99	50	29.59	,	0.4	,	301.5	,	1762	,	2614	,	978	,	987	,	4	,
10:05:33	30-Jul-99	51	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	978	,	987	,	4	,
10:05:16	30-Jul-99	52	29.59	,	0.4	,	302.2	,	1765	,	2617.7	,	978	,	987	,	4	,
10:04:59	30-Jul-99	53	29.59	,	0.4	,	301.6	,	1765	,	2614.5	,	978	,	987	,	4	,
10:04:42	30-Jul-99	54	29.59	,	0.4	,	301.6	,	1765	,	2614.5	,	978	,	987	,	4	,
10:04:25	30-Jul-99	55	29.59	,	0.4	,	302.4	,	1765	,	2617.7	,	978	,	987	,	4	,
10:04:08	30-Jul-99	56	29.59	,	0.4	,	302.1	,	1765	,	2617.7	,	978	,	987	,	4	,
10:03:51	30-Jul-99	57	29.59	,	0.4	,	302.2	,	1765	,	2617.7	,	978	,	987	,	4	,
10:03:34	30-Jul-99	58	29.59	,	0.4	,	303	,	1765	,	2617.7	,	978	,	987	,	4	,
10:03:17	30-Jul-99	59	29.59	,	0.4	,	302.9	,	1765	,	2617.7	,	978	,	987	,	4	,
10:03:00	30-Jul-99	60	29.59	,	0.4	,	302.5	,	1765	,	2617.7	,	978	,	987	,	4	,
10:02:43	30-Jul-99	61	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	978	,	987	,	4	,
10:02:26	30-Jul-99	62	29.59	,	0.4	,	302	,	1765	,	2617.7	,	978	,	987	,	4	,
10:02:09	30-Jul-99	63	29.59	,	0.4	,	302.8	,	1765	,	2617.7	,	978	,	986	,	4	,
10:01:52	30-Jul-99	64	29,59	,	0.4	,	302.4	,	1765	,	2614.5	,	978	,	986	,	4	,
10:01:35	30-Jul-99	65	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	978	,	986	,	4	,
10:01:18	30-Jul-99	66	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	978	,	986	,	4	,
10:01:01	30-Jul-99	67	29.59	,	0.4	,	302	,	1765	,	2617.7	,	978	,	986	,	4	,
10:00:44	30-Jul-99	68	29.59	,	0.4	,	302.6	,	1765	,	2617.7	,	978	,	986	,	4	,
10:00:27	30-Jul-99	69	29.59	,	0.4	,	302.1	,	1765	,	2617.7	,	978	,	986	,	4	,
10:00:10	30-Jul-99	70	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	978	,	986	,	4	,
9:59:53	30-Jul-99	71	29.59	,	0.4	,	301.6	,	1762	,	2614.5	,	978	,	986	,	4	,
9:59:36	30-Jul-99	72	29.59	,	0.4	,	301.1	,	1762	,	2614.5	,	978	,	987	,	4	,
9:59:19	30-Jul-99	73	29.59	,	0.4	,	301.6	,	1762	,	2614.5	,	978	,	987	,	4	,
9:59:02	30-Jul-99	74	29.59	,	0.4	,	300.8	,	1762	,	2614.5	,	978	,	987	,	4	,
9:58:45	30-Jul-99	75	29.59	,	0.4	,	301.5	,	1762	,	2614.5	,	978	,	987	,	4	,
9:58:28	30-Jul-99	76	29.59	,	0.4	,	301.5	,	1762	,	2614.5	,	978	,	987	,	4	,
9:58:11	30-Jul-99	77	29.59	,	0.4	,	301.2	,	1762	,	2617.7	,	978	,	987	,	4	,
9:57:54	30-Jul-99	78	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	978	,	987	,	4	,
9:57:37	30-Jul-99	79	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	978	,	987	,	4	,
9:57:20	30-Jul-99	80	29.59	,	0.4	,	302	,	1765	,	2617.7	,	978	,	987	,	4	,
9:57:03	30-Jul-99	81	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	978	,	987	,	4	,
9:56:46	30-Jul-99	82	29.59	,	0.4	,	301.8	,	1765	,	2617.7	,	978	,	986	,	4	,
9:56:29	30-Jul-99	83	29.59	,	0.4	,	301.8	,	1765	,	2617.7	,	978	,	986	,	4	,
9:56:12	30-Jul-99	84	29.59	,	0.4	,	301.4	,	1765	,	2617.7	,	978	,	986	,	4	,
9:55:55	30-Jul-99	85	29.59	,	0.4	,	302	,	1765	,	2617.7	,	977	,	986	,	4	,
9:55:38	30-Jul-99	86	29.59	,	0.4	,	301.4	,	1762	,	2617.7	,	977	,	986	,	4	,
9:55:21	30-Jul-99	87	29.59	,	0.4	,	301.2	,	1762	,	2614.5	,	977	,	986	,	4	,
9:55:04	30-Jul-99	88	29.59	,	0.4	,	301	,	1759	,	2614.5	,	977	,	986	,	4	,
9:54:47	30-Jul-99	89	29.59	,	0.4	,	301.3	,	1762	,	2614.5	,	977	,	986	,	4	,
9:54:30	30-Jul-99	90	29.59	,	0.4	,	301	,	1762	,	2614.5	,	977	,	986	,	4	,
9:54:13	30-Jul-99	91	29.59	,	0.4	,	301.5	,	1762	,	2614.5	,	977	,	986	,	4	,
9:53:56	30-Jul-99	92	29.59	,	0.4	,	300.9	,	1759	,	2614.5	,	977	,	986	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
9:53:39	30-Jul-99	93	29.59	,	0.4	,	300.6	,	1759	,	2614.5	,	977	,	986	,	4	,
9:53:22	30-Jul-99	94	29.59	,	0.4	,	300.8	,	1759	,	2614.5	,	977	,	986	,	4	,
9:53:05	30-Jul-99	95	29.59	,	0.4	,	301.1	,	1759	,	2614.5	,	977	,	986	,	4	,
9:52:48	30-Jul-99	96	29.59	,	0.4	,	301.1	,	1759	,	2611.4	,	979	,	986	,	4	,
9:52:31	30-Jul-99	97	29.59	,	0.4	,	301.7	,	1762	,	2617.7	,	979	,	986	,	4	,
9:52:14	30-Jul-99	98	29.59	,	0.4	,	301.2	,	1762	,	2617.7	,	979	,	986	,	4	,
9:51:57	30-Jul-99	99	29.59	,	0.4	,	300.7	,	1762	,	2614.5	,	979	,	986	,	4	,
9:51:40	30-Jul-99	100	29.59	,	0.4	,	301.2	,	1762	,	2614.5	,	979	,	986	,	4	,
9:51:23	30-Jul-99	101	29.59	,	0.4	,	301.8	,	1765	,	2618.2	,	979	,	986	,	4	,
9:51:06	30-Jul-99	102	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	979	,	986	,	4	,
9:50:49	30-Jul-99	103	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	979	,	987	,	4	,
9:50:32	30-Jul-99	104	29.59	,	0.4	,	301.3	,	1768	,	2621.3	,	979	,	987	,	4	,
9:50:15	30-Jul-99	105	29.59	,	0.4	,	302.9	,	1768	,	2621.3	,	979	,	987	,	4	,
9:49:58	30-Jul-99	106	29.59	,	0.4	,	301.9	,	1765	,	2618.2	,	979	,	987	,	4	,
9:49:41	30-Jul-99	107	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	979	,	987	,	4	,
9:49:24	30-Jul-99	108	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	979	,	987	,	4	,
9:49:07	30-Jul-99	109	29.59	,	0.4	,	301.5	,	1765	,	2618.2	,	979	,	987	,	4	,
9:48:50	30-Jul-99	110	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	979	,	987	,	4	,
9:48:33	30-Jul-99	111	29.59	,	0.4	,	302.2	,	1765	,	2618.2	,	979	,	987	,	4	,
9:48:16	30-Jul-99	112	29.59	,	0.4	,	302.3	,	1765	,	2618.2	,	979	,	987	,	4	,
9:47:59	30-Jul-99	113	29.59	,	0.4	,	302	,	1765	,	2618.2	,	979	,	987	,	4	,
9:47:42	30-Jul-99	114	29.59	,	0.4	,	301.8	,	1765	,	2618.2	,	979	,	987	,	4	,
9:47:25	30-Jul-99	115	29.59	,	0.4	,	301.5	,	1765	,	2618.2	,	979	,	987	,	4	,
9:47:08	30-Jul-99	116	29.59	,	0.4	,	302.4	,	1765	,	2618.2	,	978	,	987	,	4	,
9:46:51	30-Jul-99	117	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	978	,	987	,	4	,
9:46:34	30-Jul-99	118	29.59	,	0.4	,	301.3	,	1765	,	2618.2	,	978	,	987	,	4	,
9:46:17	30-Jul-99	119	29.59	,	0.4	,	301.4	,	1765	,	2618.2	,	978	,	987	,	4	,
9:46:00	30-Jul-99	120	29.59	,	0.4	,	301.4	,	1765	,	2615	,	978	,	987	,	4	,
9:45:43	30-Jul-99	121	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	978	,	987	,	4	,
9:45:26	30-Jul-99	122	29.59	,	0.4	,	300.9	,	1765	,	2618.2	,	978	,	987	,	4	,
9:45:09	30-Jul-99	123	29.59	,	0.4	,	301.3	,	1765	,	2618.2	,	978	,	987	,	4	,
9:44:52	30-Jul-99	124	29.59	,	0.4	,	301.7	,	1765	,	2618.2	,	978	,	987	,	4	,
9:44:35	30-Jul-99	125	29.59	,	0.4	,	301.1	,	1765	,	2617.7	,	978	,	987	,	4	,
9:44:18	30-Jul-99	126	29.59	,	0.4	,	301.8	,	1765	,	2617.7	,	978	,	987	,	4	,
9:44:01	30-Jul-99	127	29.59	,	0.4	,	301.5	,	1765	,	2617.7	,	978	,	987	,	4	,
9:43:44	30-Jul-99	128	29.59	,	0.4	,	301.7	,	1765	,	2617.7	,	978	,	987	,	4	,
9:43:27	30-Jul-99	129	29.59	,	0.4	,	301.4	,	1765	,	2617.7	,	978	,	987	,	4	,
9:43:10	30-Jul-99	130	29.59	,	0.4	,	300.9	,	1765	,	2617.7	,	978	,	987	,	4	,
9:42:53	30-Jul-99	131	29.59	,	0.4	,	302	,	1768	,	2617.7	,	978	,	986	,	4	,
9:42:36	30-Jul-99	132	29.59	,	0.4	,	301.6	,	1768	,	2620.8	,	978	,	986	,	4	,
9:42:19	30-Jul-99	133	29.59	,	0.4	,	301.6	,	1768	,	2620.8	,	978	,	986	,	4	,
9:42:02	30-Jul-99	134	29.59	,	0.4	,	301.6	,	1765	,	2617.7	,	978	,	986	,	4	,
9:41:45	30-Jul-99	135	29.59	,	0.4	,	301.6	,	1765	,	2617.7	,	978	,	986	,	4	,
9:41:28	30-Jul-99	136	29.59	,	0.4	,	301.7	,	1765	,	2617.7	,	978	,	986	,	4	,
9:41:11	30-Jul-99	137	29.59	,	0.4	,	301.4	,	1765	,	2617.7	,	978	,	986	,	4	,
9:40:54	30-Jul-99	138	29.59	,	0.4	,	301	,	1762	,	2617.7	,	978	,	986	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
9:40:37	30-Jul-99	139	29.59	,	0.4	,	301.5	,	1765	,	2617.7	,	978	,	986	,	4	,
9:40:20	30-Jul-99	140	29.59	,	0.4	,	300.8	,	1765	,	2617.7	,	978	,	986	,	4	,
9:40:03	30-Jul-99	141	29.59	,	0.4	,	301.6	,	1765	,	2617.7	,	978	,	986	,	4	,
9:39:46	30-Jul-99	142	29.59	,	0.4	,	301.8	,	1765	,	2617.7	,	978	,	986	,	4	,
9:39:29	30-Jul-99	143	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	978	,	986	,	4	,
9:39:12	30-Jul-99	144	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	978	,	986	,	4	,
9:38:55	30-Jul-99	145	29.59	,	0.4	,	302.1	,	1768	,	2617.7	,	978	,	987	,	4	,
9:38:38	30-Jul-99	146	29.59	,	0.4	,	302	,	1768	,	2620.8	,	978	,	987	,	4	,
9:38:21	30-Jul-99	147	29.59	,	0.4	,	302	,	1768	,	2617.7	,	978	,	987	,	4	,
9:38:04	30-Jul-99	148	29.59	,	0.4	,	302.5	,	1768	,	2620.8	,	978	,	987	,	4	,
9:37:47	30-Jul-99	149	29.59	,	0.4	,	302.4	,	1768	,	2620.8	,	978	,	987	,	4	,
9:37:30	30-Jul-99	150	29.59	,	0.4	,	302.5	,	1768	,	2620.8	,	978	,	987	,	4	,
9:37:13	30-Jul-99	151	29.59	,	0.4	,	302.2	,	1768	,	2620.8	,	978	,	987	,	4	,
9:36:56	30-Jul-99	152	29.59	,	0.4	,	301.9	,	1768	,	2620.8	,	978	,	987	,	4	,
9:36:39	30-Jul-99	153	29.59	,	0.4	,	302.1	,	1768	,	2620.8	,	978	,	987	,	4	,
9:36:22	30-Jul-99	154	29.59	,	0.4	,	302.1	,	1768	,	2620.8	,	978	,	987	,	4	,
9:36:05	30-Jul-99	155	29.59	,	0.4	,	302.6	,	1771	,	2620.8	,	978	,	987	,	4	,
9:35:48	30-Jul-99	156	29.59	,	0.4	,	302.2	,	1771	,	2620.3	,	976	,	987	,	4	,
9:35:31	30-Jul-99	157	29.59	,	0.4	,	302.2	,	1768	,	2620.3	,	976	,	987	,	4	,
9:35:14	30-Jul-99	158	29.59	,	0.4	,	301.9	,	1768	,	2620.3	,	976	,	987	,	4	,
9:34:57	30-Jul-99	159	29.59	,	0.4	,	302.4	,	1768	,	2620.3	,	976	,	987	,	4	,
9:34:40	30-Jul-99	160	29.59	,	0.4	,	301.6	,	1768	,	2620.3	,	976	,	987	,	4	,
9:34:23	30-Jul-99	161	29.59	,	0.4	,	301.9	,	1768	,	2620.3	,	976	,	987	,	4	,
9:34:06	30-Jul-99	162	29.59	,	0.4	,	301.4	,	1765	,	2617.1	,	976	,	987	,	4	,
9:33:49	30-Jul-99	163	29.59	,	0.4	,	301.9	,	1768	,	2617.1	,	976	,	987	,	4	,
9:33:32	30-Jul-99	164	29.59	,	0.4	,	302.8	,	1768	,	2620.3	,	976	,	987	,	4	,
9:33:15	30-Jul-99	165	29.59	,	0.4	,	302.2	,	1765	,	2617.1	,	976	,	987	,	4	,
9:32:58	30-Jul-99	166	29.59	,	0.4	,	301.4	,	1765	,	2617.1	,	976	,	987	,	4	,
9:32:41	30-Jul-99	167	29.59	,	0.4	,	301.5	,	1765	,	2617.1	,	976	,	987	,	4	,
9:32:24	30-Jul-99	168	29.59	,	0.4	,	302	,	1765	,	2617.1	,	978	,	987	,	4	,
9:32:07	30-Jul-99	169	29.59	,	0.4	,	302.3	,	1765	,	2617.1	,	978	,	987	,	4	,
9:31:50	30-Jul-99	170	29.59	,	0.4	,	302	,	1768	,	2620.3	,	978	,	987	,	4	,
9:31:33	30-Jul-99	171	29.59	,	0.4	,	302.8	,	1768	,	2620.3	,	978	,	987	,	4	,
9:31:16	30-Jul-99	172	29.59	,	0.4	,	302.5	,	1768	,	2620.3	,	978	,	987	,	4	,
9:30:59	30-Jul-99	173	29.59	,	0.4	,	301.5	,	1765	,	2620.3	,	978	,	987	,	4	,
9:30:42	30-Jul-99	174	29.59	,	0.4	,	302	,	1765	,	2620.3	,	978	,	987	,	4	,
9:30:25	30-Jul-99	175	29.59	,	0.4	,	301.9	,	1765	,	2620.3	,	978	,	987	,	4	,
9:30:08	30-Jul-99	176	29.59	,	0.4	,	302.1	,	1768	,	2620.3	,	978	,	987	,	4	,
9:29:51	30-Jul-99	177	29.59	,	0.4	,	302.4	,	1768	,	2620.3	,	978	,	987	,	4	,
9:29:34	30-Jul-99	178	29.59	,	0.4	,	302.4	,	1768	,	2620.3	,	978	,	988	,	4	,
9:29:17	30-Jul-99	179	29.59	,	0.4	,	302.4	,	1768	,	2620.3	,	978	,	988	,	4	,
9:29:00	30-Jul-99	180	29.59	,	0.4	,	303.2	,	1768	,	2620.3	,	978	,	988	,	4	,
9:28:43	30-Jul-99	181	29.59	,	0.4	,	302.5	,	1768	,	2620.3	,	978	,	988	,	4	,
9:28:26	30-Jul-99	182	29.59	,	0.4	,	302.5	,	1768	,	2620.3	,	976	,	988	,	4	,
9:28:09	30-Jul-99	183	29.59	,	0.4	,	301.7	,	1768	,	2620.3	,	976	,	988	,	4	,
9:27:52	30-Jul-99	184	29.59	,	0.4	,	302.1	,	1765	,	2617.1	,	976	,	988	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
9:27:35	30-Jul-99	185	29.59	,	0.4	,	301.3	,	1765	,	2617.1	,	976	,	987	,	4	,
9:27:18	30-Jul-99	186	29.59	,	0.4	,	301.2	,	1765	,	2617.1	,	976	,	987	,	4	,
9:27:01	30-Jul-99	187	29.59	,	0.4	,	301.9	,	1765	,	2617.1	,	976	,	987	,	4	,
9:26:44	30-Jul-99	188	29.59	,	0.4	,	301.5	,	1762	,	2617.1	,	976	,	987	,	4	,
9:26:27	30-Jul-99	189	29.59	,	0.4	,	301.7	,	1762	,	2617.1	,	976	,	987	,	4	,
9:26:10	30-Jul-99	190	29.59	,	0.4	,	301.2	,	1762	,	2617.1	,	976	,	987	,	4	,
9:25:53	30-Jul-99	191	29.59	,	0.4	,	301.2	,	1762	,	2617.1	,	976	,	986	,	4	,
9:25:36	30-Jul-99	192	29.59	,	0.4	,	301	,	1762	,	2617.1	,	976	,	986	,	4	,
9:25:19	30-Jul-99	193	29.59	,	0.4	,	300.9	,	1762	,	2614	,	976	,	986	,	4	,
9:25:02	30-Jul-99	194	29.59	,	0.4	,	301.1	,	1762	,	2614	,	976	,	986	,	4	,
9:24:45	30-Jul-99	195	29.59	,	0.4	,	301.5	,	1762	,	2617.1	,	974	,	986	,	4	,
9:24:28	30-Jul-99	196	29.59	,	0.4	,	301.5	,	1765	,	2617.1	,	974	,	986	,	4	,
9:24:11	30-Jul-99	197	29.59	,	0.4	,	301.5	,	1762	,	2617.1	,	974	,	984	,	4	,
9:23:54	30-Jul-99	198	29.59	,	0.4	,	301.1	,	1759	,	2614	,	974	,	984	,	4	,
9:23:37	30-Jul-99	199	29.59	,	0.4	,	300.9	,	1759	,	2614	,	974	,	984	,	4	,
9:23:20	30-Jul-99	200	29.59	,	0.4	,	301.5	,	1759	,	2614	,	974	,	984	,	4	,
9:23:03	30-Jul-99	201	29.59	,	0.4	,	300.7	,	1759	,	2614	,	974	,	984	,	4	,
9:22:46	30-Jul-99	202	29.59	,	0.4	,	300.2	,	1759	,	2614	,	974	,	984	,	4	,
9:22:29	30-Jul-99	203	29.59	,	0.4	,	301	,	1759	,	2614	,	976	,	984	,	4	,
9:22:12	30-Jul-99	204	29.59	,	0.4	,	301.1	,	1759	,	2614	,	976	,	986	,	4	,
9:21:55	30-Jul-99	205	29.59	,	0.4	,	301.5	,	1762	,	2614	,	976	,	986	,	4	,
9:21:38	30-Jul-99	206	29.59	,	0.4	,	301.3	,	1762	,	2614	,	976	,	986	,	4	,
9:21:21	30-Jul-99	207	29.59	,	0.4	,	301.3	,	1762	,	2617.1	,	976	,	986	,	4	,
9:21:04	30-Jul-99	208	29.59	,	0.4	,	301.4	,	1765	,	2617.1	,	976	,	986	,	4	,
9:20:47	30-Jul-99	209	29.59	,	0.4	,	302	,	1765	,	2620.8	,	976	,	986	,	4	,
9:20:30	30-Jul-99	210	29.59	,	0.4	,	301.5	,	1765	,	2620.8	,	976	,	987	,	4	,
9:20:13	30-Jul-99	211	29.59	,	0.4	,	302	,	1765	,	2617.7	,	976	,	987	,	4	,
9:19:56	30-Jul-99	212	29.59	,	0.4	,	301.8	,	1768	,	2617.7	,	976	,	987	,	4	,
9:19:39	30-Jul-99	213	29.59	,	0.4	,	302.3	,	1771	,	2620.8	,	976	,	987	,	4	,
9:19:22	30-Jul-99	214	29.59	,	0.4	,	302.7	,	1771	,	2620.8	,	976	,	987	,	4	,
9:19:05	30-Jul-99	215	29.59	,	0.4	,	302.8	,	1768	,	2620.8	,	976	,	987	,	4	,
9:18:48	30-Jul-99	216	29.59	,	0.4	,	302.4	,	1768	,	2620.8	,	976	,	987	,	4	,
9:18:31	30-Jul-99	217	29.59	,	0.4	,	302	,	1768	,	2617.7	,	976	,	987	,	4	,
9:18:14	30-Jul-99	218	29.59	,	0.4	,	302.1	,	1768	,	2620.8	,	976	,	987	,	4	,
9:17:57	30-Jul-99	219	29.59	,	0.4	,	302.7	,	1768	,	2620.8	,	976	,	987	,	4	,
9:17:40	30-Jul-99	220	29.59	,	0.4	,	303	,	1768	,	2620.8	,	976	,	987	,	4	,
9:17:23	30-Jul-99	221	29.59	,	0.4	,	302.2	,	1765	,	2617.7	,	976	,	987	,	4	,
9:17:06	30-Jul-99	222	29.59	,	0.4	,	302.1	,	1765	,	2617.7	,	976	,	987	,	4	,
9:16:49	30-Jul-99	223	29.59	,	0.4	,	301.7	,	1768	,	2617.7	,	976	,	987	,	4	,
9:16:32	30-Jul-99	224	29.59	,	0.4	,	302.6	,	1768	,	2617.7	,	976	,	987	,	4	,
9:16:15	30-Jul-99	225	29.59	,	0.4	,	302.7	,	1768	,	2620.8	,	976	,	987	,	4	,
9:15:58	30-Jul-99	226	29.59	,	0.4	,	302.3	,	1768	,	2620.8	,	976	,	987	,	4	,
9:15:41	30-Jul-99	227	29.59	,	0.4	,	302.5	,	1768	,	2620.8	,	976	,	987	,	4	,
9:15:24	30-Jul-99	228	29.59	,	0.4	,	302.8	,	1771	,	2620.8	,	976	,	987	,	4	,
9:15:07	30-Jul-99	229	29.59	,	0.4	,	303.1	,	1771	,	2620.8	,	976	,	987	,	4	,
9:14:50	30-Jul-99	230	29.59	,	0.4	,	303	,	1771	,	2620.8	,	974	,	987	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
9:14:33	30-Jul-99	231	29.59	,	0.4	,	302.5	,	1768	,	2620.8	,	974	,	987	,	4	,
9:14:16	30-Jul-99	232	29.59	,	0.4	,	302.6	,	1768	,	2617.7	,	974	,	987	,	4	,
9:13:59	30-Jul-99	233	29.59	,	0.4	,	302.2	,	1768	,	2617.7	,	974	,	987	,	4	,
9:13:42	30-Jul-99	234	29.59	,	0.4	,	301.8	,	1765	,	2617.7	,	974	,	987	,	4	,
9:13:25	30-Jul-99	235	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	974	,	987	,	4	,
9:13:08	30-Jul-99	236	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	974	,	986	,	4	,
9:12:51	30-Jul-99	237	29.59	,	0.4	,	301.9	,	1765	,	2614.5	,	974	,	986	,	4	,
9:12:34	30-Jul-99	238	29.59	,	0.4	,	301.9	,	1765	,	2618.2	,	974	,	986	,	4	,
9:12:17	30-Jul-99	239	29.59	,	0.4	,	302.3	,	1768	,	2618.2	,	974	,	986	,	4	,
9:12:00	30-Jul-99	240	29.59	,	0.4	,	301.7	,	1768	,	2618.2	,	974	,	986	,	4	,
9:11:43	30-Jul-99	241	29.59	,	0.4	,	302.5	,	1768	,	2618.2	,	974	,	986	,	4	,
9:11:26	30-Jul-99	242	29.59	,	0.4	,	302	,	1768	,	2618.2	,	974	,	986	,	4	,
9:11:09	30-Jul-99	243	29.59	,	0.4	,	302.6	,	1768	,	2618.2	,	974	,	986	,	4	,
9:10:52	30-Jul-99	244	29.59	,	0.4	,	302.3	,	1768	,	2618.2	,	976	,	986	,	4	,
9:10:35	30-Jul-99	245	29.59	,	0.4	,	302.4	,	1768	,	2618.2	,	976	,	986	,	4	,
9:10:18	30-Jul-99	246	29.59	,	0.4	,	302.5	,	1768	,	2618.2	,	976	,	986	,	4	,
9:10:01	30-Jul-99	247	29.59	,	0.4	,	302.5	,	1768	,	2618.2	,	976	,	986	,	4	,
9:09:44	30-Jul-99	248	29.59	,	0.4	,	302.2	,	1768	,	2618.2	,	976	,	986	,	4	,
9:09:27	30-Jul-99	249	29.59	,	0.4	,	303.4	,	1768	,	2618.2	,	976	,	986	,	4	,
9:09:10	30-Jul-99	250	29.59	,	0.4	,	303	,	1771	,	2621.3	,	976	,	986	,	4	,
9:08:53	30-Jul-99	251	29.59	,	0.4	,	303.2	,	1771	,	2621.3	,	976	,	986	,	4	,
9:08:36	30-Jul-99	252	29.59	,	0.4	,	302.5	,	1771	,	2621.3	,	976	,	986	,	4	,
9:08:19	30-Jul-99	253	29.59	,	0.4	,	303	,	1768	,	2618.2	,	976	,	986	,	4	,
9:08:02	30-Jul-99	254	29.59	,	0.4	,	302.9	,	1768	,	2618.2	,	976	,	986	,	4	,
9:07:45	30-Jul-99	255	29.59	,	0.4	,	303.1	,	1768	,	2618.2	,	976	,	987	,	4	,
9:07:28	30-Jul-99	256	29.59	,	0.4	,	303.3	,	1768	,	2618.2	,	976	,	987	,	4	,
9:07:11	30-Jul-99	257	29.59	,	0.4	,	302.4	,	1768	,	2621.3	,	976	,	987	,	4	,
9:06:54	30-Jul-99	258	29.59	,	0.4	,	302.4	,	1768	,	2617.7	,	976	,	988	,	4	,
9:06:37	30-Jul-99	259	29.59	,	0.4	,	302.7	,	1768	,	2617.7	,	977	,	988	,	4	,
9:06:20	30-Jul-99	260	29.59	,	0.4	,	302.6	,	1768	,	2617.7	,	977	,	988	,	4	,
9:06:03	30-Jul-99	261	29.59	,	0.4	,	302.4	,	1768	,	2617.7	,	977	,	988	,	4	,
9:05:46	30-Jul-99	262	29.59	,	0.4	,	302.9	,	1771	,	2620.8	,	977	,	988	,	4	,
9:05:29	30-Jul-99	263	29.59	,	0.4	,	303.3	,	1771	,	2620.8	,	977	,	988	,	4	,
9:05:12	30-Jul-99	264	29.59	,	0.4	,	302.8	,	1768	,	2620.8	,	976	,	988	,	4	,
9:04:55	30-Jul-99	265	29.59	,	0.4	,	302.5	,	1768	,	2617.7	,	976	,	988	,	4	,
9:04:38	30-Jul-99	266	29.59	,	0.4	,	302.7	,	1768	,	2620.8	,	976	,	988	,	4	,
9:04:21	30-Jul-99	267	29.59	,	0.4	,	302.8	,	1771	,	2620.8	,	976	,	988	,	4	,
9:04:04	30-Jul-99	268	29.59	,	0.4	,	303.1	,	1768	,	2620.8	,	976	,	988	,	4	,
9:03:47	30-Jul-99	269	29.59	,	0.4	,	301.7	,	1765	,	2617.7	,	976	,	988	,	4	,
9:03:30	30-Jul-99	270	29.59	,	0.4	,	301.7	,	1761	,	2614.5	,	976	,	988	,	4	,
9:03:13	30-Jul-99	271	29.59	,	0.4	,	301.7	,	1761	,	2614.5	,	976	,	988	,	4	,
9:02:56	30-Jul-99	272	29.59	,	0.4	,	302.1	,	1761	,	2614.5	,	976	,	988	,	4	,
9:02:39	30-Jul-99	273	29.59	,	0.4	,	302.1	,	1761	,	2614.5	,	976	,	988	,	4	,
9:02:22	30-Jul-99	274	29.59	,	0.4	,	301.8	,	1761	,	2614.5	,	976	,	988	,	4	,
9:02:05	30-Jul-99	275	29.59	,	0.4	,	302.3	,	1761	,	2614.5	,	976	,	988	,	4	,
9:01:48	30-Jul-99	276	29.59	,	0.4	,	301.5	,	1765	,	2617.7	,	976	,	988	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL	ACTUVAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
9:01:31	30-Jul-99	277	29.59	,	0.4	,	302.3	,		1765 ,	2617.7	,	976	,	988	,	4	,
9:01:14	30-Jul-99	278	29.59	,	0.4	,	302.2	,		1765 ,	2617.7	,	976	,	988	,	4	,
9:00:57	30-Jul-99	279	29.59	,	0.4	,	302.4	,		1765 ,	2614.5	,	976	,	988	,	4	,
9:00:40	30-Jul-99	280	29.59	,	0.4	,	302	,		1765 ,	2614.5	,	976	,	988	,	4	,
9:00:23	30-Jul-99	281	29.59	,	0.4	,	301.9	,		1765 ,	2617.7	,	976	,	988	,	4	,
9:00:06	30-Jul-99	282	29.59	,	0.4	,	302.1	,		1765 ,	2617.7	,	976	,	988	,	4	,
8:59:49	30-Jul-99	283	29.59	,	0.4	,	301.8	,		1765 ,	2614.5	,	976	,	988	,	4	,
8:59:32	30-Jul-99	284	29.59	,	0.4	,	301.2	,		1765 ,	2614.5	,	976	,	988	,	4	,
8:59:15	30-Jul-99	285	29.59	,	0.4	,	301.7	,		1765 ,	2618.2	,	974	,	988	,	4	,
8:58:58	30-Jul-99	286	29.59	,	0.4	,	302.5	,		1765 ,	2618.2	,	974	,	988	,	4	,
8:58:41	30-Jul-99	287	29.59	,	0.4	,	302.7	,		1765 ,	2618.2	,	974	,	988	,	4	,
8:58:24	30-Jul-99	288	29.59	,	0.4	,	302.3	,		1765 ,	2618.2	,	974	,	988	,	4	,
8:58:07	30-Jul-99	289	29.59	,	0.4	,	301.7	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:57:50	30-Jul-99	290	29.59	,	0.4	,	301.7	,		1761 ,	2617.7	,	974	,	988	,	4	,
8:57:33	30-Jul-99	291	29.59	,	0.4	,	301.5	,		1761 ,	2617.7	,	974	,	988	,	4	,
8:57:16	30-Jul-99	292	29.59	,	0.4	,	301.5	,		1761 ,	2617.7	,	974	,	988	,	4	,
8:56:59	30-Jul-99	293	29.59	,	0.4	,	302	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:56:42	30-Jul-99	294	29.59	,	0.4	,	301.9	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:56:25	30-Jul-99	295	29.59	,	0.4	,	301.2	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:56:08	30-Jul-99	296	29.59	,	0.4	,	301.2	,		1761 ,	2611.4	,	974	,	988	,	4	,
8:55:51	30-Jul-99	297	29.59	,	0.4	,	301.9	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:55:34	30-Jul-99	298	29.59	,	0.4	,	301.4	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:55:17	30-Jul-99	299	29.59	,	0.4	,	301.8	,		1761 ,	2614.5	,	974	,	988	,	4	,
8:55:00	30-Jul-99	300	29.59	,	0.4	,	301.8	,		1765 ,	2617.7	,	974	,	988	,	4	,
8:54:43	30-Jul-99	301	29.59	,	0.4	,	301.9	,		1765 ,	2617.7	,	974	,	988	,	4	,
8:54:26	30-Jul-99	302	29.59	,	0.4	,	301.9	,		1765 ,	2617.7	,	974	,	987	,	4	,
8:54:09	30-Jul-99	303	29.59	,	0.4	,	302.1	,		1765 ,	2617.7	,	974	,	987	,	4	,
8:53:52	30-Jul-99	304	29.59	,	0.4	,	302	,		1765 ,	2617.7	,	973	,	987	,	4	,
8:53:35	30-Jul-99	305	29.59	,	0.4	,	302.2	,		1765 ,	2617.7	,	973	,	987	,	4	,
8:53:18	30-Jul-99	306	29.59	,	0.4	,	301.9	,		1765 ,	2617.7	,	973	,	987	,	4	,
8:53:01	30-Jul-99	307	29.59	,	0.4	,	301.8	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:52:44	30-Jul-99	308	29.59	,	0.4	,	301.3	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:52:27	30-Jul-99	309	29.59	,	0.4	,	301.3	,		1758 ,	2611.4	,	973	,	987	,	4	,
8:52:10	30-Jul-99	310	29.59	,	0.4	,	301.1	,		1758 ,	2614.5	,	973	,	987	,	4	,
8:51:53	30-Jul-99	311	29.59	,	0.4	,	301.2	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:51:36	30-Jul-99	312	29.59	,	0.4	,	300.8	,		1765 ,	2614.5	,	973	,	987	,	4	,
8:51:19	30-Jul-99	313	29.59	,	0.4	,	301.5	,		1765 ,	2617.7	,	973	,	987	,	4	,
8:51:02	30-Jul-99	314	29.59	,	0.4	,	302.4	,		1765 ,	2617.7	,	973	,	987	,	4	,
8:50:45	30-Jul-99	315	29.59	,	0.4	,	302.2	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:50:28	30-Jul-99	316	29.59	,	0.4	,	301.8	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:50:11	30-Jul-99	317	29.59	,	0.4	,	301.8	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:49:54	30-Jul-99	318	29.59	,	0.4	,	301	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:49:37	30-Jul-99	319	29.59	,	0.4	,	301	,		1758 ,	2614.5	,	973	,	987	,	4	,
8:49:20	30-Jul-99	320	29.59	,	0.4	,	301.8	,		1761 ,	2614.5	,	973	,	987	,	4	,
8:49:03	30-Jul-99	321	29.59	,	0.4	,	301.3	,		1761 ,	2611.4	,	973	,	987	,	4	,
8:48:46	30-Jul-99	322	29.59	,	0.4	,	301.9	,		1761 ,	2614.5	,	973	,	987	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL	ACTU VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
8:48:29	30-Jul-99	323	29.59	,	0.4	,	302.1	,	1761	,	2614.5	,	973	,	987	,	4	,
8:48:12	30-Jul-99	324	29,59	,	0.4	,	301.5	,	1761	,	2614.5	,	974	,	987	,	4	,
8:47:55	30-Jul-99	325	29.59	,	0.4	,	302.1	,	1765	,	2614.5	,	974	,	987	,	4	,
8:47:38	30-Jul-99	326	29.59	,	0.4	,	302.9	,	1765	,	2618.2	,	974	,	988	,	4	,
8:47:21	30-Jul-99	327	29.59	,	0.4	,	302.2	,	1765	,	2614.5	,	974	,	988	,	4	,
8:47:04	30-Jul-99	328	29.59	,	0.4	,	302.2	,	1765	,	2617.7	,	974	,	988	,	4	,
8:46:47	30-Jul-99	329	29.59	,	0.4	,	302.9	,	1768	,	2617.7	,	974	,	988	,	4	,
8:46:30	30-Jul-99	330	29.59	,	0.4	,	303	,	1768	,	2617.7	,	974	,	988	,	4	,
8:46:13	30-Jul-99	331	29.59	,	0.4	,	302.6	,	1768	,	2617.7	,	974	,	988	,	4	,
8:45:56	30-Jul-99	332	29.59	,	0.4	,	302.3	,	1768	,	2620.8	,	974	,	988	,	4	,
8:45:39	30-Jul-99	333	29.59	,	0.4	,	303	,	1771	,	2620.8	,	974	,	988	,	4	,
8:45:22	30-Jul-99	334	29.59	,	0.4	,	303	,	1771	,	2620.8	,	973	,	988	,	4	,
8:45:05	30-Jul-99	335	29.59	,	0.4	,	303	,	1771	,	2620.8	,	973	,	988	,	4	,
8:44:48	30-Jul-99	336	29.59	,	0.4	,	302.5	,	1768	,	2620.8	,	973	,	988	,	4	,
8:44:31	30-Jul-99	337	29.59	,	0.4	,	302.5	,	1765	,	2617.7	,	973	,	988	,	4	,
8:44:14	30-Jul-99	338	29.59	,	0.4	,	302	,	1765	,	2617.7	,	973	,	988	,	4	,
8:43:57	30-Jul-99	339	29.59	,	0.4	,	301.8	,	1765	,	2617.7	,	971	,	987	,	4	,
8:43:40	30-Jul-99	340	29.59	,	0.4	,	302.1	,	1765	,	2617.7	,	971	,	987	,	4	,
8:43:23	30-Jul-99	341	29.59	,	0.4	,	301.8	,	1761	,	2617.7	,	971	,	987	,	4	,
8:43:06	30-Jul-99	342	29.59	,	0.4	,	301.8	,	1761	,	2614.5	,	971	,	987	,	4	,
8:42:49	30-Jul-99	343	29.59	,	0.4	,	301.6	,	1761	,	2614.5	,	971	,	987	,	4	,
8:42:32	30-Jul-99	344	29.59	,	0.4	,	301.5	,	1761	,	2614.5	,	973	,	987	,	4	,
8:42:15	30-Jul-99	345	29.59	,	0.4	,	301.7	,	1761	,	2614.5	,	973	,	987	,	4	,
8:41:58	30-Jul-99	346	29.59	,	0.4	,	301.5	,	1761	,	2614.5	,	973	,	987	,	4	,
8:41:41	30-Jul-99	347	29.59	,	0.4	,	301.5	,	1761	,	2614.5	,	973	,	987	,	4	,
8:41:24	30-Jul-99	348	29.59	,	0.4	,	301.6	,	1761	,	2614.5	,	973	,	987	,	4	,
8:41:07	30-Jul-99	349	29.59	,	0.4	,	301.9	,	1761	,	2614.5	,	973	,	987	,	4	,
8:40:50	30-Jul-99	350	29.59	,	0.4	,	301.3	,	1761	,	2614.5	,	973	,	985	,	4	,
8:40:33	30-Jul-99	351	29.59	,	0.4	,	301.7	,	1765	,	2614.5	,	973	,	985	,	4	,
8:40:16	30-Jul-99	352	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	973	,	985	,	4	,
8:39:59	30-Jul-99	353	29.59	,	0.4	,	302.4	,	1765	,	2617.7	,	973	,	985	,	4	,
8:39:42	30-Jul-99	354	29.59	,	0.4	,	302.2	,	1765	,	2614.5	,	973	,	985	,	4	,
8:39:25	30-Jul-99	355	29.59	,	0.4	,	302.3	,	1765	,	2618.2	,	973	,	985	,	4	,
8:39:08	30-Jul-99	356	29.59	,	0.4	,	301.6	,	1768	,	2621.3	,	973	,	985	,	4	,
8:38:51	30-Jul-99	357	29.59	,	0.4	,	301.8	,	1765	,	2618.2	,	971	,	985	,	4	,
8:38:34	30-Jul-99	358	29.59	,	0.4	,	302.5	,	1765	,	2618.2	,	971	,	985	,	4	,
8:38:17	30-Jul-99	359	29.59	,	0.4	,	302	,	1765	,	2618.2	,	971	,	985	,	4	,
8:38:00	30-Jul-99	360	29.59	,	0.4	,	302	,	1765	,	2618.2	,	971	,	985	,	4	,
8:37:43	30-Jul-99	361	29.59	,	0.4	,	301.8	,	1765	,	2618.2	,	971	,	985	,	4	,
8:37:26	30-Jul-99	362	29.59	,	0.4	,	301.9	,	1765	,	2618.2	,	971	,	985	,	4	,
8:37:09	30-Jul-99	363	29.59	,	0.4	,	302	,	1765	,	2618.2	,	971	,	985	,	4	,
8:36:52	30-Jul-99	364	29.59	,	0.4	,	302.1	,	1765	,	2615	,	971	,	987	,	4	,
8:36:35	30-Jul-99	365	29.59	,	0.4	,	302.4	,	1765	,	2618.2	,	971	,	987	,	4	,
8:36:18	30-Jul-99	366	29.59	,	0.4	,	302.1	,	1765	,	2615	,	971	,	987	,	4	,
8:36:01	30-Jul-99	367	29.59	,	0.4	,	302.2	,	1765	,	2618.2	,	973	,	987	,	4	,
8:35:44	30-Jul-99	368	29.59	,	0.4	,	301.8	,	1765	,	2618.2	,	973	,	987	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
8:35:27	30-Jul-99	369	29.59	,	0.4	,	302	,	1768	,	2618.2	,	973	,	987	,	4	,
8:35:10	30-Jul-99	370	29.59	,	0.4	,	301	,	1768	,	2618.2	,	973	,	987	,	4	,
8:34:53	30-Jul-99	371	29.59	,	0.4	,	302.5	,	1768	,	2618.2	,	973	,	987	,	4	,
8:34:36	30-Jul-99	372	29.59	,	0.4	,	302.7	,	1768	,	2618.2	,	973	,	987	,	4	,
8:34:19	30-Jul-99	373	29.59	,	0.4	,	302.4	,	1768	,	2618.2	,	974	,	987	,	4	,
8:34:02	30-Jul-99	374	29.59	,	0.4	,	301.8	,	1768	,	2618.2	,	974	,	987	,	4	,
8:33:45	30-Jul-99	375	29.59	,	0.4	,	301.6	,	1768	,	2618.2	,	974	,	987	,	4	,
8:33:28	30-Jul-99	376	29.59	,	0.4	,	302.1	,	1768	,	2618.2	,	974	,	987	,	4	,
8:33:11	30-Jul-99	377	29.59	,	0.4	,	302.6	,	1768	,	2618.2	,	974	,	987	,	4	,
8:32:54	30-Jul-99	378	29.59	,	0.4	,	302.3	,	1768	,	2621.3	,	974	,	987	,	4	,
8:32:37	30-Jul-99	379	29.59	,	0.4	,	302.5	,	1768	,	2621.3	,	972	,	987	,	4	,
8:32:20	30-Jul-99	380	29.59	,	0.4	,	302.1	,	1768	,	2621.3	,	972	,	987	,	4	,
8:32:03	30-Jul-99	381	29.59	,	0.4	,	302.1	,	1768	,	2618.2	,	972	,	987	,	4	,
8:31:46	30-Jul-99	382	29.59	,	0.4	,	301.6	,	1768	,	2618.2	,	972	,	987	,	4	,
8:31:29	30-Jul-99	383	29.59	,	0.4	,	302.3	,	1768	,	2618.2	,	972	,	987	,	4	,
8:31:12	30-Jul-99	384	29.59	,	0.4	,	302.2	,	1768	,	2618.2	,	972	,	987	,	4	,
8:30:55	30-Jul-99	385	29.59	,	0.4	,	302.2	,	1765	,	2618.2	,	971	,	985	,	4	,
8:30:38	30-Jul-99	386	29.59	,	0.4	,	301.6	,	1765	,	2618.2	,	971	,	985	,	4	,
8:30:21	30-Jul-99	387	29.59	,	0.4	,	301.6	,	1765	,	2614.5	,	971	,	985	,	4	,
8:30:04	30-Jul-99	388	29.59	,	0.4	,	301.9	,	1765	,	2614.5	,	971	,	985	,	4	,
8:29:47	30-Jul-99	389	29.59	,	0.4	,	301.9	,	1765	,	2614.5	,	971	,	985	,	4	,
8:29:30	30-Jul-99	390	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	971	,	985	,	4	,
8:29:13	30-Jul-99	391	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	971	,	985	,	4	,
8:28:56	30-Jul-99	392	29.59	,	0.4	,	301.9	,	1765	,	2617.7	,	971	,	985	,	4	,
8:28:39	30-Jul-99	393	29.59	,	0.4	,	302.2	,	1765	,	2617.7	,	972	,	985	,	4	,
8:28:22	30-Jul-99	394	29.59	,	0.4	,	302	,	1765	,	2614.5	,	972	,	985	,	4	,
8:28:05	30-Jul-99	395	29.59	,	0.4	,	301.7	,	1761	,	2614.5	,	972	,	985	,	4	,
8:27:48	30-Jul-99	396	29.59	,	0.4	,	302.3	,	1765	,	2617.7	,	972	,	985	,	4	,
8:27:31	30-Jul-99	397	29.59	,	0.4	,	302.8	,	1768	,	2617.7	,	972	,	985	,	4	,
8:27:14	30-Jul-99	398	29.59	,	0.4	,	303.1	,	1771	,	2620.8	,	972	,	985	,	4	,
8:26:57	30-Jul-99	399	29.59	,	0.4	,	303.4	,	1768	,	2620.8	,	972	,	985	,	4	,
8:26:40	30-Jul-99	400	29.59	,	0.4	,	302.9	,	1768	,	2620.8	,	972	,	985	,	4	,
8:26:23	30-Jul-99	401	29.59	,	0.4	,	302.7	,	1768	,	2620.8	,	972	,	985	,	4	,
8:26:06	30-Jul-99	402	29.59	,	0.4	,	302.6	,	1768	,	2620.8	,	972	,	985	,	4	,
8:25:49	30-Jul-99	403	29.59	,	0.4	,	302.9	,	1771	,	2620.8	,	972	,	985	,	4	,
8:25:32	30-Jul-99	404	29.59	,	0.4	,	303.3	,	1771	,	2620.8	,	972	,	985	,	4	,
8:25:15	30-Jul-99	405	29.59	,	0.4	,	302.7	,	1771	,	2620.8	,	972	,	985	,	4	,
8:24:58	30-Jul-99	406	29.59	,	0.4	,	303.5	,	1771	,	2620.8	,	972	,	985	,	4	,
8:24:41	30-Jul-99	407	29.59	,	0.4	,	302.5	,	1771	,	2620.8	,	972	,	985	,	4	,
8:24:24	30-Jul-99	408	29.59	,	0.4	,	302.6	,	1771	,	2620.8	,	972	,	985	,	4	,
8:24:07	30-Jul-99	409	29.59	,	0.4	,	302.6	,	1771	,	2617.7	,	972	,	985	,	4	,
8:23:50	30-Jul-99	410	29.59	,	0.4	,	302.5	,	1771	,	2617.7	,	972	,	985	,	4	,
8:23:33	30-Jul-99	411	29.59	,	0.4	,	302.8	,	1771	,	2617.7	,	972	,	987	,	4	,
8:23:16	30-Jul-99	412	29.59	,	0.4	,	303.4	,	1771	,	2621.3	,	973	,	987	,	4	,
8:22:59	30-Jul-99	413	29.59	,	0.4	,	302.9	,	1774	,	2621.3	,	973	,	987	,	4	,
8:22:42	30-Jul-99	414	29.59	,	0.4	,	303.1	,	1774	,	2621.3	,	973	,	987	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL	ACTU VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
8:22:25	30-Jul-99	415	29.59	,	0.4	,	302.6	,	1771	,	2618.2	,	973	,	987	,	4	,
8:22:08	30-Jul-99	416	29.59	,	0.4	,	302.9	,	1771	,	2618.2	,	973	,	987	,	4	,
8:21:51	30-Jul-99	417	29.59	,	0.4	,	303.6	,	1774	,	2621.3	,	973	,	987	,	4	,
8:21:34	30-Jul-99	418	29.59	,	0.4	,	303.3	,	1774	,	2621.3	,	973	,	987	,	4	,
8:21:17	30-Jul-99	419	29.59	,	0.4	,	304.1	,	1780	,	2624.5	,	973	,	987	,	4	,
8:21:00	30-Jul-99	420	29.59	,	0.4	,	303.7	,	1780	,	2628.1	,	973	,	987	,	4	,
8:20:43	30-Jul-99	421	29.59	,	0.4	,	303.6	,	1777	,	2625	,	973	,	987	,	4	,
8:20:26	30-Jul-99	422	29.59	,	0.4	,	304.3	,	1777	,	2625	,	972	,	987	,	4	,
8:20:09	30-Jul-99	423	29.59	,	0.4	,	303.8	,	1774	,	2625	,	972	,	987	,	4	,
8:19:52	30-Jul-99	424	29.59	,	0.4	,	303.6	,	1774	,	2625	,	972	,	987	,	4	,
8:19:35	30-Jul-99	425	29.59	,	0.4	,	303.5	,	1774	,	2621.9	,	972	,	987	,	4	,
8:19:18	30-Jul-99	426	29.59	,	0.4	,	303.2	,	1771	,	2621.9	,	972	,	988	,	4	,
8:19:01	30-Jul-99	427	29.59	,	0.4	,	303	,	1771	,	2618.7	,	972	,	988	,	4	,
8:18:44	30-Jul-99	428	29.59	,	0.4	,	302.8	,	1771	,	2622.4	,	972	,	988	,	4	,
8:18:27	30-Jul-99	429	29.59	,	0.4	,	303	,	1771	,	2622.4	,	972	,	988	,	4	,
8:18:10	30-Jul-99	430	29.59	,	0.4	,	302.4	,	1771	,	2622.4	,	972	,	988	,	4	,
8:17:53	30-Jul-99	431	29.59	,	0.4	,	302.8	,	1768	,	2619.2	,	972	,	988	,	4	,
8:17:36	30-Jul-99	432	29.59	,	0.4	,	302.2	,	1771	,	2619.2	,	972	,	988	,	4	,
8:17:19	30-Jul-99	433	29.59	,	0.4	,	302.6	,	1771	,	2619.2	,	972	,	988	,	4	,
8:17:02	30-Jul-99	434	29.59	,	0.4	,	302.9	,	1771	,	2619.2	,	972	,	988	,	4	,
8:16:45	30-Jul-99	435	29.59	,	0.4	,	302.5	,	1768	,	2619.2	,	972	,	988	,	4	,
8:16:28	30-Jul-99	436	29.59	,	0.4	,	302.5	,	1768	,	2619.2	,	972	,	988	,	4	,
8:16:11	30-Jul-99	437	29.59	,	0.4	,	302.2	,	1771	,	2619.2	,	972	,	988	,	4	,
8:15:54	30-Jul-99	438	29.59	,	0.4	,	302.3	,	1771	,	2619.2	,	972	,	988	,	4	,
8:15:37	30-Jul-99	439	29.59	,	0.4	,	302.3	,	1771	,	2619.2	,	972	,	988	,	4	,
8:15:20	30-Jul-99	440	29.59	,	0.4	,	302.3	,	1771	,	2619.2	,	972	,	988	,	4	,
8:15:03	30-Jul-99	441	29.59	,	0.4	,	302.8	,	1768	,	2619.2	,	972	,	988	,	4	,
8:14:46	30-Jul-99	442	29.59	,	0.4	,	301.7	,	1768	,	2619.2	,	972	,	987	,	4	,
8:14:29	30-Jul-99	443	29.59	,	0.4	,	301.7	,	1768	,	2619.2	,	972	,	987	,	4	,
8:14:12	30-Jul-99	444	29.59	,	0.4	,	302.3	,	1768	,	2619.2	,	972	,	987	,	4	,
8:13:55	30-Jul-99	445	29.59	,	0.4	,	301.5	,	1768	,	2619.2	,	972	,	987	,	4	,
8:13:38	30-Jul-99	446	29.59	,	0.4	,	302.3	,	1768	,	2619.2	,	972	,	987	,	4	,
8:13:21	30-Jul-99	447	29.59	,	0.4	,	302.2	,	1771	,	2622.4	,	972	,	987	,	4	,
8:13:04	30-Jul-99	448	29.59	,	0.4	,	302.9	,	1771	,	2622.4	,	972	,	987	,	4	,
8:12:47	30-Jul-99	449	29.59	,	0.4	,	302.5	,	1768	,	2619.2	,	972	,	987	,	4	,
8:12:30	30-Jul-99	450	29.59	,	0.4	,	302.1	,	1768	,	2619.2	,	972	,	987	,	4	,
8:12:13	30-Jul-99	451	29.59	,	0.4	,	302.1	,	1765	,	2619.2	,	972	,	987	,	4	,
8:11:56	30-Jul-99	452	29.59	,	0.4	,	301.5	,	1765	,	2616.1	,	972	,	987	,	4	,
8:11:39	30-Jul-99	453	29.59	,	0.4	,	301.2	,	1768	,	2616.1	,	972	,	987	,	4	,
8:11:22	30-Jul-99	454	29.59	,	0.4	,	302.8	,	1768	,	2619.2	,	972	,	987	,	4	,
8:11:05	30-Jul-99	455	29.59	,	0.4	,	302.5	,	1768	,	2619.2	,	972	,	987	,	4	,
8:10:48	30-Jul-99	456	29.59	,	0.4	,	302.3	,	1768	,	2619.2	,	972	,	987	,	4	,
8:10:31	30-Jul-99	457	29.59	,	0.4	,	301.9	,	1765	,	2616.1	,	972	,	987	,	4	,
8:10:14	30-Jul-99	458	29.59	,	0.4	,	301.5	,	1768	,	2616.1	,	972	,	987	,	4	,
8:09:57	30-Jul-99	459	29.59	,	0.4	,	302	,	1768	,	2619.2	,	970	,	987	,	4	,
8:09:40	30-Jul-99	460	29.59	,	0.4	,	301.8	,	1768	,	2619.2	,	970	,	987	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL	ACTU VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
8:09:23	30-Jul-99	461	29.59	,	0.4	,	301.8	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:09:06	30-Jul-99	462	29.59	,	0.4	,	301.9	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:08:49	30-Jul-99	463	29.59	,	0.4	,	302.2	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:08:32	30-Jul-99	464	29.59	,	0.4	,	302.2	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:08:15	30-Jul-99	465	29.59	,	0.4	,	302.7	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:07:58	30-Jul-99	466	29.59	,	0.4	,	301.8	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:07:41	30-Jul-99	467	29.59	,	0.4	,	302.5	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:07:24	30-Jul-99	468	29.59	,	0.4	,	302.4	,		1768 ,	2619.2	,	970	,	987	,	4	,
8:07:07	30-Jul-99	469	29.59	,	0.4	,	302.2	,		1765 ,	2616.1	,	970	,	987	,	4	,
8:06:50	30-Jul-99	470	29.59	,	0.4	,	302.2	,		1768 ,	2616.1	,	970	,	987	,	4	,
8:06:33	30-Jul-99	471	29.59	,	0.4	,	301.8	,		1768 ,	2616.1	,	970	,	987	,	4	,
8:06:16	30-Jul-99	472	29.59	,	0.4	,	302.1	,		1768 ,	2619.8	,	970	,	987	,	4	,
8:05:59	30-Jul-99	473	29.59	,	0.4	,	302	,		1768 ,	2619.8	,	970	,	987	,	4	,
8:05:42	30-Jul-99	474	29.59	,	0.4	,	303	,		1768 ,	2619.8	,	970	,	987	,	4	,
8:05:25	30-Jul-99	475	29.59	,	0.4	,	302.2	,		1768 ,	2619.8	,	970	,	987	,	4	,
8:05:08	30-Jul-99	476	29.59	,	0.4	,	302.5	,		1768 ,	2619.8	,	970	,	987	,	4	,
8:04:51	30-Jul-99	477	29.59	,	0.4	,	302.5	,		1768 ,	2619.8	,	970	,	987	,	4	,
8:04:34	30-Jul-99	478	29.59	,	0.4	,	302.3	,		1771 ,	2619.8	,	970	,	987	,	4	,
8:04:17	30-Jul-99	479	29.59	,	0.4	,	303.5	,		1771 ,	2619.8	,	970	,	987	,	4	,
8:04:00	30-Jul-99	480	29.59	,	0.4	,	303.6	,		1771 ,	2619.8	,	970	,	987	,	4	,
8:03:43	30-Jul-99	481	29.59	,	0.4	,	303	,		1771 ,	2619.8	,	970	,	987	,	4	,
8:03:26	30-Jul-99	482	29.59	,	0.4	,	303.1	,		1771 ,	2619.8	,	972	,	987	,	4	,
8:03:09	30-Jul-99	483	29.59	,	0.4	,	303.2	,		1771 ,	2619.8	,	972	,	987	,	4	,
8:02:52	30-Jul-99	484	29.59	,	0.4	,	303.2	,		1771 ,	2619.8	,	972	,	987	,	4	,
8:02:35	30-Jul-99	485	29.59	,	0.4	,	303.9	,		1774 ,	2622.9	,	972	,	988	,	4	,
8:02:18	30-Jul-99	486	29.59	,	0.4	,	303.5	,		1774 ,	2622.9	,	972	,	988	,	4	,
8:02:01	30-Jul-99	487	29.59	,	0.4	,	304.6	,		1777 ,	2622.9	,	972	,	988	,	4	,
8:01:44	30-Jul-99	488	29.59	,	0.4	,	303.7	,		1777 ,	2622.9	,	972	,	988	,	4	,
8:01:27	30-Jul-99	489	29.59	,	0.4	,	303.6	,		1777 ,	2622.9	,	972	,	988	,	4	,
8:01:10	30-Jul-99	490	29.59	,	0.4	,	304.5	,		1774 ,	2622.9	,	972	,	988	,	4	,
8:00:53	30-Jul-99	491	29.59	,	0.4	,	303.3	,		1774 ,	2622.9	,	972	,	988	,	4	,
8:00:36	30-Jul-99	492	29.59	,	0.4	,	303.9	,		1774 ,	2622.9	,	972	,	990	,	4	,
8:00:19	30-Jul-99	493	29.59	,	0.4	,	304.2	,		1774 ,	2622.9	,	972	,	990	,	4	,
8:00:02	30-Jul-99	494	29.59	,	0.4	,	304.1	,		1774 ,	2622.9	,	972	,	990	,	4	,
7:59:45	30-Jul-99	495	29.59	,	0.4	,	304.1	,		1774 ,	2622.9	,	972	,	990	,	4	,
7:59:28	30-Jul-99	496	29.59	,	0.4	,	303.9	,		1774 ,	2622.9	,	972	,	990	,	4	,
7:59:11	30-Jul-99	497	29.59	,	0.4	,	303.7	,		1771 ,	2622.9	,	972	,	990	,	4	,
7:58:54	30-Jul-99	498	29.59	,	0.4	,	303.2	,		1771 ,	2619.8	,	972	,	990	,	4	,
7:58:37	30-Jul-99	499	29.59	,	0.4	,	303.2	,		1771 ,	2619.8	,	972	,	990	,	4	,
7:58:20	30-Jul-99	500	29.59	,	0.4	,	303.6	,		1768 ,	2619.8	,	972	,	990	,	4	,
7:58:03	30-Jul-99	501	29.59	,	0.4	,	303.2	,		1771 ,	2619.8	,	972	,	990	,	4	,
7:57:46	30-Jul-99	502	29.59	,	0.4	,	303.4	,		1771 ,	2619.8	,	970	,	990	,	4	,
7:57:29	30-Jul-99	503	29.59	,	0.4	,	303	,		1771 ,	2619.8	,	970	,	990	,	4	,
7:57:12	30-Jul-99	504	29.59	,	0.4	,	303.2	,		1768 ,	2619.8	,	970	,	990	,	4	,
7:56:55	30-Jul-99	505	29.59	,	0.4	,	302.5	,		1771 ,	2620.3	,	970	,	990	,	4	,
7:56:38	30-Jul-99	506	29.59	,	0.4	,	303.5	,		1771 ,	2620.3	,	970	,	990	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
7:56:21	30-Jul-99	507	29.59	,	0.4	,	302.7	,	1768	,	2620.3	,	970	,	990	,	4	,
7:56:04	30-Jul-99	508	29.59	,	0.4	,	302.5	,	1765	,	2617.1	,	970	,	990	,	4	,
7:55:47	30-Jul-99	509	29.59	,	0.4	,	301.9	,	1765	,	2617.1	,	970	,	990	,	4	,
7:55:30	30-Jul-99	510	29.59	,	0.4	,	302.4	,	1761	,	2617.1	,	970	,	988	,	4	,
7:55:13	30-Jul-99	511	29.59	,	0.4	,	302.1	,	1761	,	2614	,	970	,	988	,	4	,
7:54:56	30-Jul-99	512	29.59	,	0.4	,	302.1	,	1761	,	2614	,	970	,	988	,	4	,
7:54:39	30-Jul-99	513	29.59	,	0.4	,	301.7	,	1761	,	2614	,	970	,	988	,	4	,
7:54:22	30-Jul-99	514	29.59	,	0.4	,	301.7	,	1765	,	2617.1	,	970	,	988	,	4	,
7:54:05	30-Jul-99	515	29.59	,	0.4	,	302.1	,	1765	,	2614	,	969	,	988	,	4	,
7:53:48	30-Jul-99	516	29.59	,	0.4	,	301.8	,	1765	,	2614	,	969	,	988	,	4	,
7:53:31	30-Jul-99	517	29.59	,	0.4	,	302.3	,	1768	,	2617.1	,	969	,	988	,	4	,
7:53:14	30-Jul-99	518	29.59	,	0.4	,	302.8	,	1768	,	2617.1	,	969	,	988	,	4	,
7:52:57	30-Jul-99	519	29.59	,	0.4	,	301.9	,	1765	,	2617.1	,	969	,	988	,	4	,
7:52:40	30-Jul-99	520	29.59	,	0.4	,	302	,	1765	,	2613.5	,	969	,	988	,	4	,
7:52:23	30-Jul-99	521	29.59	,	0.4	,	301.9	,	1765	,	2616.6	,	969	,	988	,	4	,
7:52:06	30-Jul-99	522	29.59	,	0.4	,	302	,	1765	,	2616.6	,	969	,	988	,	4	,
7:51:49	30-Jul-99	523	29.59	,	0.4	,	303	,	1765	,	2616.6	,	969	,	988	,	4	,
7:51:32	30-Jul-99	524	29.59	,	0.4	,	302.4	,	1765	,	2616.6	,	969	,	988	,	4	,
7:51:15	30-Jul-99	525	29.59	,	0.4	,	303	,	1765	,	2616.6	,	969	,	988	,	4	,
7:50:58	30-Jul-99	526	29.59	,	0.4	,	302.5	,	1765	,	2616.6	,	969	,	988	,	4	,
7:50:41	30-Jul-99	527	29.59	,	0.4	,	302.4	,	1768	,	2616.6	,	969	,	988	,	4	,
7:50:24	30-Jul-99	528	29.59	,	0.4	,	302.5	,	1765	,	2616.6	,	969	,	988	,	4	,
7:50:07	30-Jul-99	529	29.59	,	0.4	,	302.6	,	1765	,	2616.6	,	969	,	988	,	4	,
7:49:50	30-Jul-99	530	29.59	,	0.4	,	302.6	,	1768	,	2616.6	,	969	,	988	,	4	,
7:49:33	30-Jul-99	531	29.59	,	0.4	,	303	,	1768	,	2616.6	,	969	,	990	,	4	,
7:49:16	30-Jul-99	532	29.59	,	0.4	,	302.2	,	1768	,	2616.6	,	969	,	990	,	4	,
7:48:59	30-Jul-99	533	29.59	,	0.4	,	302.9	,	1768	,	2616.6	,	969	,	990	,	4	,
7:48:42	30-Jul-99	534	29.59	,	0.4	,	303	,	1768	,	2616.6	,	969	,	990	,	4	,
7:48:25	30-Jul-99	535	29.59	,	0.4	,	302.5	,	1768	,	2616.6	,	969	,	990	,	4	,
7:48:08	30-Jul-99	536	29.59	,	0.4	,	302.8	,	1765	,	2616.6	,	969	,	991	,	4	,
7:47:51	30-Jul-99	537	29.59	,	0.4	,	302.3	,	1765	,	2616.6	,	970	,	991	,	4	,
7:47:34	30-Jul-99	538	29.59	,	0.4	,	302.8	,	1765	,	2616.6	,	970	,	991	,	4	,
7:47:17	30-Jul-99	539	29.59	,	0.4	,	302.8	,	1765	,	2616.6	,	970	,	991	,	4	,
7:47:00	30-Jul-99	540	29.59	,	0.4	,	302.8	,	1765	,	2616.6	,	970	,	991	,	4	,
7:46:43	30-Jul-99	541	29.59	,	0.4	,	302.8	,	1765	,	2616.6	,	970	,	991	,	4	,
7:46:26	30-Jul-99	542	29.59	,	0.4	,	302.8	,	1765	,	2616.6	,	970	,	991	,	4	,
7:46:09	30-Jul-99	543	29.59	,	0.4	,	302.6	,	1765	,	2616.6	,	970	,	991	,	4	,
7:45:52	30-Jul-99	544	29.59	,	0.4	,	303.2	,	1765	,	2616.6	,	970	,	991	,	4	,
7:45:35	30-Jul-99	545	29.59	,	0.4	,	302.9	,	1765	,	2616.6	,	970	,	991	,	4	,
7:45:18	30-Jul-99	546	29.59	,	0.4	,	302.7	,	1765	,	2616.6	,	970	,	992	,	4	,
7:45:01	30-Jul-99	547	29.59	,	0.4	,	302.9	,	1765	,	2616.6	,	970	,	992	,	4	,
7:44:44	30-Jul-99	548	29.59	,	0.4	,	303.4	,	1765	,	2616.6	,	970	,	992	,	4	,
7:44:27	30-Jul-99	549	29.59	,	0.4	,	302.8	,	1761	,	2612.4	,	970	,	992	,	4	,
7:44:10	30-Jul-99	550	29.59	,	0.4	,	302.7	,	1761	,	2612.4	,	970	,	992	,	4	,
7:43:53	30-Jul-99	551	29.59	,	0.4	,	303.7	,	1765	,	2615.6	,	970	,	992	,	4	,
7:43:36	30-Jul-99	552	29.59	,	0.4	,	303.6	,	1765	,	2615.6	,	972	,	992	,	4	,

Historic	al Tabular	Trend	1 10:19	:59	30-Jul-99													
(1)4PT1	446	(2	)4AT1101D		-3	4MEGAWT			(4)4PT1552S									
(5)4FT1	550	(6	)4TE1352A		-7	4TE1357A			(8)4PT1577S									
			-1		-2		-3		-4		-5		-6		-7		-8	
Time	Date		INHG		PCT		MW		PSIG		KPPH		DEG F		DEG F			
			ACTUAL	VAL	ACTUAL	VAL	ACTUAL	V	AL ACTU	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL	ACTUAL	VAL
7:43:19	30-Jul-99	553	29.59	,	0.4	,	303.1	,	1761	,	2615.6	,	972	,	992	,	4	,
7:43:02	30-Jul-99	554	29.59	,	0.4	,	303.5	,	1765	,	2615.6	,	970	,	992	,	4	,
7:42:45	30-Jul-99	555	29.59	,	0.4	,	303.6	,	1768	,	2619.2	,	970	,	992	,	4	,
7:42:28	30-Jul-99	556	29.59	,	0.4	,	303.6	,	1768	,	2619.2	,	970	,	992	,	4	,
7:42:11	30-Jul-99	557	29.59	,	0.4	,	303.5	,	1768	,	2619.2	,	970	,	992	,	4	,
7:41:54	30-Jul-99	558	29.59	,	0.4	,	302.8	,	1765	,	2616.1	,	970	,	992	,	4	,
7:41:37	30-Jul-99	559	29.59	,	0.4	,	302.8	,	1765	,	2616.1	,	969	,	992	,	4	,
7:41:20	30-Jul-99	560	29.59	,	0.4	,	302.4	,	1765	,	2616.1	,	969	,	992	,	4	,
7:41:03	30-Jul-99	561	29.59	,	0.4	,	302.5	,	1765	,	2616.1	,	969	,	992	,	4	,
7:40:46	30-Jul-99	562	29.59	,	0.4	,	303	,	1765	,	2616.1	,	969	,	992	,	4	,
7:40:29	30-Jul-99	563	29.59	,	0.4	,	302.5	,	1761	,	2616.1	,	969	,	992	,	4	,
7:40:12	30-Jul-99	564	29.59	,	0.4	,	302.1	,	1761	,	2612.9	,	967	,	992	,	4	,
7:39:55	30-Jul-99	565	29.59	,	0.4	,	301.6	,	1761	,	2612.9	,	967	,	992	,	4	,
7:39:38	30-Jul-99	566	29.59	,	0.4	,	302.2	,	1758	,	2612.9	,	967	,	992	,	4	,
7:39:21	30-Jul-99	567	29.59	,	0.4	,	302	,	1758	,	2609.8	,	967	,	992	,	4	,
7:39:04	30-Jul-99	568	29.59	,	0.4	,	302	,	1758	,	2609.8	,	967	,	992	,	4	,
7:38:47	30-Jul-99	569	29.59	,	0.4	,	301.5	,	1758	,	2609.8	,	967	,	992	,	4	,
7:38:30	30-Jul-99	570	29.59	,	0.4	,	301.4	,	1758	,	2612.9	,	967	,	992	,	4	,
7:38:13	30-Jul-99	571	29.59	,	0.4	,	301.7	,	1758	,	2612.9	,	967	,	992	,	4	,
7:37:56	30-Jul-99	572	29.59	,	0.4	,	301.6	,	1758	,	2612.9	,	967	,	992	,	4	,
7:37:39	30-Jul-99	573	29.59	,	0.4	,	301.8	,	1758	,	2609.8	,	967	,	992	,	4	,
7:37:22	30-Jul-99	574	29.59	,	0.4	,	301.9	,	1758	,	2609.8	,	967	,	992	,	4	,
7:37:05	30-Jul-99	575	29.59	,	0.4	,	301.9	,	1758	,	2609.8	,	967	,	992	,	4	,
7:36:48	30-Jul-99	576	29.59	,	0.4	,	301.9	,	1758	,	2609.8	,	967	,	992	,	4	,
7:36:31	30-Jul-99	577	29.59	,	0.4	,	302.4	,	1758	,	2612.9	,	967	,	992	,	4	,
7:36:14	30-Jul-99	578	29.59	,	0.4	,	301.7	,	1758	,	2609.8	,	967	,	992	,	4	,
7:35:57	30-Jul-99	579	29.59	,	0.4	,	302.2	,	1761	,	2612.9	,	967	,	992	,	4	,
7:35:40	30-Jul-99	580	29.59	,	0.4	,	302.3	,	1761	,	2612.9	,	967	,	992	,	4	,
7:35:23	30-Jul-99	581	29.59	,	0.4	,	301.7	,	1761	,	2612.9	,	967	,	994	,	4	,
7:35:06	30-Jul-99	582	29.59	,	0.4	,	301.8	,	1761	,	2612.9	,	966	,	994	,	4	,
7:34:49	30-Jul-99	583	29.59	,	0.4	,	301.8	,	1761	,	2612.9	,	966	,	994	,	4	,
7:34:32	30-Jul-99	584	29.59	,	0.4	,	302.3	,	1761	,	2612.9	,	966	,	994	,	4	,
7:34:15	30-Jul-99	585	29.59	,	0.4	,	302.8	,	1761	,	2612.9	,	966	,	995	,	4	,
7:33:58	30-Jul-99	586	29.59	,	0.4	,	302.3	,	1761	,	2612.9	,	966	,	995	,	4	,
7:33:41	30-Jul-99	587	29.59	,	0.4	,	302.8	,	1761	,	2612.9	,	966	,	995	,	4	,
7:33:24	30-Jul-99	588	29.59	,	0.4	,	302.2	,	1761	,	2612.9	,	966	,	995	,	4	,
7:33:07	30-Jul-99	589	29.59	,	0.4	,	302	,	1761	,	2612.9	,	966	,	995	,	4	,
7:32:50	30-Jul-99	590	29.59	,	0.4	,	302.6	,	1758	,	2612.9	,	966	,	995	,	4	,
7:32:33	30-Jul-99	591	29.59	,	0.4	,	302.3	,	1758	,	2609.8	,	966	,	995	,	4	,
7:32:16	30-Jul-99	592	29.59	,	0.4	,	303	,	1761	,	2609.8	,	966	,	995	,	4	,
7:31:59	30-Jul-99	593	29.59	,	0.4	,	302.5	,	1761	,	2612.9	,	966	,	995	,	4	,
7:31:42	30-Jul-99	594	29.59	,	0.4	,	302.1	,	1758	,	2612.9	,	966	,	995	,	4	,
7:31:25	30-Jul-99	595	29.59	,	0.4	,	302.2	,	1758	,	2609.8	,	966	,	995	,	4	,
7:31:08	30-Jul-99	596	29.59	,	0.4	,	301.4	,	1758	,	2609.8	,	966	,	995	,	4	,
7:30:51	30-Jul-99	597	29.59	,	0.4	,	302.2	,	1758	,	2609.8	,	966	,	995	,	4	,
7:30:34	30-Jul-99	598	29.59	,	0.4	,	302.1	,	1761	,	2612.9	,	964	,	995	,	4	,

MERAMEC CO2 %							
UNIT	DATE	HOUR	HR AVG	XX:00	XX:15	XX:30	XX:45
4	29-Jul-99	06	**10.7**	10.7	10.7	10.7	10.7
4	29-Jul-99	07	**10.6**	10.7	10.5	10.5	10.6
4	29-Jul-99	08	**10.5**	10.6	10.5	10.5	10.6
4	29-Jul-99	09	**10.6**	10.6	10.6	10.6	10.6
4	29-Jul-99	10	**10.5**	10.5	10.5	10.5	10.5
4	29-Jul-99	11	**10.5**	10.5	10.5	10.5	10.5
4	29-Jul-99	12	**10.8**	10.7	10.7	10.8	10.8
4	29-Jul-99	13	**10.8**	10.8	10.9	10.9	10.9
4	29-Jul-99	14	**10.8**	10.9	10.9	10.9	10.7
4	29-Jul-99	15	**10.7**	10.7	10.6	10.8	10.7
4	29-Jul-99	16	**10.7**	10.8	10.6	10.7	10.7
4	29-Jul-99	17	**10.6**	10.7	10.5	10.7	10.6
4	29-Jul-99	18	**10.3**	10.6	10.3	10.2	10.2
4	29-Jul-99	19	**10.5**	10.4	10.6	10.6	10.6
4	29-Jul-99	20	**10.6**	10.6	10.6	10.6	10.6
4	29-Jul-99	21	**10.6**	10.6	10.6	10.6	10.6
4	29-Jul-99	22	**9.5**	10.5	9.7	9.2	8.7
4	29-Jul-99	23	**7.3**	7.9	7.2	7.1	7.1
4	30-Jul-99	00	**7.2**	7.1	7.3	7.3	7.3
4	30-Jul-99	01	**7.2**	7.2	7.2	7.2	7.3
4	30-Jul-99	02	**7.2**	7.3	7.2	7.2	7.2
4	30-Jul-99	03	**7.2**	7.2	7.2	7.2	7.3
4	30-Jul-99	04	**9.2**	8.7	9.3	9.7	AUTC
4	30-Jul-99	05	**10.5**	10.3	10.5	10.5	AUTC
4	30-Jul-99	06	**10.8**	10.8	10.8	10.9	10.9
4	30-Jul-99	07	**10.9**	10.9	10.9	10.9	10.9
4	30-Jul-99	08	**10.9**	10.9	10.9	10.9	10.9
4	30-Jul-99	09	**10.9**	10.9	10.9	10.9	10.9
4	30-Jul-99	10	**11.0**	10.9	11.0	11.1	11.1
4	30-Jul-99	11	**11.1**	11.1	11.1	11.1	11.1
4	30-Jul-99	12	**11.1**	11.1	11.1	11.1	11.1
4	30-Jul-99	13	**11.1**	11.1	11.1	11.1	11.1
4	30-Jul-99	14	**11.1**	11.1	11.1	11.1	11.1
4	30-Jul-99	15	**11.1**	11.1	11.1	11.1	11.1
4	30-Jul-99	16	**11.0**	11.1	11.1	11.0	11.0
4	30-Jul-99	17	**11.0**	11.0	11.0	11.0	11.0
4	30-Jul-99	18	**11.0**	11.0	11.0	11.0	11.0

Run 2
$CO_2 = 10.53\%$ wet
$\times \frac{1}{1-.0902} = 11.57\%$ dry

Run 3
$CO_2 = 10.82\%$ wet
$\times \frac{1}{1-.0891} = 11.88\%$

Run 4 $CO_2 = 10.9\%$ wet
$\times \frac{1}{1-.0925} = 12.01\%$ dry

note - these times are CST - tests were logged on CDT

MERAMEC SO2 ppm							
UNIT	DATE	HOUR	HR AVG	XX:00	XX:15	XX:30	XX:45
4	29-Jul-99	06	**480.4**	484.6	479.5	479.2	478.2
4	29-Jul-99	07	**444.9**	466.2	445.1	433.9	434.6
4	29-Jul-99	08	**439.0**	436.2	441.3	438.6	440.0
4	29-Jul-99	09	**461.0**	447.6	458.3	464.4	473.7
4	29-Jul-99	10	**529.8**	489.9	519.2	547.3	562.9
4	29-Jul-99	11	**586.5**	572.5	580.2	588.5	604.9
4	29-Jul-99	12	**641.1**	633.0	637.7	642.6	651.3
4	29-Jul-99	13	**660.3**	655.5	659.5	663.0	663.1
4	29-Jul-99	14	**664.0**	666.2	667.5	664.7	657.5
4	29-Jul-99	15	**661.4**	657.0	666.8	661.7	660.2
4	29-Jul-99	16	**651.9**	662.4	655.2	648.6	641.4
4	29-Jul-99	17	**634.4**	637.9	635.2	633.2	631.6
4	29-Jul-99	18	**584.9**	628.7	586.5	561.8	562.5
4	29-Jul-99	19	**616.0**	595.4	626.7	621.5	620.3
4	29-Jul-99	20	**620.6**	617.6	620.0	621.6	623.2
4	29-Jul-99	21	**627.7**	625.1	628.3	630.0	627.3
4	29-Jul-99	22	**549.8**	618.2	564.0	526.3	490.6
4	29-Jul-99	23	**406.7**	434.8	399.3	396.2	396.5
4	30-Jul-99	00	**396.5**	390.8	402.7	397.8	394.7
4	30-Jul-99	01	**393.6**	390.4	392.2	395.1	396.7
4	30-Jul-99	02	**403.3**	401.4	402.8	404.7	404.3
4	30-Jul-99	03	**406.5**	404.6	405.4	410.0	406.0
4	30-Jul-99	04	**527.7**	494.5	534.1	554.6	AUTC
4	30-Jul-99	05	**617.4**	605.4	623.7	623.2	AUTC
4	30-Jul-99	06	**622.0**	624.1	622.9	622.6	618.5
4	30-Jul-99	07	**620.4**	618.3	621.5	619.5	622.3
4	30-Jul-99	08	**636.8**	625.7	634.7	641.3	645.7
4	30-Jul-99	09	**657.9**	651.8	658.8	659.6	661.3
4	30-Jul-99	10	**665.9**	663.5	668.1	668.6	663.5
4	30-Jul-99	11	**665.3**	663.7	665.0	665.9	666.4
4	30-Jul-99	12	**673.6**	673.4	669.5	676.6	675.1
4	30-Jul-99	13	**679.9**	676.3	678.8	681.9	682.7
4	30-Jul-99	14	**682.7**	682.3	685.8	683.6	679.2
4	30-Jul-99	15	**674.3**	680.4	674.7	672.2	670.0
4	30-Jul-99	16	**659.3**	665.0	662.5	656.9	653.0
4	30-Jul-99	17	**645.4**	651.2	647.0	642.8	640.7
4	30-Jul-99	18	**638.5**	637.9	637.1	639.2	639.6

MERAMEC SO2 #/mmBtu							
UNIT	DATE	HOUR	HR AVG	XX:00	XX:15	XX:30	XX:45
4	29-Jul-99	06	**1.34**	1.36	1.35	1.33	1.34
4	29-Jul-99	07	**1.27**	1.31	1.28	1.24	1.23
4	29-Jul-99	08	**1.24**	1.23	1.25	1.25	1.24
4	29-Jul-99	09	**1.30**	1.26	1.29	1.31	1.33
4	29-Jul-99	10	**1.49**	1.37	1.45	1.54	1.59
4	29-Jul-99	11	**1.66**	1.62	1.65	1.67	1.71
4	29-Jul-99	12	**1.78**	1.76	1.77	1.78	1.80
4	29-Jul-99	13	**1.82**	1.81	1.81	1.82	1.83
4	29-Jul-99	14	**1.83**	1.83	1.83	1.83	1.83
4	29-Jul-99	15	**1.85**	1.84	1.88	1.84	1.84
4	29-Jul-99	16	**1.82**	1.84	1.82	1.83	1.80
4	29-Jul-99	17	**1.79**	1.79	1.78	1.80	1.77
4	29-Jul-99	18	**1.70**	1.77	1.73	1.65	1.65
4	29-Jul-99	19	**1.74**	1.68	1.77	1.76	1.75
4	29-Jul-99	20	**1.75**	1.75	1.75	1.75	1.76
4	29-Jul-99	21	**1.77**	1.76	1.77	1.77	1.77
4	29-Jul-99	22	**1.73**	1.76	1.75	1.72	1.69
4	29-Jul-99	23	**1.66**	1.65	1.65	1.66	1.67
4	30-Jul-99	00	**1.64**	1.64	1.65	1.64	1.63
4	30-Jul-99	01	**1.63**	1.62	1.62	1.63	1.63
4	30-Jul-99	02	**1.67**	1.65	1.66	1.68	1.69
4	30-Jul-99	03	**1.69**	1.69	1.69	1.70	1.67
4	30-Jul-99	04	**1.70**	1.68	1.71	1.71	AUTC
4	30-Jul-99	05	**1.76**	1.75	1.77	1.77	AUTC
4	30-Jul-99	06	**1.72**	1.73	1.73	1.72	1.70
4	30-Jul-99	07	**1.70**	1.69	1.69	1.70	1.70
4	30-Jul-99	08	**1.74**	1.70	1.73	1.76	1.77
4	30-Jul-99	09	**1.80**	1.78	1.80	1.80	1.81
4	30-Jul-99	10	**1.81**	1.81	1.82	1.81	1.79
4	30-Jul-99	11	**1.79**	1.78	1.79	1.79	1.79
4	30-Jul-99	12	**1.81**	1.81	1.81	1.81	1.82
4	30-Jul-99	13	**1.83**	1.82	1.83	1.83	1.84
4	30-Jul-99	14	**1.84**	1.84	1.84	1.84	1.83
4	30-Jul-99	15	**1.82**	1.83	1.82	1.81	1.81
4	30-Jul-99	16	**1.79**	1.80	1.79	1.78	1.77
4	30-Jul-99	17	**1.76**	1.77	1.76	1.75	1.74
4	30-Jul-99	18	**1.74**	1.74	1.73	1.74	1.74

Run 2 SO_2 = ~~1.35~~ 1.48

Run 3 SO_2 = 1.83

Run 4 SO_2 = 1.71

MERAMEC NOx ppm							
UNIT	DATE	HOUR	HR AVG	XX:00	XX:15	XX:30	XX:45
4	29-Jul-99	06	**239.5**	221.3	240.5	253.9	242.0
4	29-Jul-99	07	**218.5**	229.5	219.1	213.8	211.6
4	29-Jul-99	08	**200.9**	206.8	201.1	199.1	196.5
4	29-Jul-99	09	**199.4**	197.3	197.7	199.3	203.4
4	29-Jul-99	10	**218.4**	208.6	213.9	221.8	229.1
4	29-Jul-99	11	**231.2**	233.4	231.0	230.8	229.6
4	29-Jul-99	12	**221.4**	224.0	222.7	222.9	216.1
4	29-Jul-99	13	**217.5**	217.5	217.4	217.3	217.9
4	29-Jul-99	14	**210.7**	217.6	216.8	217.4	190.8
4	29-Jul-99	15	**184.7**	189.0	174.0	186.0	189.7
4	29-Jul-99	16	**184.2**	182.8	184.0	185.5	184.6
4	29-Jul-99	17	**183.0**	182.8	183.9	183.3	182.1
4	29-Jul-99	18	**184.0**	183.2	183.9	184.4	184.5
4	29-Jul-99	19	**183.7**	186.1	182.2	183.4	182.9
4	29-Jul-99	20	**182.6**	181.7	181.4	182.5	184.9
4	29-Jul-99	21	**185.7**	184.8	183.9	184.7	189.2
4	29-Jul-99	22	**174.1**	188.1	178.8	174.3	155.2
4	29-Jul-99	23	**136.8**	136.9	138.6	135.5	136.2
4	30-Jul-99	00	**130.6**	129.2	131.5	131.3	130.5
4	30-Jul-99	01	**131.5**	131.7	130.7	131.7	131.8
4	30-Jul-99	02	**130.9**	131.8	131.1	130.5	130.1
4	30-Jul-99	03	**133.9**	131.4	130.5	130.5	143.3
4	30-Jul-99	04	**162.8**	160.7	166.1	161.6	AUTC
4	30-Jul-99	05	**195.9**	186.5	201.6	199.6	AUTC
4	30-Jul-99	06	**216.9**	210.9	209.9	219.2	227.7
4	30-Jul-99	07	**210.7**	221.7	210.1	206.1	204.7
4	30-Jul-99	08	**201.7**	203.3	202.2	202.4	199.0
4	30-Jul-99	09	**208.7**	199.8	204.4	211.2	219.3
4	30-Jul-99	10	**226.1**	221.4	221.3	227.0	234.9
4	30-Jul-99	11	**228.5**	232.8	229.0	226.6	225.3
4	30-Jul-99	12	**228.7**	224.9	231.7	227.6	230.4
4	30-Jul-99	13	**228.4**	230.0	230.5	227.3	225.7
4	30-Jul-99	14	**227.8**	228.7	227.4	227.1	228.3
4	30-Jul-99	15	**228.9**	229.4	230.1	229.2	226.9
4	30-Jul-99	16	**227.9**	226.3	227.8	228.8	229.0
4	30-Jul-99	17	**227.2**	229.3	227.4	226.6	225.6
4	30-Jul-99	18	**224.8**	225.5	225.6	224.5	223.6

MERAMEC NOx #/mmBtu							
UNIT	DATE	HOUR	HR AVG	XX:00	XX:15	XX:30	XX:45
4	29-Jul-99	06	**0.48**	0.45	0.46	0.51	0.50
4	29-Jul-99	07	**0.45**	0.46	0.45	0.44	0.43
4	29-Jul-99	08	**0.41**	0.43	0.41	0.41	0.40
4	29-Jul-99	09	**0.40**	0.40	0.40	0.40	0.41
4	29-Jul-99	10	**0.44**	0.42	0.43	0.45	0.47
4	29-Jul-99	11	**0.47**	0.47	0.47	0.47	0.47
4	29-Jul-99	12	**0.45**	0.45	0.45	0.44	0.44
4	29-Jul-99	13	**0.43**	0.43	0.43	0.43	0.43
4	29-Jul-99	14	**0.42**	0.43	0.43	0.43	0.40
4	29-Jul-99	15	**0.37**	0.38	0.36	0.36	0.38
4	29-Jul-99	16	**0.37**	0.37	0.36	0.37	0.37
4	29-Jul-99	17	**0.37**	0.37	0.37	0.38	0.37
4	29-Jul-99	18	**0.38**	0.37	0.37	0.39	0.39
4	29-Jul-99	19	**0.38**	0.39	0.37	0.37	0.37
4	29-Jul-99	20	**0.37**	0.37	0.37	0.37	0.37
4	29-Jul-99	21	**0.37**	0.37	0.37	0.37	0.38
4	29-Jul-99	22	**0.39**	0.38	0.39	0.40	0.40
4	29-Jul-99	23	**0.40**	0.36	0.41	0.41	0.41
4	30-Jul-99	00	**0.39**	0.40	0.38	0.39	0.39
4	30-Jul-99	01	**0.39**	0.39	0.39	0.39	0.39
4	30-Jul-99	02	**0.39**	0.39	0.39	0.39	0.39
4	30-Jul-99	03	**0.40**	0.39	0.39	0.39	0.41
4	30-Jul-99	04	**0.39**	0.41	0.39	0.37	AUTC
4	30-Jul-99	05	**0.40**	0.39	0.40	0.41	AUTC
4	30-Jul-99	06	**0.43**	0.43	0.41	0.42	0.46
4	30-Jul-99	07	**0.42**	0.44	0.42	0.41	0.40
4	30-Jul-99	08	**0.40**	0.40	0.40	0.40	0.39
4	30-Jul-99	09	**0.41**	0.39	0.40	0.41	0.43
4	30-Jul-99	10	**0.44**	0.44	0.43	0.44	0.45
4	30-Jul-99	11	**0.44**	0.46	0.44	0.44	0.44
4	30-Jul-99	12	**0.44**	0.44	0.44	0.44	0.45
4	30-Jul-99	13	**0.44**	0.44	0.45	0.44	0.44
4	30-Jul-99	14	**0.44**	0.44	0.44	0.44	0.44
4	30-Jul-99	15	**0.44**	0.44	0.44	0.45	0.44
4	30-Jul-99	16	**0.44**	0.44	0.44	0.44	0.45
4	30-Jul-99	17	**0.44**	0.45	0.44	0.44	0.44
4	30-Jul-99	18	**0.44**	0.44	0.44	0.44	0.44

Run 2 NOx = 0.44

Run 3 NOx = .42

Run 4 NOx = .42

MERAMEC OPACITY %												
UNIT	DATE	HOUR	XX:00	XX:06	XX:12	XX:18	XX:24	XX:30	XX:36	XX:42	XX:48	XX:54
4	29-Jul-99	6:00	3.94	3.91	3.84	4.00	3.90	3.92	3.93	3.83	3.94	3.77
4	29-Jul-99	7:00	3.83	3.63	3.67	3.74	3.81	3.65	3.80	3.75	3.84	3.99
4	29-Jul-99	8:00	3.97	3.90	4.15	4.13	4.22	4.24	4.15	4.10	4.16	4.18
4	29-Jul-99	9:00	4.22	4.10	4.09	4.19	4.07	4.10	4.05	4.08	4.07	4.23
4	29-Jul-99	10:00	4.04	4.02	4.06	3.94	3.91	4.20	4.02	3.88	4.03	4.17
4	29-Jul-99	11:00	4.24	4.15	4.23	4.21	4.33	4.40	4.29	4.28	4.28	4.33
4	29-Jul-99	12:00	4.22	4.39	4.24	4.15	4.27	4.16	4.16	4.27	4.15	4.23
4	29-Jul-99	13:00	4.12	4.29	4.14	4.12	4.34	4.23	4.14	4.18	4.22	4.21
4	29-Jul-99	14:00	4.08	4.32	4.11	4.12	4.45	4.08	4.00	2.66	2.58	2.54
4	29-Jul-99	15:00	2.63	2.63	2.48	2.52	2.68	2.52	2.59	2.70	2.55	2.54
4	29-Jul-99	16:00	2.55	2.68	2.53	2.62	2.61	2.53	2.55	2.63	2.64	2.63
4	29-Jul-99	17:00	2.64	2.57	2.53	2.68	2.53	2.54	2.60	2.62	2.54	2.58
4	29-Jul-99	18:00	2.56	2.50	2.50	2.36	2.37	2.49	2.49	2.37	2.47	2.47
4	29-Jul-99	19:00	2.43	2.64	2.59	2.51	2.49	2.54	2.51	2.49	2.48	2.48
4	29-Jul-99	20:00	2.49	2.53	2.52	2.52	2.43	2.60	2.52	2.51	2.50	2.52
4	29-Jul-99	21:00	2.50	2.66	2.55	2.61	2.62	2.49	2.49	2.51	2.52	2.51
4	29-Jul-99	22:00	2.44	2.38	2.26	2.21	2.18	2.04	2.11	2.10	2.02	1.97
4	29-Jul-99	23:00	1.88	2.00	1.97	1.95	1.96	1.94	1.91	1.93	1.92	1.85
4	30-Jul-99	0:00	1.89	1.89	1.91	1.87	1.88	1.94	1.94	1.88	1.87	1.84
4	30-Jul-99	1:00	1.78	1.87	1.83	1.86	1.87	1.86	1.79	1.73	1.84	1.88
4	30-Jul-99	2:00	1.87	1.84	1.78	1.79	1.79	1.85	1.87	1.82	1.79	1.81
4	30-Jul-99	3:00	1.90	1.85	1.78	1.78	1.80	1.87	1.81	1.80	1.86	1.96
4	30-Jul-99	4:00	1.93	1.91	1.80	1.90	2.01	1.97	2.10	2.19	2.36	2.41
4	30-Jul-99	5:00	2.92	2.84	3.12	2.94	2.95	3.25	3.27	3.49	3.44	3.34
4	30-Jul-99	6:00	2.92	2.96	2.77	2.71	2.68	2.60	2.67	2.64	2.68	2.68
4	30-Jul-99	7:00	2.67	2.64	2.65	2.63	2.71	2.71	2.70	2.55	2.73	2.67
4	30-Jul-99	8:00	2.64	2.72	2.79	2.77	2.65	2.77	2.80	2.74	2.68	2.80
4	30-Jul-99	9:00	2.72	2.78	2.98	3.05	3.12	3.12	3.18	3.15	3.26	3.55
4	30-Jul-99	10:00	3.68	3.64	3.77	3.68	3.53	3.58	3.59	3.44	3.53	3.65
4	30-Jul-99	11:00	3.54	3.51	3.47	3.44	3.56	3.45	3.42	3.47	3.55	3.43
4	30-Jul-99	12:00	3.41	3.50	3.40	3.54	3.61	3.50	3.48	3.55	3.46	3.49
4	30-Jul-99	13:00	3.60	3.68	3.50	3.54	3.77	3.48	3.61	3.67	3.57	3.51
4	30-Jul-99	14:00	3.55	3.40	3.47	3.45	3.53	3.60	3.70	3.71	3.49	3.57
4	30-Jul-99	15:00	3.59	3.57	3.58	3.63	3.57	3.65	3.74	3.75	3.76	3.62
4	30-Jul-99	16:00	3.70	3.63	3.77	3.66	3.70	3.80	3.66	3.65	3.89	3.68
4	30-Jul-99	17:00	3.67	3.73	3.72	3.59	3.78	3.79	3.68	3.76	3.66	3.63
4	30-Jul-99	18:00	3.63	3.83	3.64	3.66	3.74	3.79	3.68	3.70	3.78	3.80

Run 2 opacity 4%

Run 3 opacity 4%

Run 4 opacity 3%

MERAMEC FLOW							
UNIT	DATE	HOUR	HR AVG	XX:00	XX:15	XX:30	XX:45
4	29-Jul-99	06	**1,061,313**	1,061,404	1,075,222	1,060,445	1,048,181
4	29-Jul-99	07	**1,064,237**	1,055,868	1,068,186	1,076,166	1,056,728
4	29-Jul-99	08	**1,060,431**	1,058,854	1,061,402	1,061,341	1,060,126
4	29-Jul-99	09	**1,058,141**	1,056,618	1,053,825	1,061,627	1,060,495
4	29-Jul-99	10	**1,042,477**	1,063,512	1,042,117	1,036,370	1,027,910
4	29-Jul-99	11	**1,065,872**	1,055,159	1,097,838	1,065,526	1,044,967
4	29-Jul-99	12	**993,481**	999,892	986,505	996,762	990,767
4	29-Jul-99	13	**987,219**	996,842	978,575	988,715	984,742
4	29-Jul-99	14	**935,525**	992,987	990,852	980,096	778,166
4	29-Jul-99	15	**741,997**	746,754	732,566	743,278	745,391
4	29-Jul-99	16	**742,902**	741,186	740,560	741,305	748,555
4	29-Jul-99	17	**746,813**	754,849	747,278	740,683	744,442
4	29-Jul-99	18	**744,180**	742,768	741,620	741,810	750,523
4	29-Jul-99	19	**746,142**	754,362	742,495	744,657	743,056
4	29-Jul-99	20	**750,778**	750,838	751,951	749,320	751,005
4	29-Jul-99	21	**750,341**	745,214	742,858	748,527	764,764
4	29-Jul-99	22	**575,991**	702,718	589,795	535,335	476,115
4	29-Jul-99	23	**439,618**	430,973	440,720	434,006	452,771
4	30-Jul-99	00	**449,374**	449,732	448,420	450,140	449,201
4	30-Jul-99	01	**452,109**	452,521	453,036	452,422	450,455
4	30-Jul-99	02	**460,572**	449,903	454,623	466,645	471,116
4	30-Jul-99	03	**466,988**	469,529	471,027	454,763	472,634
4	30-Jul-99	04	**607,282**	530,071	561,849	621,313	715,894
4	30-Jul-99	05	**879,651**	807,203	839,401	900,093	971,908
4	30-Jul-99	06	**851,473**	896,391	841,821	830,242	837,438
4	30-Jul-99	07	**814,406**	804,414	819,893	824,809	808,508
4	30-Jul-99	08	**819,898**	811,515	823,911	826,405	817,759
4	30-Jul-99	09	**864,984**	813,750	844,339	877,892	923,954
4	30-Jul-99	10	**949,563**	956,329	957,955	949,059	934,911
4	30-Jul-99	11	**943,234**	947,069	945,464	933,298	947,103
4	30-Jul-99	12	**955,840**	952,298	958,702	952,144	960,216
4	30-Jul-99	13	**949,209**	958,646	954,597	940,812	942,781
4	30-Jul-99	14	**933,869**	928,465	933,380	942,968	930,663
4	30-Jul-99	15	**931,773**	922,666	931,642	942,657	930,128
4	30-Jul-99	16	**927,523**	933,023	925,528	920,757	930,784
4	30-Jul-99	17	**934,219**	927,817	925,105	927,175	956,778
4	30-Jul-99	18	**955,430**	949,734	959,465	962,211	950,310

Run 2 flow = 1,056,000

Run 3 flow = 9,179,000

Run 4 flow = 819,600

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr			
12:39:44	7/29/99	355.7	3,697.6	324,724	**Average coal #/hr**	Coal Quality	11,387 BTU/#
12:39:28	7/29/99	356.1	3,701.9	325,099	325,462		
12:39:12	7/29/99	356.1	3,701.9	325,099			
12:38:56	7/29/99	355.7	3,697.6	324,724			
12:38:40	7/29/99	355.2	3,692.3	324,256			
12:38:24	7/29/99	355.6	3,696.6	324,631			
12:38:08	7/29/99	356.3	3,704.0	325,287			
12:37:52	7/29/99	355.8	3,698.7	324,818			
12:37:36	7/29/99	356	3,700.8	325,006			
12:37:20	7/29/99	356.1	3,701.9	325,099			
12:37:04	7/29/99	355.6	3,696.6	324,631			
12:36:48	7/29/99	355.5	3,695.5	324,537			
12:36:32	7/29/99	355.2	3,692.3	324,256			
12:36:16	7/29/99	355.7	3,697.6	324,724			
12:36:00	7/29/99	355.4	3,694.4	324,443			
12:35:44	7/29/99	355.3	3,693.4	324,349			
12:35:28	7/29/99	355	3,690.2	324,068			
12:35:12	7/29/99	355	3,690.2	324,068			
12:34:56	7/29/99	355.3	3,693.4	324,349			
12:34:40	7/29/99	356	3,700.8	325,006			
12:34:24	7/29/99	354.8	3,688.0	323,881			
12:34:08	7/29/99	355.4	3,694.4	324,443			
12:33:52	7/29/99	354.7	3,687.0	323,787			
12:33:36	7/29/99	354.8	3,688.0	323,881			
12:33:20	7/29/99	355.4	3,694.4	324,443			
12:33:04	7/29/99	355	3,690.2	324,068			
12:32:48	7/29/99	355	3,690.2	324,068			
12:32:32	7/29/99	355.9	3,699.8	324,912			
12:32:16	7/29/99	355.6	3,696.6	324,631			
12:32:00	7/29/99	356.3	3,704.0	325,287			
12:31:44	7/29/99	355.4	3,694.4	324,443			
12:31:28	7/29/99	355.9	3,699.8	324,912			
12:31:12	7/29/99	355.9	3,699.8	324,912			
12:30:56	7/29/99	355.5	3,695.5	324,537			
12:30:40	7/29/99	355.9	3,699.8	324,912			
12:30:24	7/29/99	355.8	3,698.7	324,818			
12:30:08	7/29/99	355.5	3,695.5	324,537			
12:29:52	7/29/99	355.4	3,694.4	324,443			
12:29:36	7/29/99	355.2	3,692.3	324,256			
12:29:20	7/29/99	356.2	3,703.0	325,193			
12:29:04	7/29/99	355.6	3,696.6	324,631			
12:28:48	7/29/99	355.8	3,698.7	324,818			
12:28:32	7/29/99	355.5	3,695.5	324,537			
12:28:16	7/29/99	355.9	3,699.8	324,912			
12:28:00	7/29/99	355.9	3,699.8	324,912			
12:27:44	7/29/99	356	3,700.8	325,006			
12:27:28	7/29/99	355.8	3,698.7	324,818			
12:27:12	7/29/99	356.1	3,701.9	325,099			
12:26:56	7/29/99	355.8	3,698.7	324,818			
12:26:40	7/29/99	355.9	3,699.8	324,912			
12:26:24	7/29/99	355.5	3,695.5	324,537			
12:26:08	7/29/99	355.7	3,697.6	324,724			
12:25:52	7/29/99	355.8	3,698.7	324,818			
12:25:36	7/29/99	356	3,700.8	325,006			
12:25:20	7/29/99	356	3,700.8	325,006			
12:25:04	7/29/99	356.5	3,706.2	325,474			
12:24:48	7/29/99	356.8	3,709.4	325,756			
12:24:32	7/29/99	356.6	3,707.2	325,568			
12:24:16	7/29/99	356.2	3,703.0	325,193			
12:24:00	7/29/99	356.3	3,704.0	325,287			
12:23:44	7/29/99	356.3	3,704.0	325,287			
12:23:28	7/29/99	356.3	3,704.0	325,287			
12:23:12	7/29/99	355.7	3,697.6	324,724			
12:22:56	7/29/99	356.1	3,701.9	325,099			
12:22:40	7/29/99	355.7	3,697.6	324,724			
12:22:24	7/29/99	354.9	3,689.1	323,975			
12:22:08	7/29/99	354.8	3,688.0	323,881			
12:21:52	7/29/99	354.7	3,687.0	323,787			

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
12:21:36	7/29/99	355.2	3,692.3	324,256
12:21:20	7/29/99	355.5	3,695.5	324,537
12:21:04	7/29/99	355.1	3,691.2	324,162
12:20:48	7/29/99	355.5	3,695.5	324,537
12:20:32	7/29/99	355.7	3,697.6	324,724
12:20:16	7/29/99	356.1	3,701.9	325,099
12:20:00	7/29/99	356.2	3,703.0	325,193
12:19:44	7/29/99	356.1	3,701.9	325,099
12:19:28	7/29/99	356.5	3,706.2	325,474
12:19:12	7/29/99	356.1	3,701.9	325,099
12:18:56	7/29/99	356.1	3,701.9	325,099
12:18:40	7/29/99	355.8	3,698.7	324,818
12:18:24	7/29/99	355.9	3,699.8	324,912
12:18:08	7/29/99	355.5	3,695.5	324,537
12:17:52	7/29/99	355.8	3,698.7	324,818
12:17:36	7/29/99	355.6	3,696.6	324,631
12:17:20	7/29/99	356.5	3,706.2	325,474
12:17:04	7/29/99	356.1	3,701.9	325,099
12:16:48	7/29/99	356.3	3,704.0	325,287
12:16:32	7/29/99	356.4	3,705.1	325,381
12:16:16	7/29/99	356.4	3,705.1	325,381
12:16:00	7/29/99	356.3	3,704.0	325,287
12:15:44	7/29/99	356	3,700.8	325,006
12:15:28	7/29/99	356.5	3,706.2	325,474
12:15:12	7/29/99	356.5	3,706.2	325,474
12:14:56	7/29/99	356.6	3,707.2	325,568
12:14:40	7/29/99	356	3,700.8	325,006
12:14:24	7/29/99	356.4	3,705.1	325,381
12:14:08	7/29/99	356.1	3,701.9	325,099
12:13:52	7/29/99	356	3,700.8	325,006
12:13:36	7/29/99	356.1	3,701.9	325,099
12:13:20	7/29/99	356.5	3,706.2	325,474
12:13:04	7/29/99	356.1	3,701.9	325,099
12:12:48	7/29/99	355.6	3,696.6	324,631
12:12:32	7/29/99	355.4	3,694.4	324,443
12:12:16	7/29/99	355.4	3,694.4	324,443
12:12:00	7/29/99	355.4	3,694.4	324,443
12:11:44	7/29/99	355.4	3,694.4	324,443
12:11:28	7/29/99	356	3,700.8	325,006
12:11:12	7/29/99	355.5	3,695.5	324,537
12:10:56	7/29/99	355.9	3,699.8	324,912
12:10:40	7/29/99	355.6	3,696.6	324,631
12:10:24	7/29/99	356	3,700.8	325,006
12:10:08	7/29/99	356.6	3,707.2	325,568
12:09:52	7/29/99	355.6	3,696.6	324,631
12:09:36	7/29/99	355.4	3,694.4	324,443
12:09:20	7/29/99	355.2	3,692.3	324,256
12:09:04	7/29/99	355.4	3,694.4	324,443
12:08:48	7/29/99	355	3,690.2	324,068
12:08:32	7/29/99	355.5	3,695.5	324,537
12:08:16	7/29/99	355.5	3,695.5	324,537
12:08:00	7/29/99	355.7	3,697.6	324,724
12:07:44	7/29/99	355.5	3,695.5	324,537
12:07:28	7/29/99	356	3,700.8	325,006
12:07:12	7/29/99	355.5	3,695.5	324,537
12:06:56	7/29/99	356.1	3,701.9	325,099
12:06:40	7/29/99	355.3	3,693.4	324,349
12:06:24	7/29/99	355.7	3,697.6	324,724
12:06:08	7/29/99	355.6	3,696.6	324,631
12:05:52	7/29/99	355.5	3,695.5	324,537
12:05:36	7/29/99	356.3	3,704.0	325,287
12:05:20	7/29/99	356.5	3,706.2	325,474
12:05:04	7/29/99	356.1	3,701.9	325,099
12:04:48	7/29/99	356.5	3,706.2	325,474
12:04:32	7/29/99	356.1	3,701.9	325,099
12:04:16	7/29/99	356.5	3,706.2	325,474
12:04:00	7/29/99	357	3,711.5	325,943
12:03:44	7/29/99	357.3	3,714.7	326,225

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
12:03:28	7/29/99	356.6	3,707.2	325,568
12:03:12	7/29/99	355.9	3,699.8	324,912
12:02:56	7/29/99	356.4	3,705.1	325,381
12:02:40	7/29/99	356.5	3,706.2	325,474
12:02:24	7/29/99	357	3,711.5	325,943
12:02:08	7/29/99	356.6	3,707.2	325,568
12:01:52	7/29/99	355.6	3,696.6	324,631
12:01:36	7/29/99	356	3,700.8	325,006
12:01:20	7/29/99	356.1	3,701.9	325,099
12:01:04	7/29/99	355.2	3,692.3	324,256
12:00:48	7/29/99	355.9	3,699.8	324,912
12:00:32	7/29/99	355.6	3,696.6	324,631
12:00:16	7/29/99	355.3	3,693.4	324,349
12:00:00	7/29/99	356.3	3,704.0	325,287
11:59:44	7/29/99	356.3	3,704.0	325,287
11:59:28	7/29/99	355.8	3,698.7	324,818
11:59:12	7/29/99	356.5	3,706.2	325,474
11:58:56	7/29/99	356.7	3,708.3	325,662
11:58:40	7/29/99	356.2	3,703.0	325,193
11:58:24	7/29/99	356.2	3,703.0	325,193
11:58:08	7/29/99	356	3,700.8	325,006
11:57:52	7/29/99	356.1	3,701.9	325,099
11:57:36	7/29/99	356.5	3,706.2	325,474
11:57:20	7/29/99	356.4	3,705.1	325,381
11:57:04	7/29/99	356.1	3,701.9	325,099
11:56:48	7/29/99	356.8	3,709.4	325,756
11:56:32	7/29/99	356.8	3,709.4	325,756
11:56:16	7/29/99	356.4	3,705.1	325,381
11:56:00	7/29/99	357	3,711.5	325,943
11:55:44	7/29/99	356.7	3,708.3	325,662
11:55:28	7/29/99	357.3	3,714.7	326,225
11:55:12	7/29/99	357.2	3,713.7	326,131
11:54:56	7/29/99	357.2	3,713.7	326,131
11:54:40	7/29/99	356.7	3,708.3	325,662
11:54:24	7/29/99	357.1	3,712.6	326,037
11:54:08	7/29/99	357.1	3,712.6	326,037
11:53:52	7/29/99	357.1	3,712.6	326,037
11:53:36	7/29/99	357	3,711.5	325,943
11:53:20	7/29/99	356.8	3,709.4	325,756
11:53:04	7/29/99	357.2	3,713.7	326,131
11:52:48	7/29/99	357.2	3,713.7	326,131
11:52:32	7/29/99	357.3	3,714.7	326,225
11:52:16	7/29/99	357.4	3,715.8	326,318
11:52:00	7/29/99	357.4	3,715.8	326,318
11:51:44	7/29/99	357.8	3,720.1	326,693
11:51:28	7/29/99	358	3,722.2	326,881
11:51:12	7/29/99	357.2	3,713.7	326,131
11:50:56	7/29/99	357.3	3,714.7	326,225
11:50:40	7/29/99	357.6	3,717.9	326,506
11:50:24	7/29/99	357.6	3,717.9	326,506
11:50:08	7/29/99	357.7	3,719.0	326,600
11:49:52	7/29/99	357.8	3,720.1	326,693
11:49:36	7/29/99	357.3	3,714.7	326,225
11:49:20	7/29/99	357.6	3,717.9	326,506
11:49:04	7/29/99	356.9	3,710.4	325,849
11:48:48	7/29/99	356.8	3,709.4	325,756
11:48:32	7/29/99	357.3	3,714.7	326,225
11:48:16	7/29/99	356.5	3,706.2	325,474
11:48:00	7/29/99	356	3,700.8	325,006
11:47:44	7/29/99	355.7	3,697.6	324,724
11:47:28	7/29/99	355.7	3,697.6	324,724
11:47:12	7/29/99	355.9	3,699.8	324,912
11:46:56	7/29/99	355.7	3,697.6	324,724
11:46:40	7/29/99	355.9	3,699.8	324,912
11:46:24	7/29/99	356.2	3,703.0	325,193
11:46:08	7/29/99	356.5	3,706.2	325,474
11:45:52	7/29/99	356.6	3,707.2	325,568
11:45:36	7/29/99	356.3	3,704.0	325,287

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
11:45:20	7/29/99	356.6	3,707.2	325,568
11:45:04	7/29/99	356.6	3,707.2	325,568
11:44:48	7/29/99	356.7	3,708.3	325,662
11:44:32	7/29/99	356.7	3,708.3	325,662
11:44:16	7/29/99	355.9	3,699.8	324,912
11:44:00	7/29/99	356	3,700.8	325,006
11:43:44	7/29/99	356.1	3,701.9	325,099
11:43:28	7/29/99	355.8	3,698.7	324,818
11:43:12	7/29/99	356.3	3,704.0	325,287
11:42:56	7/29/99	356.4	3,705.1	325,381
11:42:40	7/29/99	356.3	3,704.0	325,287
11:42:24	7/29/99	356.5	3,706.2	325,474
11:42:08	7/29/99	356.2	3,703.0	325,193
11:41:52	7/29/99	356.6	3,707.2	325,568
11:41:36	7/29/99	356.7	3,708.3	325,662
11:41:20	7/29/99	356.3	3,704.0	325,287
11:41:04	7/29/99	356	3,700.8	325,006
11:40:48	7/29/99	355.9	3,699.8	324,912
11:40:32	7/29/99	356.1	3,701.9	325,099
11:40:16	7/29/99	355.8	3,698.7	324,818
11:40:00	7/29/99	356.4	3,705.1	325,381
11:39:44	7/29/99	356.7	3,708.3	325,662
11:39:28	7/29/99	355.9	3,699.8	324,912
11:39:12	7/29/99	356.4	3,705.1	325,381
11:38:56	7/29/99	356.5	3,706.2	325,474
11:38:40	7/29/99	356.5	3,706.2	325,474
11:38:24	7/29/99	356.4	3,705.1	325,381
11:38:08	7/29/99	356.3	3,704.0	325,287
11:37:52	7/29/99	356.6	3,707.2	325,568
11:37:36	7/29/99	356.6	3,707.2	325,568
11:37:20	7/29/99	356.6	3,707.2	325,568
11:37:04	7/29/99	356.2	3,703.0	325,193
11:36:48	7/29/99	356.3	3,704.0	325,287
11:36:32	7/29/99	356.6	3,707.2	325,568
11:36:16	7/29/99	356.5	3,706.2	325,474
11:36:00	7/29/99	356.1	3,701.9	325,099
11:35:44	7/29/99	356.1	3,701.9	325,099
11:35:28	7/29/99	356.6	3,707.2	325,568
11:35:12	7/29/99	356.4	3,705.1	325,381
11:34:56	7/29/99	356.3	3,704.0	325,287
11:34:40	7/29/99	355.9	3,699.8	324,912
11:34:24	7/29/99	356.4	3,705.1	325,381
11:34:08	7/29/99	356.2	3,703.0	325,193
11:33:52	7/29/99	356.2	3,703.0	325,193
11:33:36	7/29/99	356.1	3,701.9	325,099
11:33:20	7/29/99	357	3,711.5	325,943
11:33:04	7/29/99	356.5	3,706.2	325,474
11:32:48	7/29/99	356	3,700.8	325,006
11:32:32	7/29/99	356.3	3,704.0	325,287
11:32:16	7/29/99	356.4	3,705.1	325,381
11:32:00	7/29/99	356	3,700.8	325,006
11:31:44	7/29/99	356.5	3,706.2	325,474
11:31:28	7/29/99	356.1	3,701.9	325,099
11:31:12	7/29/99	355.9	3,699.8	324,912
11:30:56	7/29/99	356.7	3,708.3	325,662
11:30:40	7/29/99	356.8	3,709.4	325,756
11:30:24	7/29/99	356.7	3,708.3	325,662
11:30:08	7/29/99	357.5	3,716.9	326,412
11:29:52	7/29/99	357	3,711.5	325,943
11:29:36	7/29/99	357.2	3,713.7	326,131
11:29:20	7/29/99	356.7	3,708.3	325,662
11:29:04	7/29/99	356.9	3,710.4	325,849
11:28:48	7/29/99	356.4	3,705.1	325,381
11:28:32	7/29/99	357.1	3,712.6	326,037
11:28:16	7/29/99	357.3	3,714.7	326,225
11:28:00	7/29/99	357.2	3,713.7	326,131
11:27:44	7/29/99	357	3,711.5	325,943
11:27:28	7/29/99	357	3,711.5	325,943

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
11:27:12	7/29/99	357.1	3,712.6	326,037
11:26:56	7/29/99	357.1	3,712.6	326,037
11:26:40	7/29/99	357.2	3,713.7	326,131
11:26:24	7/29/99	358	3,722.2	326,881
11:26:08	7/29/99	357.3	3,714.7	326,225
11:25:52	7/29/99	357.8	3,720.1	326,693
11:25:36	7/29/99	357.6	3,717.9	326,506
11:25:20	7/29/99	357.8	3,720.1	326,693
11:25:04	7/29/99	357.8	3,720.1	326,693
11:24:48	7/29/99	357.7	3,719.0	326,600
11:24:32	7/29/99	358	3,722.2	326,881
11:24:16	7/29/99	357.5	3,716.9	326,412
11:24:00	7/29/99	358	3,722.2	326,881
11:23:44	7/29/99	357	3,711.5	325,943
11:23:28	7/29/99	356.8	3,709.4	325,756
11:23:12	7/29/99	356.2	3,703.0	325,193
11:22:56	7/29/99	356.1	3,701.9	325,099
11:22:40	7/29/99	355.6	3,696.6	324,631
11:22:24	7/29/99	355.8	3,698.7	324,818
11:22:08	7/29/99	355.5	3,695.5	324,537
11:21:52	7/29/99	355.3	3,693.4	324,349
11:21:36	7/29/99	356.2	3,703.0	325,193
11:21:20	7/29/99	355	3,690.2	324,068
11:21:04	7/29/99	354.9	3,689.1	323,975
11:20:48	7/29/99	355.5	3,695.5	324,537
11:20:32	7/29/99	355.5	3,695.5	324,537
11:20:16	7/29/99	354.9	3,689.1	323,975
11:20:00	7/29/99	356	3,700.8	325,006
11:19:44	7/29/99	356.2	3,703.0	325,193
11:19:28	7/29/99	356.2	3,703.0	325,193
11:19:12	7/29/99	356.5	3,706.2	325,474
11:18:56	7/29/99	356.8	3,709.4	325,756
11:18:40	7/29/99	357	3,711.5	325,943
11:18:24	7/29/99	357.1	3,712.6	326,037
11:18:08	7/29/99	357.4	3,715.8	326,318
11:17:52	7/29/99	357.5	3,716.9	326,412
11:17:36	7/29/99	357.6	3,717.9	326,506
11:17:20	7/29/99	357.6	3,717.9	326,506
11:17:04	7/29/99	356.9	3,710.4	325,849
11:16:48	7/29/99	357.1	3,712.6	326,037
11:16:32	7/29/99	356.9	3,710.4	325,849
11:16:16	7/29/99	357.5	3,716.9	326,412
11:16:00	7/29/99	357.4	3,715.8	326,318
11:15:44	7/29/99	357.6	3,717.9	326,506
11:15:28	7/29/99	357.4	3,715.8	326,318
11:15:12	7/29/99	358	3,722.2	326,881
11:14:56	7/29/99	357.1	3,712.6	326,037
11:14:40	7/29/99	357.4	3,715.8	326,318
11:14:24	7/29/99	357.8	3,720.1	326,693
11:14:08	7/29/99	358.3	3,725.4	327,163
11:13:52	7/29/99	358.3	3,725.4	327,163
11:13:36	7/29/99	357.8	3,720.1	326,693
11:13:20	7/29/99	358.2	3,724.3	327,069
11:13:04	7/29/99	357.8	3,720.1	326,693
11:12:48	7/29/99	357.4	3,715.8	326,318
11:12:32	7/29/99	357.8	3,720.1	326,693
11:12:16	7/29/99	357.7	3,719.0	326,600
11:12:00	7/29/99	357	3,711.5	325,943
11:11:44	7/29/99	357.1	3,712.6	326,037
11:11:28	7/29/99	358	3,722.2	326,881
11:11:12	7/29/99	358	3,722.2	326,881
11:10:56	7/29/99	357.9	3,721.1	326,787
11:10:40	7/29/99	356.9	3,710.4	325,849
11:10:24	7/29/99	357.2	3,713.7	326,131
11:10:08	7/29/99	356.2	3,703.0	325,193
11:09:52	7/29/99	357.4	3,715.8	326,318
11:09:36	7/29/99	357	3,711.5	325,943
11:09:20	7/29/99	356.9	3,710.4	325,849

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
11:09:04	7/29/99	357.4	3,715.8	326,318
11:08:48	7/29/99	357.4	3,715.8	326,318
11:08:32	7/29/99	356.9	3,710.4	325,849
11:08:16	7/29/99	356	3,700.8	325,006
11:08:00	7/29/99	356.8	3,709.4	325,756
11:07:44	7/29/99	356.1	3,701.9	325,099
11:07:28	7/29/99	356.2	3,703.0	325,193
11:07:12	7/29/99	356	3,700.8	325,006
11:06:56	7/29/99	356.8	3,709.4	325,756
11:06:40	7/29/99	356.8	3,709.4	325,756
11:06:24	7/29/99	356.9	3,710.4	325,849
11:06:08	7/29/99	357.1	3,712.6	326,037
11:05:52	7/29/99	357.2	3,713.7	326,131
11:05:36	7/29/99	357.2	3,713.7	326,131
11:05:20	7/29/99	357	3,711.5	325,943
11:05:04	7/29/99	357.5	3,716.9	326,412
11:04:48	7/29/99	357.7	3,719.0	326,600
11:04:32	7/29/99	357.1	3,712.6	326,037
11:04:16	7/29/99	357.5	3,716.9	326,412
11:04:00	7/29/99	358	3,722.2	326,881
11:03:44	7/29/99	357.4	3,715.8	326,318
11:03:28	7/29/99	357.8	3,720.1	326,693
11:03:12	7/29/99	357.3	3,714.7	326,225
11:02:56	7/29/99	356.6	3,707.2	325,568
11:02:40	7/29/99	356.5	3,706.2	325,474
11:02:24	7/29/99	357.2	3,713.7	326,131
11:02:08	7/29/99	357.2	3,713.7	326,131
11:01:52	7/29/99	357.4	3,715.8	326,318
11:01:36	7/29/99	357.4	3,715.8	326,318
11:01:20	7/29/99	357.6	3,717.9	326,506
11:01:04	7/29/99	356.9	3,710.4	325,849
11:00:48	7/29/99	357.3	3,714.7	326,225
11:00:32	7/29/99	357.2	3,713.7	326,131
11:00:16	7/29/99	357.2	3,713.7	326,131
11:00:00	7/29/99	357	3,711.5	325,943
10:59:44	7/29/99	356.9	3,710.4	325,849
10:59:28	7/29/99	357.4	3,715.8	326,318
10:59:12	7/29/99	358.1	3,723.3	326,975
10:58:56	7/29/99	357.1	3,712.6	326,037
10:58:40	7/29/99	357.2	3,713.7	326,131
10:58:24	7/29/99	358.1	3,723.3	326,975
10:58:08	7/29/99	356.7	3,708.3	325,662
10:57:52	7/29/99	357.1	3,712.6	326,037
10:57:36	7/29/99	357.1	3,712.6	326,037
10:57:20	7/29/99	356.6	3,707.2	325,568
10:57:04	7/29/99	356.6	3,707.2	325,568
10:56:48	7/29/99	356.4	3,705.1	325,381
10:56:32	7/29/99	355.9	3,699.8	324,912
10:56:16	7/29/99	356.4	3,705.1	325,381
10:56:00	7/29/99	357	3,711.5	325,943
10:55:44	7/29/99	356.3	3,704.0	325,287
10:55:28	7/29/99	356.7	3,708.3	325,662
10:55:12	7/29/99	356.4	3,705.1	325,381
10:54:56	7/29/99	356.9	3,710.4	325,849
10:54:40	7/29/99	356.9	3,710.4	325,849
10:54:24	7/29/99	356.5	3,706.2	325,474
10:54:08	7/29/99	356.9	3,710.4	325,849
10:53:52	7/29/99	357.2	3,713.7	326,131
10:53:36	7/29/99	357.3	3,714.7	326,225
10:53:20	7/29/99	356.9	3,710.4	325,849
10:53:04	7/29/99	356.9	3,710.4	325,849
10:52:48	7/29/99	356.9	3,710.4	325,849
10:52:32	7/29/99	357	3,711.5	325,943
10:52:16	7/29/99	357.4	3,715.8	326,318
10:52:00	7/29/99	357.2	3,713.7	326,131
10:51:44	7/29/99	357.6	3,717.9	326,506
10:51:28	7/29/99	357.1	3,712.6	326,037
10:51:12	7/29/99	357.1	3,712.6	326,037

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
10:50:56	7/29/99	357.2	3,713.7	326,131
10:50:40	7/29/99	357	3,711.5	325,943
10:50:24	7/29/99	356.6	3,707.2	325,568
10:50:08	7/29/99	357	3,711.5	325,943
10:49:52	7/29/99	357.3	3,714.7	326,225
10:49:36	7/29/99	356.9	3,710.4	325,849
10:49:20	7/29/99	356.5	3,706.2	325,474
10:49:04	7/29/99	357	3,711.5	325,943
10:48:48	7/29/99	357.1	3,712.6	326,037
10:48:32	7/29/99	357.1	3,712.6	326,037
10:48:16	7/29/99	357.5	3,716.9	326,412
10:48:00	7/29/99	357.4	3,715.8	326,318
10:47:44	7/29/99	357.7	3,719.0	326,600
10:47:28	7/29/99	357.7	3,719.0	326,600
10:47:12	7/29/99	357.7	3,719.0	326,600
10:46:56	7/29/99	357.5	3,716.9	326,412
10:46:40	7/29/99	357.7	3,719.0	326,600
10:46:24	7/29/99	357.7	3,719.0	326,600
10:46:08	7/29/99	357.1	3,712.6	326,037
10:45:52	7/29/99	357.3	3,714.7	326,225
10:45:36	7/29/99	357.5	3,716.9	326,412
10:45:20	7/29/99	357.5	3,716.9	326,412
10:45:04	7/29/99	357.4	3,715.8	326,318
10:44:48	7/29/99	357.6	3,717.9	326,506
10:44:32	7/29/99	357.6	3,717.9	326,506
10:44:16	7/29/99	357.7	3,719.0	326,600
10:44:00	7/29/99	357.6	3,717.9	326,506
10:43:44	7/29/99	357.4	3,715.8	326,318
10:43:28	7/29/99	358.3	3,725.4	327,163
10:43:12	7/29/99	357.8	3,720.1	326,693
10:42:56	7/29/99	358.3	3,725.4	327,163
10:42:40	7/29/99	358.4	3,726.5	327,256
10:42:24	7/29/99	357.6	3,717.9	326,506
10:42:08	7/29/99	357.9	3,721.1	326,787
10:41:52	7/29/99	358	3,722.2	326,881
10:41:36	7/29/99	357.8	3,720.1	326,693
10:41:20	7/29/99	357.9	3,721.1	326,787
10:41:04	7/29/99	357.6	3,717.9	326,506
10:40:48	7/29/99	357.6	3,717.9	326,506
10:40:32	7/29/99	357.6	3,717.9	326,506
10:40:16	7/29/99	357.6	3,717.9	326,506
10:40:00	7/29/99	357.4	3,715.8	326,318
10:39:44	7/29/99	357	3,711.5	325,943
10:39:28	7/29/99	356.5	3,706.2	325,474
10:39:12	7/29/99	357.3	3,714.7	326,225
10:38:56	7/29/99	356.5	3,706.2	325,474
10:38:40	7/29/99	356.5	3,706.2	325,474
10:38:24	7/29/99	356.4	3,705.1	325,381
10:38:08	7/29/99	356.4	3,705.1	325,381
10:37:52	7/29/99	356.1	3,701.9	325,099
10:37:36	7/29/99	356.1	3,701.9	325,099
10:37:20	7/29/99	355.8	3,698.7	324,818
10:37:04	7/29/99	355.9	3,699.8	324,912
10:36:48	7/29/99	355.7	3,697.6	324,724
10:36:32	7/29/99	355.4	3,694.4	324,443
10:36:16	7/29/99	355.1	3,691.2	324,162
10:36:00	7/29/99	355.1	3,691.2	324,162
10:35:44	7/29/99	355	3,690.2	324,068
10:35:28	7/29/99	355	3,690.2	324,068
10:35:12	7/29/99	354.5	3,684.8	323,600
10:34:56	7/29/99	354.8	3,688.0	323,881
10:34:40	7/29/99	355.4	3,694.4	324,443
10:34:24	7/29/99	355.6	3,696.6	324,631
10:34:08	7/29/99	355.6	3,696.6	324,631
10:33:52	7/29/99	356.1	3,701.9	325,099
10:33:36	7/29/99	355.9	3,699.8	324,912
10:33:20	7/29/99	355.9	3,699.8	324,912
10:33:04	7/29/99	356.1	3,701.9	325,099

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
10:32:48	7/29/99	356	3,700.8	325,006
10:32:32	7/29/99	355.7	3,697.6	324,724
10:32:16	7/29/99	356.1	3,701.9	325,099
10:32:00	7/29/99	356.3	3,704.0	325,287
10:31:44	7/29/99	356.2	3,703.0	325,193
10:31:28	7/29/99	356.3	3,704.0	325,287
10:31:12	7/29/99	355.9	3,699.8	324,912
10:30:56	7/29/99	356.3	3,704.0	325,287
10:30:40	7/29/99	356.8	3,709.4	325,756
10:30:24	7/29/99	356.3	3,704.0	325,287
10:30:08	7/29/99	356.5	3,706.2	325,474
10:29:52	7/29/99	356.5	3,706.2	325,474
10:29:36	7/29/99	356.9	3,710.4	325,849
10:29:20	7/29/99	356.4	3,705.1	325,381
10:29:04	7/29/99	356.9	3,710.4	325,849
10:28:48	7/29/99	357.2	3,713.7	326,131
10:28:32	7/29/99	356.4	3,705.1	325,381
10:28:16	7/29/99	356.2	3,703.0	325,193
10:28:00	7/29/99	356.6	3,707.2	325,568
10:27:44	7/29/99	357.4	3,715.8	326,318
10:27:28	7/29/99	357.2	3,713.7	326,131
10:27:12	7/29/99	357.2	3,713.7	326,131
10:26:56	7/29/99	356.6	3,707.2	325,568
10:26:40	7/29/99	356.6	3,707.2	325,568
10:26:24	7/29/99	356.7	3,708.3	325,662
10:26:08	7/29/99	356.2	3,703.0	325,193
10:25:52	7/29/99	356.7	3,708.3	325,662
10:25:36	7/29/99	357.1	3,712.6	326,037
10:25:20	7/29/99	356.4	3,705.1	325,381
10:25:04	7/29/99	356.4	3,705.1	325,381
10:24:48	7/29/99	356.6	3,707.2	325,568
10:24:32	7/29/99	356.9	3,710.4	325,849
10:24:16	7/29/99	356.5	3,706.2	325,474
10:24:00	7/29/99	356.5	3,706.2	325,474
10:23:44	7/29/99	356.6	3,707.2	325,568
10:23:28	7/29/99	355.8	3,698.7	324,818
10:23:12	7/29/99	356.5	3,706.2	325,474
10:22:56	7/29/99	356.2	3,703.0	325,193
10:22:40	7/29/99	356.2	3,703.0	325,193
10:22:24	7/29/99	356.2	3,703.0	325,193
10:22:08	7/29/99	355.9	3,699.8	324,912
10:21:52	7/29/99	355.8	3,698.7	324,818
10:21:36	7/29/99	355.5	3,695.5	324,537
10:21:20	7/29/99	355.6	3,696.6	324,631
10:21:04	7/29/99	356.3	3,704.0	325,287
10:20:48	7/29/99	356.1	3,701.9	325,099
10:20:32	7/29/99	356.2	3,703.0	325,193
10:20:16	7/29/99	357.4	3,715.8	326,318
10:20:00	7/29/99	357	3,711.5	325,943
10:19:44	7/29/99	357.3	3,714.7	326,225
10:19:28	7/29/99	357.3	3,714.7	326,225
10:19:12	7/29/99	357.4	3,715.8	326,318
10:18:56	7/29/99	356.8	3,709.4	325,756
10:18:40	7/29/99	357.3	3,714.7	326,225
10:18:24	7/29/99	356.8	3,709.4	325,756
10:18:08	7/29/99	357.3	3,714.7	326,225
10:17:52	7/29/99	357.1	3,712.6	326,037
10:17:36	7/29/99	357.1	3,712.6	326,037
10:17:20	7/29/99	357.1	3,712.6	326,037
10:17:04	7/29/99	357.5	3,716.9	326,412
10:16:48	7/29/99	357.6	3,717.9	326,506
10:16:32	7/29/99	356.2	3,703.0	325,193
10:16:16	7/29/99	356.3	3,704.0	325,287
10:16:00	7/29/99	356.3	3,704.0	325,287
10:15:44	7/29/99	355.7	3,697.6	324,724
10:15:28	7/29/99	355.9	3,699.8	324,912
10:15:12	7/29/99	355.9	3,699.8	324,912
10:14:56	7/29/99	356.4	3,705.1	325,381

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
10:14:40	7/29/99	356.4	3,705.1	325,381
10:14:24	7/29/99	356.8	3,709.4	325,756
10:14:08	7/29/99	356.4	3,705.1	325,381
10:13:52	7/29/99	356.1	3,701.9	325,099
10:13:36	7/29/99	356.4	3,705.1	325,381
10:13:20	7/29/99	356.3	3,704.0	325,287
10:13:04	7/29/99	356.1	3,701.9	325,099
10:12:48	7/29/99	356.2	3,703.0	325,193
10:12:32	7/29/99	356.1	3,701.9	325,099
10:12:16	7/29/99	356	3,700.8	325,006
10:12:00	7/29/99	356.1	3,701.9	325,099
10:11:44	7/29/99	355.9	3,699.8	324,912
10:11:28	7/29/99	355.6	3,696.6	324,631
10:11:12	7/29/99	356.1	3,701.9	325,099
10:10:56	7/29/99	356.1	3,701.9	325,099
10:10:40	7/29/99	355.7	3,697.6	324,724
10:10:24	7/29/99	355.3	3,693.4	324,349
10:10:08	7/29/99	355.7	3,697.6	324,724
10:09:52	7/29/99	355.8	3,698.7	324,818
10:09:36	7/29/99	355.6	3,696.6	324,631
10:09:20	7/29/99	355.7	3,697.6	324,724
10:09:04	7/29/99	356	3,700.8	325,006
10:08:48	7/29/99	356.3	3,704.0	325,287
10:08:32	7/29/99	356.2	3,703.0	325,193
10:08:16	7/29/99	356.3	3,704.0	325,287
10:08:00	7/29/99	356.1	3,701.9	325,099
10:07:44	7/29/99	356.1	3,701.9	325,099
10:07:28	7/29/99	356	3,700.8	325,006
10:07:12	7/29/99	356.4	3,705.1	325,381
10:06:56	7/29/99	356.5	3,706.2	325,474
10:06:40	7/29/99	356.2	3,703.0	325,193
10:06:24	7/29/99	356.9	3,710.4	325,849
10:06:08	7/29/99	356.6	3,707.2	325,568
10:05:52	7/29/99	356.4	3,705.1	325,381
10:05:36	7/29/99	355.7	3,697.6	324,724
10:05:20	7/29/99	355.9	3,699.8	324,912
10:05:04	7/29/99	355.8	3,698.7	324,818
10:04:48	7/29/99	355.9	3,699.8	324,912
10:04:32	7/29/99	356.4	3,705.1	325,381
10:04:16	7/29/99	356.4	3,705.1	325,381
10:04:00	7/29/99	356.4	3,705.1	325,381
10:03:44	7/29/99	356.5	3,706.2	325,474
10:03:28	7/29/99	355.7	3,697.6	324,724
10:03:12	7/29/99	355.9	3,699.8	324,912
10:02:56	7/29/99	355.8	3,698.7	324,818
10:02:40	7/29/99	355.6	3,696.6	324,631
10:02:24	7/29/99	355.7	3,697.6	324,724
10:02:08	7/29/99	355.3	3,693.4	324,349
10:01:52	7/29/99	356	3,700.8	325,006
10:01:36	7/29/99	355.7	3,697.6	324,724
10:01:20	7/29/99	356.9	3,710.4	325,849
10:01:04	7/29/99	356.5	3,706.2	325,474
10:00:48	7/29/99	356.5	3,706.2	325,474
10:00:32	7/29/99	357	3,711.5	325,943
10:00:16	7/29/99	357.1	3,712.6	326,037
10:00:00	7/29/99	357.1	3,712.6	326,037

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr			
16:54:41	7/29/99	284.1	2,941.7	243,618	**Average coal #/hr**	Coal Quality	12,075 BTU/#
16:54:22	7/29/99	283.5	2,935.4	243,099	277,430		
16:54:03	7/29/99	283.8	2,938.6	243,358			
16:53:44	7/29/99	283.5	2,935.4	243,099			
16:53:25	7/29/99	283.1	2,931.2	242,753			
16:53:06	7/29/99	283.4	2,934.4	243,013			
16:52:47	7/29/99	282.2	2,921.9	241,975			
16:52:28	7/29/99	282.2	2,921.9	241,975			
16:52:09	7/29/99	281.5	2,914.5	241,370			
16:51:50	7/29/99	282.4	2,923.9	242,148			
16:51:31	7/29/99	281.4	2,913.5	241,284			
16:51:12	7/29/99	282.1	2,920.8	241,889			
16:50:53	7/29/99	281.8	2,917.7	241,630			
16:50:34	7/29/99	282.6	2,926.0	242,321			
16:50:15	7/29/99	282.2	2,921.9	241,975			
16:49:56	7/29/99	282.8	2,928.1	242,494			
16:49:37	7/29/99	282.4	2,923.9	242,148			
16:49:18	7/29/99	282.6	2,926.0	242,321			
16:48:59	7/29/99	281.7	2,916.6	241,543			
16:48:40	7/29/99	281.7	2,916.6	241,543			
16:48:21	7/29/99	280.7	2,906.2	240,679			
16:48:02	7/29/99	282.1	2,920.8	241,889			
16:47:43	7/29/99	281.8	2,917.7	241,630			
16:47:24	7/29/99	282.1	2,920.8	241,889			
16:47:05	7/29/99	281.4	2,913.5	241,284			
16:46:46	7/29/99	281.8	2,917.7	241,630			
16:46:27	7/29/99	281.3	2,912.5	241,198			
16:46:08	7/29/99	282.2	2,921.9	241,975			
16:45:49	7/29/99	281.7	2,916.6	241,543			
16:45:30	7/29/99	282.3	2,922.9	242,062			
16:45:11	7/29/99	282.6	2,926.0	242,321			
16:44:52	7/29/99	282.6	2,926.0	242,321			
16:44:33	7/29/99	282.2	2,921.9	241,975			
16:44:14	7/29/99	283.5	2,935.4	243,099			
16:43:55	7/29/99	283.6	2,936.5	243,186			
16:43:36	7/29/99	283.7	2,937.5	243,272			
16:43:17	7/29/99	284.1	2,941.7	243,618			
16:42:58	7/29/99	284.8	2,949.0	244,223			
16:42:39	7/29/99	284.7	2,948.0	244,137			
16:42:20	7/29/99	284.3	2,943.8	243,791			
16:42:01	7/29/99	284.9	2,950.0	244,310			
16:41:42	7/29/99	285.3	2,954.2	244,656			
16:41:23	7/29/99	286.5	2,966.8	245,694			
16:41:04	7/29/99	286.6	2,967.8	245,781			
16:40:45	7/29/99	286.5	2,966.8	245,694			
16:40:26	7/29/99	287.1	2,973.0	246,213			
16:40:07	7/29/99	287.1	2,973.0	246,213			
16:39:48	7/29/99	287.4	2,976.2	246,473			
16:39:29	7/29/99	288	2,982.4	246,993			
16:39:10	7/29/99	288.4	2,986.6	247,339			
16:38:51	7/29/99	289.4	2,997.1	248,205			
16:38:32	7/29/99	289.5	2,998.1	248,292			
16:38:13	7/29/99	288.9	2,991.8	247,772			
16:37:54	7/29/99	289.4	2,997.1	248,205			
16:37:35	7/29/99	289.5	2,998.1	248,292			
16:37:16	7/29/99	289.5	2,998.1	248,292			
16:36:57	7/29/99	289.4	2,997.1	248,205			
16:36:38	7/29/99	289.8	3,001.3	248,551			
16:36:19	7/29/99	290.4	3,007.5	249,071			
16:36:00	7/29/99	289.9	3,002.3	248,638			
16:35:41	7/29/99	290.6	3,009.6	249,245			
16:35:22	7/29/99	290.7	3,010.7	249,331			
16:35:03	7/29/99	290.7	3,010.7	249,331			
16:34:44	7/29/99	289.8	3,001.3	248,551			
16:34:25	7/29/99	290.2	3,005.4	248,898			
16:34:06	7/29/99	288.9	2,991.8	247,772			
16:33:47	7/29/99	288.1	2,983.5	247,079			
16:33:28	7/29/99	286.5	2,966.8	245,694			
16:33:09	7/29/99	286.1	2,962.6	245,348			
16:32:50	7/29/99	284.2	2,942.7	243,704			
16:32:31	7/29/99	283.7	2,937.5	243,272			
16:32:12	7/29/99	282.2	2,921.9	241,975			
16:31:53	7/29/99	282.8	2,928.1	242,494			
16:31:34	7/29/99	282.3	2,922.9	242,062			

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load	heat input	coal input
		Mw	mmBTU/hr	#/hr
16:31:15	7/29/99	283	2,930.2	242,667
16:30:56	7/29/99	282.3	2,922.9	242,062
16:30:37	7/29/99	283.2	2,932.3	242,840
16:30:18	7/29/99	282.1	2,920.8	241,889
16:29:59	7/29/99	282.9	2,929.2	242,580
16:29:40	7/29/99	282	2,919.8	241,802
16:29:21	7/29/99	282.5	2,925.0	242,235
16:29:02	7/29/99	282.1	2,920.8	241,889
16:28:43	7/29/99	281.7	2,916.6	241,543
16:28:24	7/29/99	280.8	2,907.2	240,766
16:28:05	7/29/99	279.2	2,890.6	239,384
16:27:46	7/29/99	278.3	2,881.2	238,607
16:27:27	7/29/99	277.2	2,869.7	237,657
16:27:08	7/29/99	277.1	2,868.7	237,571
16:26:49	7/29/99	275.7	2,854.1	236,363
16:26:30	7/29/99	274.4	2,840.6	235,242
16:26:11	7/29/99	273.8	2,834.3	234,725
16:25:52	7/29/99	273.1	2,827.0	234,122
16:25:33	7/29/99	272.3	2,818.7	233,432
16:25:14	7/29/99	271.2	2,807.3	232,485
16:24:55	7/29/99	271.7	2,812.5	232,915
16:24:36	7/29/99	272.1	2,816.6	233,260
16:24:17	7/29/99	271.7	2,812.5	232,915
16:23:58	7/29/99	271.5	2,810.4	232,743
16:23:39	7/29/99	270.3	2,797.9	231,710
16:23:20	7/29/99	270.9	2,804.1	232,226
16:23:01	7/29/99	271	2,805.2	232,313
16:22:42	7/29/99	271.8	2,813.5	233,002
16:22:23	7/29/99	272.2	2,817.7	233,346
16:22:04	7/29/99	272.2	2,817.7	233,346
16:21:45	7/29/99	272.8	2,823.9	233,863
16:21:26	7/29/99	273.2	2,828.1	234,208
16:21:07	7/29/99	272.6	2,821.8	233,691
16:20:48	7/29/99	272.8	2,823.9	233,863
16:20:29	7/29/99	272.7	2,822.9	233,777
16:20:10	7/29/99	272.5	2,820.8	233,605
16:19:51	7/29/99	273	2,826.0	234,036
16:19:32	7/29/99	273.6	2,832.2	234,553
16:19:13	7/29/99	272.9	2,824.9	233,949
16:18:54	7/29/99	274.1	2,837.4	234,984
16:18:35	7/29/99	274.6	2,842.6	235,415
16:18:16	7/29/99	274.1	2,837.4	234,984
16:17:57	7/29/99	274.7	2,843.7	235,501
16:17:38	7/29/99	275.2	2,848.9	235,932
16:17:19	7/29/99	275.8	2,855.1	236,450
16:17:00	7/29/99	277.7	2,874.9	238,089
16:16:41	7/29/99	277.9	2,877.0	238,262
16:16:22	7/29/99	278.9	2,887.4	239,125
16:16:03	7/29/99	278.6	2,884.3	238,866
16:15:44	7/29/99	279.6	2,894.7	239,729
16:15:25	7/29/99	279.9	2,897.9	239,988
16:15:06	7/29/99	279.8	2,896.8	239,902
16:14:47	7/29/99	279.9	2,897.9	239,988
16:14:28	7/29/99	279.8	2,896.8	239,902
16:14:09	7/29/99	279.8	2,896.8	239,902
16:13:50	7/29/99	280	2,898.9	240,075
16:13:31	7/29/99	280.4	2,903.1	240,420
16:13:12	7/29/99	280.3	2,902.0	240,334
16:12:53	7/29/99	280.8	2,907.2	240,766
16:12:34	7/29/99	280.9	2,908.3	240,852
16:12:15	7/29/99	280.7	2,906.2	240,679
16:11:56	7/29/99	280.8	2,907.2	240,766
16:11:37	7/29/99	280.6	2,905.2	240,593
16:11:18	7/29/99	280.8	2,907.2	240,766
16:10:59	7/29/99	281.7	2,916.6	241,543
16:10:40	7/29/99	280.7	2,906.2	240,679
16:10:21	7/29/99	280.7	2,906.2	240,679
16:10:02	7/29/99	280.3	2,902.0	240,334
16:09:43	7/29/99	280.1	2,899.9	240,161
16:09:24	7/29/99	280.7	2,906.2	240,679
16:09:05	7/29/99	279.6	2,894.7	239,729
16:08:46	7/29/99	280.1	2,899.9	240,161
16:08:27	7/29/99	281.1	2,910.4	241,025
16:08:08	7/29/99	279.9	2,897.9	239,988

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
16:07:49	7/29/99	279.4	2,892.6	239,556
16:07:30	7/29/99	279.4	2,892.6	239,556
16:07:11	7/29/99	279	2,888.5	239,211
16:06:52	7/29/99	279.9	2,897.9	239,988
16:06:33	7/29/99	280.1	2,899.9	240,161
16:06:14	7/29/99	279.5	2,893.7	239,643
16:05:55	7/29/99	280.1	2,899.9	240,161
16:05:36	7/29/99	281.1	2,910.4	241,025
16:05:17	7/29/99	280.8	2,907.2	240,766
16:04:58	7/29/99	281	2,909.3	240,938
16:04:39	7/29/99	280.6	2,905.2	240,593
16:04:20	7/29/99	279.8	2,896.8	239,902
16:04:01	7/29/99	280.4	2,903.1	240,420
16:03:42	7/29/99	280	2,898.9	240,075
16:03:23	7/29/99	281	2,909.3	240,938
16:03:04	7/29/99	280.5	2,904.1	240,506
16:02:45	7/29/99	280.6	2,905.2	240,593
16:02:26	7/29/99	279.8	2,896.8	239,902
16:02:07	7/29/99	280.6	2,905.2	240,593
16:01:48	7/29/99	281.1	2,910.4	241,025
16:01:29	7/29/99	281.6	2,915.6	241,457
16:01:10	7/29/99	281.8	2,917.7	241,630
16:00:51	7/29/99	281.5	2,914.5	241,370
16:00:32	7/29/99	281.8	2,917.7	241,630
16:00:13	7/29/99	281.1	2,910.4	241,025
15:59:54	7/29/99	281.9	2,918.7	241,716
15:59:35	7/29/99	281.9	2,918.7	241,716
15:59:16	7/29/99	281.4	2,913.5	241,284
15:58:57	7/29/99	282.5	2,925.0	242,235
15:58:38	7/29/99	282.3	2,922.9	242,062
15:58:19	7/29/99	282.9	2,929.2	242,580
15:58:00	7/29/99	283.2	2,932.3	242,840
15:57:41	7/29/99	284	2,940.6	243,531
15:57:22	7/29/99	284	2,940.6	243,531
15:57:03	7/29/99	283.7	2,937.5	243,272
15:56:44	7/29/99	283.9	2,939.6	243,445
15:56:25	7/29/99	284.5	2,945.9	243,964
15:56:06	7/29/99	284.5	2,945.9	243,964
15:55:47	7/29/99	284.1	2,941.7	243,618
15:55:28	7/29/99	284.2	2,942.7	243,704
15:55:09	7/29/99	284.5	2,945.9	243,964
15:54:50	7/29/99	284.5	2,945.9	243,964
15:54:31	7/29/99	285.5	2,956.3	244,829
15:54:12	7/29/99	286.5	2,966.8	245,694
15:53:53	7/29/99	287.4	2,976.2	246,473
15:53:34	7/29/99	288.3	2,985.6	247,252
15:53:15	7/29/99	288.1	2,983.5	247,079
15:52:56	7/29/99	289.6	2,999.2	248,378
15:52:37	7/29/99	290.7	3,010.7	249,331
15:52:18	7/29/99	291.7	3,021.1	250,198
15:51:59	7/29/99	292.6	3,030.6	250,978
15:51:40	7/29/99	294.1	3,046.3	252,279
15:51:21	7/29/99	295.7	3,063.0	253,667
15:51:02	7/29/99	297.1	3,077.7	254,882
15:50:43	7/29/99	299.9	3,107.1	257,315
15:50:24	7/29/99	302.9	3,138.6	259,923
15:50:05	7/29/99	305.4	3,164.8	262,098
15:49:46	7/29/99	309.9	3,212.2	266,018
15:49:27	7/29/99	318.1	3,298.6	273,175
15:49:08	7/29/99	322	3,339.8	276,585
15:48:49	7/29/99	325.7	3,378.9	279,824
15:48:30	7/29/99	330.4	3,428.6	283,944
15:48:11	7/29/99	334.5	3,472.1	287,543
15:47:52	7/29/99	340.2	3,532.6	292,553
15:47:33	7/29/99	345	3,583.6	296,779
15:47:14	7/29/99	345	3,583.6	296,779
15:46:55	7/29/99	344.6	3,579.4	296,427
15:46:36	7/29/99	344.6	3,579.4	296,427
15:46:17	7/29/99	344.4	3,577.2	296,251
15:45:58	7/29/99	344.5	3,578.3	296,339
15:45:39	7/29/99	345.3	3,586.8	297,044
15:45:20	7/29/99	344.9	3,582.5	296,691
15:45:01	7/29/99	345.4	3,587.9	297,132
15:44:42	7/29/99	345.5	3,588.9	297,220

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
15:44:23	7/29/99	345	3,583.6	296,779
15:44:04	7/29/99	344.5	3,578.3	296,339
15:43:45	7/29/99	345	3,583.6	296,779
15:43:26	7/29/99	344.4	3,577.2	296,251
15:43:07	7/29/99	343.7	3,569.8	295,634
15:42:48	7/29/99	343.4	3,566.6	295,370
15:42:29	7/29/99	344.4	3,577.2	296,251
15:42:10	7/29/99	344.2	3,575.1	296,075
15:41:51	7/29/99	343.8	3,570.8	295,722
15:41:32	7/29/99	344.6	3,579.4	296,427
15:41:13	7/29/99	345.1	3,584.7	296,867
15:40:54	7/29/99	344.8	3,581.5	296,603
15:40:35	7/29/99	345	3,583.6	296,779
15:40:16	7/29/99	344.6	3,579.4	296,427
15:39:57	7/29/99	344.8	3,581.5	296,603
15:39:38	7/29/99	344.8	3,581.5	296,603
15:39:19	7/29/99	344.6	3,579.4	296,427
15:39:00	7/29/99	344.7	3,580.4	296,515
15:38:41	7/29/99	344.7	3,580.4	296,515
15:38:22	7/29/99	344.6	3,579.4	296,427
15:38:03	7/29/99	344.2	3,575.1	296,075
15:37:44	7/29/99	344.6	3,579.4	296,427
15:37:25	7/29/99	344	3,573.0	295,898
15:37:06	7/29/99	344.6	3,579.4	296,427
15:36:47	7/29/99	344.8	3,581.5	296,603
15:36:28	7/29/99	344.6	3,579.4	296,427
15:36:09	7/29/99	345	3,583.6	296,779
15:35:50	7/29/99	345	3,583.6	296,779
15:35:31	7/29/99	344.6	3,579.4	296,427
15:35:12	7/29/99	344.5	3,578.3	296,339
15:34:53	7/29/99	344.8	3,581.5	296,603
15:34:34	7/29/99	344.3	3,576.2	296,163
15:34:15	7/29/99	344.2	3,575.1	296,075
15:33:56	7/29/99	344.3	3,576.2	296,163
15:33:37	7/29/99	344.8	3,581.5	296,603
15:33:18	7/29/99	345.3	3,586.8	297,044
15:32:59	7/29/99	345.4	3,587.9	297,132
15:32:40	7/29/99	344.9	3,582.5	296,691
15:32:21	7/29/99	344.9	3,582.5	296,691
15:32:02	7/29/99	344.4	3,577.2	296,251
15:31:43	7/29/99	344.5	3,578.3	296,339
15:31:24	7/29/99	344.2	3,575.1	296,075
15:31:05	7/29/99	344.6	3,579.4	296,427
15:30:46	7/29/99	345	3,583.6	296,779
15:30:27	7/29/99	345.4	3,587.9	297,132
15:30:08	7/29/99	345.5	3,588.9	297,220
15:29:49	7/29/99	346	3,594.3	297,661
15:29:30	7/29/99	346	3,594.3	297,661
15:29:11	7/29/99	345.1	3,584.7	296,867
15:28:52	7/29/99	344.9	3,582.5	296,691
15:28:33	7/29/99	345.2	3,585.7	296,956
15:28:14	7/29/99	345	3,583.6	296,779
15:27:55	7/29/99	344.6	3,579.4	296,427
15:27:36	7/29/99	344.6	3,579.4	296,427
15:27:17	7/29/99	344.2	3,575.1	296,075
15:26:58	7/29/99	344.6	3,579.4	296,427
15:26:39	7/29/99	344.4	3,577.2	296,251
15:26:20	7/29/99	344.2	3,575.1	296,075
15:26:01	7/29/99	344.4	3,577.2	296,251
15:25:42	7/29/99	344.8	3,581.5	296,603
15:25:23	7/29/99	344.6	3,579.4	296,427
15:25:04	7/29/99	344.2	3,575.1	296,075
15:24:45	7/29/99	344.1	3,574.0	295,986
15:24:26	7/29/99	344.3	3,576.2	296,163
15:24:07	7/29/99	344.2	3,575.1	296,075
15:23:48	7/29/99	344.3	3,576.2	296,163
15:23:29	7/29/99	343.7	3,569.8	295,634
15:23:10	7/29/99	343.7	3,569.8	295,634
15:22:51	7/29/99	343.6	3,568.7	295,546
15:22:32	7/29/99	343.7	3,569.8	295,634
15:22:13	7/29/99	344	3,573.0	295,898
15:21:54	7/29/99	343.6	3,568.7	295,546
15:21:35	7/29/99	343.3	3,565.5	295,282
15:21:16	7/29/99	343.3	3,565.5	295,282

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
15:20:57	7/29/99	343.4	3,566.6	295,370
15:20:38	7/29/99	342.9	3,561.3	294,930
15:20:19	7/29/99	342.9	3,561.3	294,930
15:20:00	7/29/99	343.7	3,569.8	295,634
15:19:41	7/29/99	343.4	3,566.6	295,370
15:19:22	7/29/99	344.2	3,575.1	296,075
15:19:03	7/29/99	344.2	3,575.1	296,075
15:18:44	7/29/99	344.7	3,580.4	296,515
15:18:25	7/29/99	344.3	3,576.2	296,163
15:18:06	7/29/99	343.7	3,569.8	295,634
15:17:47	7/29/99	343.4	3,566.6	295,370
15:17:28	7/29/99	343.9	3,571.9	295,810
15:17:09	7/29/99	344	3,573.0	295,898
15:16:50	7/29/99	344.4	3,577.2	296,251
15:16:31	7/29/99	344	3,573.0	295,898
15:16:12	7/29/99	344.4	3,577.2	296,251
15:15:53	7/29/99	344.4	3,577.2	296,251
15:15:34	7/29/99	344.4	3,577.2	296,251
15:15:15	7/29/99	343.8	3,570.8	295,722
15:14:56	7/29/99	343.3	3,565.5	295,282
15:14:37	7/29/99	343.8	3,570.8	295,722
15:14:18	7/29/99	344.2	3,575.1	296,075
15:13:59	7/29/99	344.7	3,580.4	296,515
15:13:40	7/29/99	344.1	3,574.0	295,986
15:13:21	7/29/99	344.1	3,574.0	295,986
15:13:02	7/29/99	344.5	3,578.3	296,339
15:12:43	7/29/99	344.1	3,574.0	295,986
15:12:24	7/29/99	344.4	3,577.2	296,251
15:12:05	7/29/99	344.8	3,581.5	296,603
15:11:46	7/29/99	344.4	3,577.2	296,251
15:11:27	7/29/99	344.8	3,581.5	296,603
15:11:08	7/29/99	344.5	3,578.3	296,339
15:10:49	7/29/99	344.5	3,578.3	296,339
15:10:30	7/29/99	345	3,583.6	296,779
15:10:11	7/29/99	344.7	3,580.4	296,515
15:09:52	7/29/99	344.9	3,582.5	296,691
15:09:33	7/29/99	345.1	3,584.7	296,867
15:09:14	7/29/99	345.3	3,586.8	297,044
15:08:55	7/29/99	344.8	3,581.5	296,603
15:08:36	7/29/99	344.4	3,577.2	296,251
15:08:17	7/29/99	344.1	3,574.0	295,986
15:07:58	7/29/99	344.4	3,577.2	296,251
15:07:39	7/29/99	343.7	3,569.8	295,634
15:07:20	7/29/99	344.9	3,582.5	296,691
15:07:01	7/29/99	344.8	3,581.5	296,603
15:06:42	7/29/99	344.3	3,576.2	296,163
15:06:23	7/29/99	343.8	3,570.8	295,722
15:06:04	7/29/99	343.8	3,570.8	295,722
15:05:45	7/29/99	344.3	3,576.2	296,163
15:05:26	7/29/99	344.3	3,576.2	296,163
15:05:07	7/29/99	344.2	3,575.1	296,075
15:04:48	7/29/99	344.2	3,575.1	296,075
15:04:29	7/29/99	344.3	3,576.2	296,163
15:04:10	7/29/99	344.8	3,581.5	296,603
15:03:51	7/29/99	345.4	3,587.9	297,132
15:03:32	7/29/99	345.3	3,586.8	297,044
15:03:13	7/29/99	345	3,583.6	296,779
15:02:54	7/29/99	345.5	3,588.9	297,220
15:02:35	7/29/99	345	3,583.6	296,779
15:02:16	7/29/99	345	3,583.6	296,779
15:01:57	7/29/99	345.3	3,586.8	297,044
15:01:38	7/29/99	345.2	3,585.7	296,956
15:01:19	7/29/99	345.1	3,584.7	296,867
15:01:00	7/29/99	344.3	3,576.2	296,163
15:00:41	7/29/99	344.6	3,579.4	296,427
15:00:22	7/29/99	344.6	3,579.4	296,427
15:00:03	7/29/99	345	3,583.6	296,779
14:59:44	7/29/99	344.5	3,578.3	296,339
14:59:25	7/29/99	344.2	3,575.1	296,075
14:59:06	7/29/99	344.2	3,575.1	296,075
14:58:47	7/29/99	344.2	3,575.1	296,075
14:58:28	7/29/99	344.6	3,579.4	296,427
14:58:09	7/29/99	344.6	3,579.4	296,427
14:57:50	7/29/99	345.2	3,585.7	296,956

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
14:57:31	7/29/99	345.1	3,584.7	296,867
14:57:12	7/29/99	345.3	3,586.8	297,044
14:56:53	7/29/99	345	3,583.6	296,779
14:56:34	7/29/99	344.4	3,577.2	296,251
14:56:15	7/29/99	344.7	3,580.4	296,515
14:55:56	7/29/99	344.5	3,578.3	296,339
14:55:37	7/29/99	344.1	3,574.0	295,986
14:55:18	7/29/99	344.1	3,574.0	295,986
14:54:59	7/29/99	344.2	3,575.1	296,075
14:54:40	7/29/99	344	3,573.0	295,898
14:54:21	7/29/99	343.9	3,571.9	295,810
14:54:02	7/29/99	344	3,573.0	295,898
14:53:43	7/29/99	343.5	3,567.7	295,458
14:53:24	7/29/99	344.3	3,576.2	296,163
14:53:05	7/29/99	344.2	3,575.1	296,075
14:52:46	7/29/99	343.7	3,569.8	295,634
14:52:27	7/29/99	344.4	3,577.2	296,251
14:52:08	7/29/99	344.7	3,580.4	296,515
14:51:49	7/29/99	345	3,583.6	296,779
14:51:30	7/29/99	344.5	3,578.3	296,339
14:51:11	7/29/99	344.3	3,576.2	296,163
14:50:52	7/29/99	344.9	3,582.5	296,691
14:50:33	7/29/99	344.8	3,581.5	296,603
14:50:14	7/29/99	344.4	3,577.2	296,251
14:49:55	7/29/99	343.9	3,571.9	295,810
14:49:36	7/29/99	344.7	3,580.4	296,515
14:49:17	7/29/99	345.5	3,588.9	297,220
14:48:58	7/29/99	345.1	3,584.7	296,867
14:48:39	7/29/99	345.3	3,586.8	297,044
14:48:20	7/29/99	345.2	3,585.7	296,956
14:48:01	7/29/99	345.4	3,587.9	297,132
14:47:42	7/29/99	344.6	3,579.4	296,427
14:47:23	7/29/99	344	3,573.0	295,898
14:47:04	7/29/99	344.1	3,574.0	295,986
14:46:45	7/29/99	344.5	3,578.3	296,339
14:46:26	7/29/99	344.4	3,577.2	296,251
14:46:07	7/29/99	343.9	3,571.9	295,810
14:45:48	7/29/99	344.1	3,574.0	295,986
14:45:29	7/29/99	343.7	3,569.8	295,634
14:45:10	7/29/99	343.7	3,569.8	295,634
14:44:51	7/29/99	343.8	3,570.8	295,722
14:44:32	7/29/99	343.6	3,568.7	295,546
14:44:13	7/29/99	343.9	3,571.9	295,810
14:43:54	7/29/99	343.5	3,567.7	295,458
14:43:35	7/29/99	344	3,573.0	295,898
14:43:16	7/29/99	344.8	3,581.5	296,603
14:42:57	7/29/99	344.2	3,575.1	296,075
14:42:38	7/29/99	344.7	3,580.4	296,515
14:42:19	7/29/99	344.8	3,581.5	296,603
14:42:00	7/29/99	344.4	3,577.2	296,251
14:41:41	7/29/99	344	3,573.0	295,898
14:41:22	7/29/99	344.2	3,575.1	296,075
14:41:03	7/29/99	344.1	3,574.0	295,986
14:40:44	7/29/99	344.3	3,576.2	296,163
14:40:25	7/29/99	344.2	3,575.1	296,075
14:40:06	7/29/99	343.1	3,563.4	295,106
14:39:47	7/29/99	343.5	3,567.7	295,458
14:39:28	7/29/99	343.3	3,565.5	295,282
14:39:09	7/29/99	343.9	3,571.9	295,810
14:38:50	7/29/99	344	3,573.0	295,898
14:38:31	7/29/99	343.6	3,568.7	295,546
14:38:12	7/29/99	344.1	3,574.0	295,986
14:37:53	7/29/99	343.6	3,568.7	295,546
14:37:34	7/29/99	344.2	3,575.1	296,075
14:37:15	7/29/99	344	3,573.0	295,898
14:36:56	7/29/99	343.9	3,571.9	295,810
14:36:37	7/29/99	343.8	3,570.8	295,722
14:36:18	7/29/99	343.4	3,566.6	295,370
14:35:59	7/29/99	343.1	3,563.4	295,106
14:35:40	7/29/99	343.1	3,563.4	295,106
14:35:21	7/29/99	343.5	3,567.7	295,458
14:35:02	7/29/99	344.2	3,575.1	296,075
14:34:43	7/29/99	344.6	3,579.4	296,427
14:34:24	7/29/99	344.5	3,578.3	296,339

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
14:34:05	7/29/99	344.3	3,576.2	296,163
14:33:46	7/29/99	344	3,573.0	295,898
14:33:27	7/29/99	344.4	3,577.2	296,251
14:33:08	7/29/99	343.9	3,571.9	295,810
14:32:49	7/29/99	344.2	3,575.1	296,075
14:32:30	7/29/99	344.3	3,576.2	296,163
14:32:11	7/29/99	344.8	3,581.5	296,603
14:31:52	7/29/99	344.5	3,578.3	296,339
14:31:33	7/29/99	344.6	3,579.4	296,427
14:31:14	7/29/99	344.4	3,577.2	296,251
14:30:55	7/29/99	344.9	3,582.5	296,691
14:30:36	7/29/99	344.9	3,582.5	296,691
14:30:17	7/29/99	345	3,583.6	296,779
14:29:58	7/29/99	344.8	3,581.5	296,603
14:29:39	7/29/99	344.8	3,581.5	296,603
14:29:20	7/29/99	344.6	3,579.4	296,427
14:29:01	7/29/99	344.4	3,577.2	296,251
14:28:42	7/29/99	344.8	3,581.5	296,603
14:28:23	7/29/99	345.4	3,587.9	297,132
14:28:04	7/29/99	345.3	3,586.8	297,044
14:27:45	7/29/99	344.7	3,580.4	296,515
14:27:26	7/29/99	344.8	3,581.5	296,603
14:27:07	7/29/99	344.4	3,577.2	296,251
14:26:48	7/29/99	344.4	3,577.2	296,251
14:26:29	7/29/99	344.5	3,578.3	296,339
14:26:10	7/29/99	344.4	3,577.2	296,251
14:25:51	7/29/99	344.5	3,578.3	296,339
14:25:32	7/29/99	344.8	3,581.5	296,603
14:25:13	7/29/99	344.4	3,577.2	296,251
14:24:54	7/29/99	344.4	3,577.2	296,251
14:24:35	7/29/99	344.3	3,576.2	296,163
14:24:16	7/29/99	344.5	3,578.3	296,339
14:23:57	7/29/99	344.6	3,579.4	296,427
14:23:38	7/29/99	344.6	3,579.4	296,427
14:23:19	7/29/99	345.2	3,585.7	296,956
14:23:00	7/29/99	345.4	3,587.9	297,132
14:22:41	7/29/99	344.6	3,579.4	296,427
14:22:22	7/29/99	344.8	3,581.5	296,603
14:22:03	7/29/99	344.7	3,580.4	296,515
14:21:44	7/29/99	344.2	3,575.1	296,075
14:21:25	7/29/99	344.3	3,576.2	296,163
14:21:06	7/29/99	343.9	3,571.9	295,810
14:20:47	7/29/99	343.8	3,570.8	295,722
14:20:28	7/29/99	344.1	3,574.0	295,986
14:20:09	7/29/99	343.5	3,567.7	295,458
14:19:50	7/29/99	343.9	3,571.9	295,810
14:19:31	7/29/99	343.8	3,570.8	295,722
14:19:12	7/29/99	342.9	3,561.3	294,930
14:18:53	7/29/99	343.6	3,568.7	295,546
14:18:34	7/29/99	343.6	3,568.7	295,546
14:18:15	7/29/99	343.5	3,567.7	295,458
14:17:56	7/29/99	344.2	3,575.1	296,075
14:17:37	7/29/99	344.3	3,576.2	296,163
14:17:18	7/29/99	344.8	3,581.5	296,603
14:16:59	7/29/99	344.3	3,576.2	296,163
14:16:40	7/29/99	344.3	3,576.2	296,163
14:16:21	7/29/99	343.5	3,567.7	295,458
14:16:02	7/29/99	343.1	3,563.4	295,106
14:15:43	7/29/99	343.1	3,563.4	295,106
14:15:24	7/29/99	342.9	3,561.3	294,930
14:15:05	7/29/99	342.9	3,561.3	294,930
14:14:46	7/29/99	343.1	3,563.4	295,106
14:14:27	7/29/99	343	3,562.3	295,018
14:14:08	7/29/99	342.8	3,560.2	294,842
14:13:49	7/29/99	343	3,562.3	295,018
14:13:30	7/29/99	343.5	3,567.7	295,458
14:13:11	7/29/99	343.9	3,571.9	295,810
14:12:52	7/29/99	343.9	3,571.9	295,810
14:12:33	7/29/99	344.1	3,574.0	295,986
14:12:14	7/29/99	344	3,573.0	295,898
14:11:55	7/29/99	344.6	3,579.4	296,427
14:11:36	7/29/99	343.5	3,567.7	295,458
14:11:17	7/29/99	343.5	3,567.7	295,458
14:10:58	7/29/99	343.9	3,571.9	295,810

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
14:10:39	7/29/99	344	3,573.0	295,898
14:10:20	7/29/99	343.9	3,571.9	295,810
14:10:01	7/29/99	343.7	3,569.8	295,634
14:09:42	7/29/99	344.6	3,579.4	296,427
14:09:23	7/29/99	344	3,573.0	295,898
14:09:04	7/29/99	343.5	3,567.7	295,458
14:08:45	7/29/99	343.3	3,565.5	295,282
14:08:26	7/29/99	343.2	3,564.5	295,194
14:08:07	7/29/99	343	3,562.3	295,018
14:07:48	7/29/99	343.2	3,564.5	295,194
14:07:29	7/29/99	343.1	3,563.4	295,106
14:07:10	7/29/99	343.2	3,564.5	295,194
14:06:51	7/29/99	343.2	3,564.5	295,194
14:06:32	7/29/99	342.8	3,560.2	294,842
14:06:13	7/29/99	342.8	3,560.2	294,842
14:05:54	7/29/99	343.2	3,564.5	295,194
14:05:35	7/29/99	343.3	3,565.5	295,282
14:05:16	7/29/99	343.8	3,570.8	295,722
14:04:57	7/29/99	343.2	3,564.5	295,194
14:04:38	7/29/99	343.1	3,563.4	295,106
14:04:19	7/29/99	343.7	3,569.8	295,634
14:04:00	7/29/99	344.5	3,578.3	296,339
14:03:41	7/29/99	344.4	3,577.2	296,251
14:03:22	7/29/99	344.8	3,581.5	296,603
14:03:03	7/29/99	344.4	3,577.2	296,251
14:02:44	7/29/99	344	3,573.0	295,898
14:02:25	7/29/99	343.9	3,571.9	295,810
14:02:06	7/29/99	343.9	3,571.9	295,810
14:01:47	7/29/99	343.9	3,571.9	295,810
14:01:28	7/29/99	343.9	3,571.9	295,810
14:01:09	7/29/99	344.6	3,579.4	296,427
14:00:50	7/29/99	344.7	3,580.4	296,515
14:00:31	7/29/99	344.8	3,581.5	296,603
14:00:12	7/29/99	344.8	3,581.5	296,603
13:59:53	7/29/99	344.8	3,581.5	296,603
13:59:34	7/29/99	344	3,573.0	295,898
13:59:15	7/29/99	343.1	3,563.4	295,106
13:58:56	7/29/99	343	3,562.3	295,018
13:58:37	7/29/99	342.9	3,561.3	294,930
13:58:18	7/29/99	343.3	3,565.5	295,282
13:57:59	7/29/99	343.6	3,568.7	295,546
13:57:40	7/29/99	342.9	3,561.3	294,930
13:57:21	7/29/99	343.4	3,566.6	295,370
13:57:02	7/29/99	343.4	3,566.6	295,370
13:56:43	7/29/99	343.5	3,567.7	295,458
13:56:24	7/29/99	344	3,573.0	295,898
13:56:05	7/29/99	344.4	3,577.2	296,251
13:55:46	7/29/99	344.4	3,577.2	296,251
13:55:27	7/29/99	344.2	3,575.1	296,075
13:55:08	7/29/99	344.5	3,578.3	296,339
13:54:49	7/29/99	344.5	3,578.3	296,339
13:54:30	7/29/99	344.3	3,576.2	296,163
13:54:11	7/29/99	343.8	3,570.8	295,722
13:53:52	7/29/99	344.1	3,574.0	295,986
13:53:33	7/29/99	343.7	3,569.8	295,634
13:53:14	7/29/99	343.6	3,568.7	295,546
13:52:55	7/29/99	343.1	3,563.4	295,106
13:52:36	7/29/99	343.9	3,571.9	295,810
13:52:17	7/29/99	343.9	3,571.9	295,810
13:51:58	7/29/99	343.8	3,570.8	295,722
13:51:39	7/29/99	344.2	3,575.1	296,075
13:51:20	7/29/99	343.9	3,571.9	295,810
13:51:01	7/29/99	344.4	3,577.2	296,251
13:50:42	7/29/99	344.7	3,580.4	296,515
13:50:23	7/29/99	345.2	3,585.7	296,956
13:50:04	7/29/99	345	3,583.6	296,779
13:49:45	7/29/99	345.2	3,585.7	296,956
13:49:26	7/29/99	345.3	3,586.8	297,044
13:49:07	7/29/99	346	3,594.3	297,661
13:48:48	7/29/99	345.6	3,590.0	297,308
13:48:29	7/29/99	345	3,583.6	296,779
13:48:10	7/29/99	345.5	3,588.9	297,220
13:47:51	7/29/99	345.2	3,585.7	296,956
13:47:32	7/29/99	345.2	3,585.7	296,956

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load	heat input	coal input
		Mw	mmBTU/hr	#/hr
13:47:13	7/29/99	344.8	3,581.5	296,603
13:46:54	7/29/99	344.6	3,579.4	296,427
13:46:35	7/29/99	345.5	3,588.9	297,220
13:46:16	7/29/99	345.3	3,586.8	297,044
13:45:57	7/29/99	345.5	3,588.9	297,220
13:45:38	7/29/99	345.3	3,586.8	297,044
13:45:19	7/29/99	345.3	3,586.8	297,044
13:45:00	7/29/99	345.4	3,587.9	297,132

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr			
10:19:43	7/30/99	306	3,171.1	268,445	**Average coal #/hr**	Coal Quality	11,813 BTU/#
10:19:26	7/30/99	305.6	3,166.9	268,089	265,095		
10:19:09	7/30/99	305.1	3,161.7	267,644			
10:18:52	7/30/99	305.3	3,163.8	267,822			
10:18:35	7/30/99	305.2	3,162.7	267,733			
10:18:18	7/30/99	304.7	3,157.5	267,288			
10:18:01	7/30/99	304.4	3,154.3	267,022			
10:17:44	7/30/99	304.6	3,156.4	267,200			
10:17:27	7/30/99	304.3	3,153.3	266,933			
10:17:10	7/30/99	303.6	3,145.9	266,310			
10:16:53	7/30/99	302.8	3,137.5	265,599			
10:16:36	7/30/99	302.8	3,137.5	265,599			
10:16:19	7/30/99	302.3	3,132.3	265,154			
10:16:02	7/30/99	302.6	3,135.4	265,421			
10:15:45	7/30/99	302.8	3,137.5	265,599			
10:15:28	7/30/99	301.6	3,124.9	264,532			
10:15:11	7/30/99	302	3,129.1	264,888			
10:14:54	7/30/99	301.7	3,126.0	264,621			
10:14:37	7/30/99	302.1	3,130.2	264,976			
10:14:20	7/30/99	302	3,129.1	264,888			
10:14:03	7/30/99	302.1	3,130.2	264,976			
10:13:46	7/30/99	302	3,129.1	264,888			
10:13:29	7/30/99	301.6	3,124.9	264,532			
10:13:12	7/30/99	301.3	3,121.8	264,265			
10:12:55	7/30/99	301.6	3,124.9	264,532			
10:12:38	7/30/99	302.5	3,134.4	265,332			
10:12:21	7/30/99	302.7	3,136.5	265,510			
10:12:04	7/30/99	303	3,139.6	265,777			
10:11:47	7/30/99	302.1	3,130.2	264,976			
10:11:30	7/30/99	301.3	3,121.8	264,265			
10:11:13	7/30/99	301.8	3,127.0	264,710			
10:10:56	7/30/99	301.3	3,121.8	264,265			
10:10:39	7/30/99	301.7	3,126.0	264,621			
10:10:22	7/30/99	301	3,118.6	263,999			
10:10:05	7/30/99	301.4	3,122.8	264,354			
10:09:48	7/30/99	302.2	3,131.2	265,065			
10:09:31	7/30/99	302.2	3,131.2	265,065			
10:09:14	7/30/99	301.9	3,128.1	264,799			
10:08:57	7/30/99	301.8	3,127.0	264,710			
10:08:40	7/30/99	301.9	3,128.1	264,799			
10:08:23	7/30/99	301.8	3,127.0	264,710			
10:08:06	7/30/99	301.6	3,124.9	264,532			
10:07:49	7/30/99	301.9	3,128.1	264,799			
10:07:32	7/30/99	302.9	3,138.6	265,688			
10:07:15	7/30/99	302.5	3,134.4	265,332			
10:06:58	7/30/99	302	3,129.1	264,888			
10:06:41	7/30/99	301.4	3,122.8	264,354			
10:06:24	7/30/99	301.8	3,127.0	264,710			
10:06:07	7/30/99	301.3	3,121.8	264,265			
10:05:50	7/30/99	301.5	3,123.9	264,443			
10:05:33	7/30/99	301.9	3,128.1	264,799			
10:05:16	7/30/99	302.2	3,131.2	265,065			
10:04:59	7/30/99	301.6	3,124.9	264,532			
10:04:42	7/30/99	301.6	3,124.9	264,532			
10:04:25	7/30/99	302.4	3,133.3	265,243			
10:04:08	7/30/99	302.1	3,130.2	264,976			
10:03:51	7/30/99	302.2	3,131.2	265,065			
10:03:34	7/30/99	303	3,139.6	265,777			
10:03:17	7/30/99	302.9	3,138.6	265,688			
10:03:00	7/30/99	302.5	3,134.4	265,332			
10:02:43	7/30/99	302.3	3,132.3	265,154			
10:02:26	7/30/99	302	3,129.1	264,888			
10:02:09	7/30/99	302.8	3,137.5	265,599			
10:01:52	7/30/99	302.4	3,133.3	265,243			
10:01:35	7/30/99	301.9	3,128.1	264,799			
10:01:18	7/30/99	301.9	3,128.1	264,799			
10:01:01	7/30/99	302	3,129.1	264,888			
10:00:44	7/30/99	302.6	3,135.4	265,421			
10:00:27	7/30/99	302.1	3,130.2	264,976			
10:00:10	7/30/99	302.3	3,132.3	265,154			
9:59:53	7/30/99	301.6	3,124.9	264,532			
9:59:36	7/30/99	301.1	3,119.7	264,088			
9:59:19	7/30/99	301.6	3,124.9	264,532			
9:59:02	7/30/99	300.8	3,116.5	263,821			

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
9:58:45	7/30/99	301.5	3,123.9	264,443
9:58:28	7/30/99	301.5	3,123.9	264,443
9:58:11	7/30/99	301.2	3,120.7	264,177
9:57:54	7/30/99	301.9	3,128.1	264,799
9:57:37	7/30/99	302.3	3,132.3	265,154
9:57:20	7/30/99	302	3,129.1	264,888
9:57:03	7/30/99	301.9	3,128.1	264,799
9:56:46	7/30/99	301.8	3,127.0	264,710
9:56:29	7/30/99	301.8	3,127.0	264,710
9:56:12	7/30/99	301.4	3,122.8	264,354
9:55:55	7/30/99	302	3,129.1	264,888
9:55:38	7/30/99	301.4	3,122.8	264,354
9:55:21	7/30/99	301.2	3,120.7	264,177
9:55:04	7/30/99	301	3,118.6	263,999
9:54:47	7/30/99	301.3	3,121.8	264,265
9:54:30	7/30/99	301	3,118.6	263,999
9:54:13	7/30/99	301.5	3,123.9	264,443
9:53:56	7/30/99	300.9	3,117.6	263,910
9:53:39	7/30/99	300.6	3,114.4	263,643
9:53:22	7/30/99	300.8	3,116.5	263,821
9:53:05	7/30/99	301.1	3,119.7	264,088
9:52:48	7/30/99	301.1	3,119.7	264,088
9:52:31	7/30/99	301.7	3,126.0	264,621
9:52:14	7/30/99	301.2	3,120.7	264,177
9:51:57	7/30/99	300.7	3,115.5	263,732
9:51:40	7/30/99	301.2	3,120.7	264,177
9:51:23	7/30/99	301.8	3,127.0	264,710
9:51:06	7/30/99	301.7	3,126.0	264,621
9:50:49	7/30/99	301.7	3,126.0	264,621
9:50:32	7/30/99	301.3	3,121.8	264,265
9:50:15	7/30/99	302.9	3,138.6	265,688
9:49:58	7/30/99	301.9	3,128.1	264,799
9:49:41	7/30/99	301.7	3,126.0	264,621
9:49:24	7/30/99	301.7	3,126.0	264,621
9:49:07	7/30/99	301.5	3,123.9	264,443
9:48:50	7/30/99	301.7	3,126.0	264,621
9:48:33	7/30/99	302.2	3,131.2	265,065
9:48:16	7/30/99	302.3	3,132.3	265,154
9:47:59	7/30/99	302	3,129.1	264,888
9:47:42	7/30/99	301.8	3,127.0	264,710
9:47:25	7/30/99	301.5	3,123.9	264,443
9:47:08	7/30/99	302.4	3,133.3	265,243
9:46:51	7/30/99	301.7	3,126.0	264,621
9:46:34	7/30/99	301.3	3,121.8	264,265
9:46:17	7/30/99	301.4	3,122.8	264,354
9:46:00	7/30/99	301.4	3,122.8	264,354
9:45:43	7/30/99	301.7	3,126.0	264,621
9:45:26	7/30/99	300.9	3,117.6	263,910
9:45:09	7/30/99	301.3	3,121.8	264,265
9:44:52	7/30/99	301.7	3,126.0	264,621
9:44:35	7/30/99	301.1	3,119.7	264,088
9:44:18	7/30/99	301.8	3,127.0	264,710
9:44:01	7/30/99	301.5	3,123.9	264,443
9:43:44	7/30/99	301.7	3,126.0	264,621
9:43:27	7/30/99	301.4	3,122.8	264,354
9:43:10	7/30/99	300.9	3,117.6	263,910
9:42:53	7/30/99	302	3,129.1	264,888
9:42:36	7/30/99	301.6	3,124.9	264,532
9:42:19	7/30/99	301.6	3,124.9	264,532
9:42:02	7/30/99	301.6	3,124.9	264,532
9:41:45	7/30/99	301.6	3,124.9	264,532
9:41:28	7/30/99	301.7	3,126.0	264,621
9:41:11	7/30/99	301.4	3,122.8	264,354
9:40:54	7/30/99	301	3,118.6	263,999
9:40:37	7/30/99	301.5	3,123.9	264,443
9:40:20	7/30/99	300.8	3,116.5	263,821
9:40:03	7/30/99	301.6	3,124.9	264,532
9:39:46	7/30/99	301.8	3,127.0	264,710
9:39:29	7/30/99	302.3	3,132.3	265,154
9:39:12	7/30/99	301.9	3,128.1	264,799
9:38:55	7/30/99	302.1	3,130.2	264,976
9:38:38	7/30/99	302	3,129.1	264,888
9:38:21	7/30/99	302	3,129.1	264,888
9:38:04	7/30/99	302.5	3,134.4	265,332

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
9:37:47	7/30/99	302.4	3,133.3	265,243
9:37:30	7/30/99	302.5	3,134.4	265,332
9:37:13	7/30/99	302.2	3,131.2	265,065
9:36:56	7/30/99	301.9	3,128.1	264,799
9:36:39	7/30/99	302.1	3,130.2	264,976
9:36:22	7/30/99	302.1	3,130.2	264,976
9:36:05	7/30/99	302.6	3,135.4	265,421
9:35:48	7/30/99	302.2	3,131.2	265,065
9:35:31	7/30/99	302.2	3,131.2	265,065
9:35:14	7/30/99	301.9	3,128.1	264,799
9:34:57	7/30/99	302.4	3,133.3	265,243
9:34:40	7/30/99	301.6	3,124.9	264,532
9:34:23	7/30/99	301.9	3,128.1	264,799
9:34:06	7/30/99	301.4	3,122.8	264,354
9:33:49	7/30/99	301.9	3,128.1	264,799
9:33:32	7/30/99	302.8	3,137.5	265,599
9:33:15	7/30/99	302.2	3,131.2	265,065
9:32:58	7/30/99	301.4	3,122.8	264,354
9:32:41	7/30/99	301.5	3,123.9	264,443
9:32:24	7/30/99	302	3,129.1	264,888
9:32:07	7/30/99	302.3	3,132.3	265,154
9:31:50	7/30/99	302	3,129.1	264,888
9:31:33	7/30/99	302.8	3,137.5	265,599
9:31:16	7/30/99	302.5	3,134.4	265,332
9:30:59	7/30/99	301.5	3,123.9	264,443
9:30:42	7/30/99	302	3,129.1	264,888
9:30:25	7/30/99	301.9	3,128.1	264,799
9:30:08	7/30/99	302.1	3,130.2	264,976
9:29:51	7/30/99	302.4	3,133.3	265,243
9:29:34	7/30/99	302.4	3,133.3	265,243
9:29:17	7/30/99	302.4	3,133.3	265,243
9:29:00	7/30/99	303.2	3,141.7	265,954
9:28:43	7/30/99	302.5	3,134.4	265,332
9:28:26	7/30/99	302.5	3,134.4	265,332
9:28:09	7/30/99	301.7	3,126.0	264,621
9:27:52	7/30/99	302.1	3,130.2	264,976
9:27:35	7/30/99	301.3	3,121.8	264,265
9:27:18	7/30/99	301.2	3,120.7	264,177
9:27:01	7/30/99	301.9	3,128.1	264,799
9:26:44	7/30/99	301.5	3,123.9	264,443
9:26:27	7/30/99	301.7	3,126.0	264,621
9:26:10	7/30/99	301.2	3,120.7	264,177
9:25:53	7/30/99	301.2	3,120.7	264,177
9:25:36	7/30/99	301	3,118.6	263,999
9:25:19	7/30/99	300.9	3,117.6	263,910
9:25:02	7/30/99	301.1	3,119.7	264,088
9:24:45	7/30/99	301.5	3,123.9	264,443
9:24:28	7/30/99	301.5	3,123.9	264,443
9:24:11	7/30/99	301.5	3,123.9	264,443
9:23:54	7/30/99	301.1	3,119.7	264,088
9:23:37	7/30/99	300.9	3,117.6	263,910
9:23:20	7/30/99	301.5	3,123.9	264,443
9:23:03	7/30/99	300.7	3,115.5	263,732
9:22:46	7/30/99	300.2	3,110.2	263,288
9:22:29	7/30/99	301	3,118.6	263,999
9:22:12	7/30/99	301.1-	3,119.7	264,088
9:21:55	7/30/99	301.5	3,123.9	264,443
9:21:38	7/30/99	301.3	3,121.8	264,265
9:21:21	7/30/99	301.3	3,121.8	264,265
9:21:04	7/30/99	301.4	3,122.8	264,354
9:20:47	7/30/99	302	3,129.1	264,888
9:20:30	7/30/99	301.5	3,123.9	264,443
9:20:13	7/30/99	302	3,129.1	264,888
9:19:56	7/30/99	301.8	3,127.0	264,710
9:19:39	7/30/99	302.3	3,132.3	265,154
9:19:22	7/30/99	302.7	3,136.5	265,510
9:19:05	7/30/99	302.8	3,137.5	265,599
9:18:48	7/30/99	302.4	3,133.3	265,243
9:18:31	7/30/99	302	3,129.1	264,888
9:18:14	7/30/99	302.1	3,130.2	264,976
9:17:57	7/30/99	302.7	3,136.5	265,510
9:17:40	7/30/99	303	3,139.6	265,777
9:17:23	7/30/99	302.2	3,131.2	265,065
9:17:06	7/30/99	302.1	3,130.2	264,976

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
9:16:49	7/30/99	301.7	3,126.0	264,621
9:16:32	7/30/99	302.6	3,135.4	265,421
9:16:15	7/30/99	302.7	3,136.5	265,510
9:15:58	7/30/99	302.3	3,132.3	265,154
9:15:41	7/30/99	302.5	3,134.4	265,332
9:15:24	7/30/99	302.8	3,137.5	265,599
9:15:07	7/30/99	303.1	3,140.7	265,865
9:14:50	7/30/99	303	3,139.6	265,777
9:14:33	7/30/99	302.5	3,134.4	265,332
9:14:16	7/30/99	302.6	3,135.4	265,421
9:13:59	7/30/99	302.2	3,131.2	265,065
9:13:42	7/30/99	301.8	3,127.0	264,710
9:13:25	7/30/99	301.9	3,128.1	264,799
9:13:08	7/30/99	302.3	3,132.3	265,154
9:12:51	7/30/99	301.9	3,128.1	264,799
9:12:34	7/30/99	301.9	3,128.1	264,799
9:12:17	7/30/99	302.3	3,132.3	265,154
9:12:00	7/30/99	301.7	3,126.0	264,621
9:11:43	7/30/99	302.5	3,134.4	265,332
9:11:26	7/30/99	302	3,129.1	264,888
9:11:09	7/30/99	302.6	3,135.4	265,421
9:10:52	7/30/99	302.3	3,132.3	265,154
9:10:35	7/30/99	302.4	3,133.3	265,243
9:10:18	7/30/99	302.5	3,134.4	265,332
9:10:01	7/30/99	302.5	3,134.4	265,332
9:09:44	7/30/99	302.2	3,131.2	265,065
9:09:27	7/30/99	303.4	3,143.8	266,132
9:09:10	7/30/99	303	3,139.6	265,777
9:08:53	7/30/99	303.2	3,141.7	265,954
9:08:36	7/30/99	302.5	3,134.4	265,332
9:08:19	7/30/99	303	3,139.6	265,777
9:08:02	7/30/99	302.9	3,138.6	265,688
9:07:45	7/30/99	303.1	3,140.7	265,865
9:07:28	7/30/99	303.3	3,142.8	266,043
9:07:11	7/30/99	302.4	3,133.3	265,243
9:06:54	7/30/99	302.4	3,133.3	265,243
9:06:37	7/30/99	302.7	3,136.5	265,510
9:06:20	7/30/99	302.6	3,135.4	265,421
9:06:03	7/30/99	302.4	3,133.3	265,243
9:05:46	7/30/99	302.9	3,138.6	265,688
9:05:29	7/30/99	303.3	3,142.8	266,043
9:05:12	7/30/99	302.8	3,137.5	265,599
9:04:55	7/30/99	302.5	3,134.4	265,332
9:04:38	7/30/99	302.7	3,136.5	265,510
9:04:21	7/30/99	302.8	3,137.5	265,599
9:04:04	7/30/99	303.1	3,140.7	265,865
9:03:47	7/30/99	301.7	3,126.0	264,621
9:03:30	7/30/99	301.7	3,126.0	264,621
9:03:13	7/30/99	301.7	3,126.0	264,621
9:02:56	7/30/99	302.1	3,130.2	264,976
9:02:39	7/30/99	302.1	3,130.2	264,976
9:02:22	7/30/99	301.8	3,127.0	264,710
9:02:05	7/30/99	302.3	3,132.3	265,154
9:01:48	7/30/99	301.5	3,123.9	264,443
9:01:31	7/30/99	302.3	3,132.3	265,154
9:01:14	7/30/99	302.2	3,131.2	265,065
9:00:57	7/30/99	302.4	3,133.3	265,243
9:00:40	7/30/99	302	3,129.1	264,888
9:00:23	7/30/99	301.9	3,128.1	264,799
9:00:06	7/30/99	302.1	3,130.2	264,976
8:59:49	7/30/99	301.8	3,127.0	264,710
8:59:32	7/30/99	301.2	3,120.7	264,177
8:59:15	7/30/99	301.7	3,126.0	264,621
8:58:58	7/30/99	302.5	3,134.4	265,332
8:58:41	7/30/99	302.7	3,136.5	265,510
8:58:24	7/30/99	302.3	3,132.3	265,154
8:58:07	7/30/99	301.7	3,126.0	264,621
8:57:50	7/30/99	301.7	3,126.0	264,621
8:57:33	7/30/99	301.5	3,123.9	264,443
8:57:16	7/30/99	301.5	3,123.9	264,443
8:56:59	7/30/99	302	3,129.1	264,888
8:56:42	7/30/99	301.9	3,128.1	264,799
8:56:25	7/30/99	301.2	3,120.7	264,177
8:56:08	7/30/99	301.2	3,120.7	264,177

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
8:55:51	7/30/99	301.9	3,128.1	264,799
8:55:34	7/30/99	301.4	3,122.8	264,354
8:55:17	7/30/99	301.8	3,127.0	264,710
8:55:00	7/30/99	301.8	3,127.0	264,710
8:54:43	7/30/99	301.9	3,128.1	264,799
8:54:26	7/30/99	301.9	3,128.1	264,799
8:54:09	7/30/99	302.1	3,130.2	264,976
8:53:52	7/30/99	302	3,129.1	264,888
8:53:35	7/30/99	302.2	3,131.2	265,065
8:53:18	7/30/99	301.9	3,128.1	264,799
8:53:01	7/30/99	301.8	3,127.0	264,710
8:52:44	7/30/99	301.3	3,121.8	264,265
8:52:27	7/30/99	301.3	3,121.8	264,265
8:52:10	7/30/99	301.1	3,119.7	264,088
8:51:53	7/30/99	301.2	3,120.7	264,177
8:51:36	7/30/99	300.8	3,116.5	263,821
8:51:19	7/30/99	301.5	3,123.9	264,443
8:51:02	7/30/99	302.4	3,133.3	265,243
8:50:45	7/30/99	302.2	3,131.2	265,065
8:50:28	7/30/99	301.8	3,127.0	264,710
8:50:11	7/30/99	301.8	3,127.0	264,710
8:49:54	7/30/99	301	3,118.6	263,999
8:49:37	7/30/99	301	3,118.6	263,999
8:49:20	7/30/99	301.8	3,127.0	264,710
8:49:03	7/30/99	301.3	3,121.8	264,265
8:48:46	7/30/99	301.9	3,128.1	264,799
8:48:29	7/30/99	302.1	3,130.2	264,976
8:48:12	7/30/99	301.5	3,123.9	264,443
8:47:55	7/30/99	302.1	3,130.2	264,976
8:47:38	7/30/99	302.9	3,138.6	265,688
8:47:21	7/30/99	302.2	3,131.2	265,065
8:47:04	7/30/99	302.2	3,131.2	265,065
8:46:47	7/30/99	302.9	3,138.6	265,688
8:46:30	7/30/99	303	3,139.6	265,777
8:46:13	7/30/99	302.6	3,135.4	265,421
8:45:56	7/30/99	302.3	3,132.3	265,154
8:45:39	7/30/99	303	3,139.6	265,777
8:45:22	7/30/99	303	3,139.6	265,777
8:45:05	7/30/99	303	3,139.6	265,777
8:44:48	7/30/99	302.5	3,134.4	265,332
8:44:31	7/30/99	302.5	3,134.4	265,332
8:44:14	7/30/99	302	3,129.1	264,888
8:43:57	7/30/99	301.8	3,127.0	264,710
8:43:40	7/30/99	302.1	3,130.2	264,976
8:43:23	7/30/99	301.8	3,127.0	264,710
8:43:06	7/30/99	301.8	3,127.0	264,710
8:42:49	7/30/99	301.6	3,124.9	264,532
8:42:32	7/30/99	301.5	3,123.9	264,443
8:42:15	7/30/99	301.7	3,126.0	264,621
8:41:58	7/30/99	301.5	3,123.9	264,443
8:41:41	7/30/99	301.5	3,123.9	264,443
8:41:24	7/30/99	301.6	3,124.9	264,532
8:41:07	7/30/99	301.9	3,128.1	264,799
8:40:50	7/30/99	301.3	3,121.8	264,265
8:40:33	7/30/99	301.7	3,126.0	264,621
8:40:16	7/30/99	302.3	3,132.3	265,154
8:39:59	7/30/99	302.4	3,133.3	265,243
8:39:42	7/30/99	302.2	3,131.2	265,065
8:39:25	7/30/99	302.3	3,132.3	265,154
8:39:08	7/30/99	301.6	3,124.9	264,532
8:38:51	7/30/99	301.8	3,127.0	264,710
8:38:34	7/30/99	302.5	3,134.4	265,332
8:38:17	7/30/99	302	3,129.1	264,888
8:38:00	7/30/99	302	3,129.1	264,888
8:37:43	7/30/99	301.8	3,127.0	264,710
8:37:26	7/30/99	301.9	3,128.1	264,799
8:37:09	7/30/99	302	3,129.1	264,888
8:36:52	7/30/99	302.1	3,130.2	264,976
8:36:35	7/30/99	302.4	3,133.3	265,243
8:36:18	7/30/99	302.1	3,130.2	264,976
8:36:01	7/30/99	302.2	3,131.2	265,065
8:35:44	7/30/99	301.8	3,127.0	264,710
8:35:27	7/30/99	302	3,129.1	264,888
8:35:10	7/30/99	301	3,118.6	263,999

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
8:34:53	7/30/99	302.5	3,134.4	265,332
8:34:36	7/30/99	302.7	3,136.5	265,510
8:34:19	7/30/99	302.4	3,133.3	265,243
8:34:02	7/30/99	301.8	3,127.0	264,710
8:33:45	7/30/99	301.6	3,124.9	264,532
8:33:28	7/30/99	302.1	3,130.2	264,976
8:33:11	7/30/99	302.6	3,135.4	265,421
8:32:54	7/30/99	302.3	3,132.3	265,154
8:32:37	7/30/99	302.5	3,134.4	265,332
8:32:20	7/30/99	302.1	3,130.2	264,976
8:32:03	7/30/99	302.1	3,130.2	264,976
8:31:46	7/30/99	301.6	3,124.9	264,532
8:31:29	7/30/99	302.3	3,132.3	265,154
8:31:12	7/30/99	302.2	3,131.2	265,065
8:30:55	7/30/99	302.2	3,131.2	265,065
8:30:38	7/30/99	301.6	3,124.9	264,532
8:30:21	7/30/99	301.6	3,124.9	264,532
8:30:04	7/30/99	301.9	3,128.1	264,799
8:29:47	7/30/99	301.9	3,128.1	264,799
8:29:30	7/30/99	301.9	3,128.1	264,799
8:29:13	7/30/99	301.9	3,128.1	264,799
8:28:56	7/30/99	301.9	3,128.1	264,799
8:28:39	7/30/99	302.2	3,131.2	265,065
8:28:22	7/30/99	302	3,129.1	264,888
8:28:05	7/30/99	301.7	3,126.0	264,621
8:27:48	7/30/99	302.3	3,132.3	265,154
8:27:31	7/30/99	302.8	3,137.5	265,599
8:27:14	7/30/99	303.1	3,140.7	265,865
8:26:57	7/30/99	303.4	3,143.8	266,132
8:26:40	7/30/99	302.9	3,138.6	265,688
8:26:23	7/30/99	302.7	3,136.5	265,510
8:26:06	7/30/99	302.6	3,135.4	265,421
8:25:49	7/30/99	302.9	3,138.6	265,688
8:25:32	7/30/99	303.3	3,142.8	266,043
8:25:15	7/30/99	302.7	3,136.5	265,510
8:24:58	7/30/99	303.5	3,144.9	266,221
8:24:41	7/30/99	302.5	3,134.4	265,332
8:24:24	7/30/99	302.6	3,135.4	265,421
8:24:07	7/30/99	302.6	3,135.4	265,421
8:23:50	7/30/99	302.5	3,134.4	265,332
8:23:33	7/30/99	302.8	3,137.5	265,599
8:23:16	7/30/99	303.4	3,143.8	266,132
8:22:59	7/30/99	302.9	3,138.6	265,688
8:22:42	7/30/99	303.1	3,140.7	265,865
8:22:25	7/30/99	302.6	3,135.4	265,421
8:22:08	7/30/99	302.9	3,138.6	265,688
8:21:51	7/30/99	303.6	3,145.9	266,310
8:21:34	7/30/99	303.3	3,142.8	266,043
8:21:17	7/30/99	304.1	3,151.2	266,755
8:21:00	7/30/99	303.7	3,147.0	266,399
8:20:43	7/30/99	303.6	3,145.9	266,310
8:20:26	7/30/99	304.3	3,153.3	266,933
8:20:09	7/30/99	303.8	3,148.0	266,488
8:19:52	7/30/99	303.6	3,145.9	266,310
8:19:35	7/30/99	303.5	3,144.9	266,221
8:19:18	7/30/99	303.2	3,141.7	265,954
8:19:01	7/30/99	303	3,139.6	265,777
8:18:44	7/30/99	302.8	3,137.5	265,599
8:18:27	7/30/99	303	3,139.6	265,777
8:18:10	7/30/99	302.4	3,133.3	265,243
8:17:53	7/30/99	302.8	3,137.5	265,599
8:17:36	7/30/99	302.2	3,131.2	265,065
8:17:19	7/30/99	302.6	3,135.4	265,421
8:17:02	7/30/99	302.9	3,138.6	265,688
8:16:45	7/30/99	302.5	3,134.4	265,332
8:16:28	7/30/99	302.5	3,134.4	265,332
8:16:11	7/30/99	302.2	3,131.2	265,065
8:15:54	7/30/99	302.3	3,132.3	265,154
8:15:37	7/30/99	302.3	3,132.3	265,154
8:15:20	7/30/99	302.3	3,132.3	265,154
8:15:03	7/30/99	302.8	3,137.5	265,599
8:14:46	7/30/99	301.7	3,126.0	264,621
8:14:29	7/30/99	301.7	3,126.0	264,621
8:14:12	7/30/99	302.3	3,132.3	265,154

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
8:13:55	7/30/99	301.5	3,123.9	264,443
8:13:38	7/30/99	302.3	3,132.3	265,154
8:13:21	7/30/99	302.2	3,131.2	265,065
8:13:04	7/30/99	302.9	3,138.6	265,688
8:12:47	7/30/99	302.5	3,134.4	265,332
8:12:30	7/30/99	302.1	3,130.2	264,976
8:12:13	7/30/99	302.1	3,130.2	264,976
8:11:56	7/30/99	301.5	3,123.9	264,443
8:11:39	7/30/99	301.2	3,120.7	264,177
8:11:22	7/30/99	302.8	3,137.5	265,599
8:11:05	7/30/99	302.5	3,134.4	265,332
8:10:48	7/30/99	302.3	3,132.3	265,154
8:10:31	7/30/99	301.9	3,128.1	264,799
8:10:14	7/30/99	301.5	3,123.9	264,443
8:09:57	7/30/99	302	3,129.1	264,888
8:09:40	7/30/99	301.8	3,127.0	264,710
8:09:23	7/30/99	301.8	3,127.0	264,710
8:09:06	7/30/99	301.9	3,128.1	264,799
8:08:49	7/30/99	302.2	3,131.2	265,065
8:08:32	7/30/99	302.2	3,131.2	265,065
8:08:15	7/30/99	302.7	3,136.5	265,510
8:07:58	7/30/99	301.8	3,127.0	264,710
8:07:41	7/30/99	302.5	3,134.4	265,332
8:07:24	7/30/99	302.4	3,133.3	265,243
8:07:07	7/30/99	302.2	3,131.2	265,065
8:06:50	7/30/99	302.2	3,131.2	265,065
8:06:33	7/30/99	301.8	3,127.0	264,710
8:06:16	7/30/99	302.1	3,130.2	264,976
8:05:59	7/30/99	302	3,129.1	264,888
8:05:42	7/30/99	303	3,139.6	265,777
8:05:25	7/30/99	302.2	3,131.2	265,065
8:05:08	7/30/99	302.5	3,134.4	265,332
8:04:51	7/30/99	302.5	3,134.4	265,332
8:04:34	7/30/99	302.3	3,132.3	265,154
8:04:17	7/30/99	303.5	3,144.9	266,221
8:04:00	7/30/99	303.6	3,145.9	266,310
8:03:43	7/30/99	303	3,139.6	265,777
8:03:26	7/30/99	303.1	3,140.7	265,865
8:03:09	7/30/99	303.2	3,141.7	265,954
8:02:52	7/30/99	303.2	3,141.7	265,954
8:02:35	7/30/99	303.9	3,149.1	266,577
8:02:18	7/30/99	303.5	3,144.9	266,221
8:02:01	7/30/99	304.6	3,156.4	267,200
8:01:44	7/30/99	303.7	3,147.0	266,399
8:01:27	7/30/99	303.6	3,145.9	266,310
8:01:10	7/30/99	304.5	3,155.4	267,111
8:00:53	7/30/99	303.3	3,142.8	266,043
8:00:36	7/30/99	303.9	3,149.1	266,577
8:00:19	7/30/99	304.2	3,152.2	266,844
8:00:02	7/30/99	304.1	3,151.2	266,755
7:59:45	7/30/99	304.1	3,151.2	266,755
7:59:28	7/30/99	303.9	3,149.1	266,577
7:59:11	7/30/99	303.7	3,147.0	266,399
7:58:54	7/30/99	303.2	3,141.7	265,954
7:58:37	7/30/99	303.2	3,141.7	265,954
7:58:20	7/30/99	303.6	3,145.9	266,310
7:58:03	7/30/99	303.2	3,141.7	265,954
7:57:46	7/30/99	303.4	3,143.8	266,132
7:57:29	7/30/99	303	3,139.6	265,777
7:57:12	7/30/99	303.2	3,141.7	265,954
7:56:55	7/30/99	302.5	3,134.4	265,332
7:56:38	7/30/99	303.5	3,144.9	266,221
7:56:21	7/30/99	302.7	3,136.5	265,510
7:56:04	7/30/99	302.5	3,134.4	265,332
7:55:47	7/30/99	301.9	3,128.1	264,799
7:55:30	7/30/99	302.4	3,133.3	265,243
7:55:13	7/30/99	302.1	3,130.2	264,976
7:54:56	7/30/99	302.1	3,130.2	264,976
7:54:39	7/30/99	301.7	3,126.0	264,621
7:54:22	7/30/99	301.7	3,126.0	264,621
7:54:05	7/30/99	302.1	3,130.2	264,976
7:53:48	7/30/99	301.8	3,127.0	264,710
7:53:31	7/30/99	302.3	3,132.3	265,154
7:53:14	7/30/99	302.8	3,137.5	265,599

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
7:52:57	7/30/99	301.9	3,128.1	264,799
7:52:40	7/30/99	302	3,129.1	264,888
7:52:23	7/30/99	301.9	3,128.1	264,799
7:52:06	7/30/99	302	3,129.1	264,888
7:51:49	7/30/99	303	3,139.6	265,777
7:51:32	7/30/99	302.4	3,133.3	265,243
7:51:15	7/30/99	303	3,139.6	265,777
7:50:58	7/30/99	302.5	3,134.4	265,332
7:50:41	7/30/99	302.4	3,133.3	265,243
7:50:24	7/30/99	302.5	3,134.4	265,332
7:50:07	7/30/99	302.6	3,135.4	265,421
7:49:50	7/30/99	302.6	3,135.4	265,421
7:49:33	7/30/99	303	3,139.6	265,777
7:49:16	7/30/99	302.2	3,131.2	265,065
7:48:59	7/30/99	302.9	3,138.6	265,688
7:48:42	7/30/99	303	3,139.6	265,777
7:48:25	7/30/99	302.5	3,134.4	265,332
7:48:08	7/30/99	302.8	3,137.5	265,599
7:47:51	7/30/99	302.3	3,132.3	265,154
7:47:34	7/30/99	302.8	3,137.5	265,599
7:47:17	7/30/99	302.8	3,137.5	265,599
7:47:00	7/30/99	302.8	3,137.5	265,599
7:46:43	7/30/99	302.8	3,137.5	265,599
7:46:26	7/30/99	302.8	3,137.5	265,599
7:46:09	7/30/99	302.6	3,135.4	265,421
7:45:52	7/30/99	303.2	3,141.7	265,954
7:45:35	7/30/99	302.9	3,138.6	265,688
7:45:18	7/30/99	302.7	3,136.5	265,510
7:45:01	7/30/99	302.9	3,138.6	265,688
7:44:44	7/30/99	303.4	3,143.8	266,132
7:44:27	7/30/99	302.8	3,137.5	265,599
7:44:10	7/30/99	302.7	3,136.5	265,510
7:43:53	7/30/99	303.7	3,147.0	266,399
7:43:36	7/30/99	303.6	3,145.9	266,310
7:43:19	7/30/99	303.1	3,140.7	265,865
7:43:02	7/30/99	303.5	3,144.9	266,221
7:42:45	7/30/99	303.6	3,145.9	266,310
7:42:28	7/30/99	303.6	3,145.9	266,310
7:42:11	7/30/99	303.5	3,144.9	266,221
7:41:54	7/30/99	302.8	3,137.5	265,599
7:41:37	7/30/99	302.8	3,137.5	265,599
7:41:20	7/30/99	302.4	3,133.3	265,243
7:41:03	7/30/99	302.5	3,134.4	265,332
7:40:46	7/30/99	303	3,139.6	265,777
7:40:29	7/30/99	302.5	3,134.4	265,332
7:40:12	7/30/99	302.1	3,130.2	264,976
7:39:55	7/30/99	301.6	3,124.9	264,532
7:39:38	7/30/99	302.2	3,131.2	265,065
7:39:21	7/30/99	302	3,129.1	264,888
7:39:04	7/30/99	302	3,129.1	264,888
7:38:47	7/30/99	301.5	3,123.9	264,443
7:38:30	7/30/99	301.4	3,122.8	264,354
7:38:13	7/30/99	301.7	3,126.0	264,621
7:37:56	7/30/99	301.6	3,124.9	264,532
7:37:39	7/30/99	301.8	3,127.0	264,710
7:37:22	7/30/99	301.9	3,128.1	264,799
7:37:05	7/30/99	301.9	3,128.1	264,799
7:36:48	7/30/99	301.9	3,128.1	264,799
7:36:31	7/30/99	302.4	3,133.3	265,243
7:36:14	7/30/99	301.7	3,126.0	264,621
7:35:57	7/30/99	302.2	3,131.2	265,065
7:35:40	7/30/99	302.3	3,132.3	265,154
7:35:23	7/30/99	301.7	3,126.0	264,621
7:35:06	7/30/99	301.8	3,127.0	264,710
7:34:49	7/30/99	301.8	3,127.0	264,710
7:34:32	7/30/99	302.3	3,132.3	265,154
7:34:15	7/30/99	302.8	3,137.5	265,599
7:33:58	7/30/99	302.3	3,132.3	265,154
7:33:41	7/30/99	302.8	3,137.5	265,599
7:33:24	7/30/99	302.2	3,131.2	265,065
7:33:07	7/30/99	302	3,129.1	264,888
7:32:50	7/30/99	302.6	3,135.4	265,421
7:32:33	7/30/99	302.3	3,132.3	265,154
7:32:16	7/30/99	303	3,139.6	265,777

This is a spreadsheet to calculate the coal flow for Meramec Unit 4 during the July 1999 mercury speciation emissions testing given the gross load on the unit

time	date	gross load Mw	heat input mmBTU/hr	coal input #/hr
7:31:59	7/30/99	302.5	3,134.4	265,332
7:31:42	7/30/99	302.1	3,130.2	264,976
7:31:25	7/30/99	302.2	3,131.2	265,065
7:31:08	7/30/99	301.4	3,122.8	264,354
7:30:51	7/30/99	302.2	3,131.2	265,065
7:30:34	7/30/99	302.1	3,130.2	264,976
7:30:17	7/30/99	302.1	3,130.2	264,976
7:30:00	7/30/99	302.2	3,131.2	265,065

Subject: FW: Unit 4 Precipitator Test
Date: Wed, 11 Aug 1999 14:56:42 -0500
From: "Hof, Robert R" <RHof@ameren.com>
To: "'mmcdannel@ferco.com'" <mmcdannel@ferco.com>

Mark:

See the below statement for the Meramec Unit 4. Let me know if you need a more definitive statement for precipitator operation.

Bob Hof
-----Original Message-----
From: Hart, Thomas J
Sent: Wednesday, August 11, 1999 1:31 PM
To: Hof, Robert R
Cc: Wetteroff, David J
Subject: Unit 4 Precipitator Test

Bob,

On the mornings of July 29 and 30, the Unit 4 "C" and "D" precipitators were inspected by engineering personnel. The operation of the transformer rectifier sets was observed to be normal. This was accomplished by observing the values of primary and secondary voltage, primary and secondary current, spark rate, and power level. The TR sets were within normal operating ranges.

If you have any questions or need further information, please contact me.

Tom

Subject: FW: Unit 4 Precip Data
Date: Mon, 9 Aug 1999 16:04:54 -0500
From: "Hof, Robert R" <RHof@ameren.com>
To: "'mmcdannel@ferco.com'" <mmcdannel@ferco.com>

Mark:

Here's some information concerning the precipitator performance. The precipitator was performing normally. I can get the responsible plant engineer to foreword a statement of such if you desire.

I'm working on getting some more CEM data covering the NOx, CO2, SO2, and flow. It would be on a 15 minute averaged basis. Opacity data would also be included which is on a 6 minute average basis. Hope to have such within a week. The CEMs are dilution extrative. Since the dilution air is dry, I believe they consider the values on a dry basis, but I'll double check such and get back to you. The next CEM data set will be with both the ppm values and the #/mmBTU basis. Stack Flow is on a standard cubic feet per hour basis.

I will scan the sought drawings in and email tomorrow.

Bob Hof
-----Original Message-----
From: Wetteroff, David J
Sent: Tuesday, August 03, 1999 8:38 AM
To: Hof, Robert R
Subject: FW: Unit 4 Precip Data

-----Original Message-----
From: Hart, Thomas J
Sent: Monday, August 02, 1999 3:48 PM
To: Wetteroff, David J
Subject: Unit 4 Precip Data

Dave,

On Thursday, July 29, at 0700 the total precipitator power was 774 KW. TR set 4C3 was off. Per our earlier conversation, precip data was not captured during the test on Thursday due to a malfunction of the POS computer.

On Friday, July 31, the following data was gathered during the test (all TR sets were on):

Time	Total KW
7:30	No data
7:45	No data
8:00	902
8:15	726
8:30	719

8:45	706
9:00	664
9:15	613
9:30	585
9:45	586
10:00	581
10:15	560

I apologize for the missing data. I hope that it does not seriously affect your test results.

Tom