

**Nitrogen Oxide (NO_x) Emission
Reduction during Pellet Induration
by Fuel-Addition to the Green-Pellet**

Technicians

Gerald Sobtzak – Pot-grate

Roger Gustafson – Pot-grate

Andy Lindgren –Laboratory

Roger Koski – Continuous Emission Monitor

Coleraine Minerals Research Laboratory

Natural Resources Research Institute

University of Minnesota - Duluth

5013 Miller Trunk Highway

Duluth, MN 55811

by John Engesser

Principal Engineer

Division of Lands and Minerals

Minnesota Department of Natural Resources

Table of Contents

<u>Description</u>	<u>Page No.</u>
Table of Contents	2
List of Figures	
List of Tables	
List of Appendices	
Summary	4
Abstract	5
Introduction	5
Acknowledgements	5
Background	6-7
Test Program	8
Muffle Furnace Tests	8
Vertical Tube Furnace Tests	8
Pot-Grate Furnace Tests	8
Discussion of Results	9-29
Muffle Furnace Tests	9-11
Vertical Tube Furnace Tests	11-16
Pot-Grate Furnace Tests	16-29
NOx Production	16-17
Fired Pellet Quality – Excess Air (Normal Cycle)	18-27
Pellet Compression Strength	18-19
Reducibility and Tumble Index	19-22
Low Temperature Degradation (LTD)	23-24
Pellet Chemistry	24-26
Peak Pellet Temperature	27
Fired Pellet Quality – Stoichiometric Air	28-29
Comments and Recommendations	30
Conclusions	30-31
References	31

List of Figures

<u>Description</u>	<u>Page No.</u>
1. NOx Production Based on Flame Temperature	7
2. Magnetite Oxidation in Pellets – Muffle Furnace Tests	9
3. Coal Oxidation in Pellets – Muffle Furnace Tests	10
4. Calcination of Pellets in a Muffle Furnace	10
5. Magnetite Oxidation Rate Constants for Pellets	11
6. Carbon Oxidation Rate Constants for Coal in Pellets	12
7. Calcination Rate Constants	12
8. Percent Ferrous Iron versus Firing Temperature – No Coal	13
9. Pellet Compression Strength after 6 Minutes	14
10. Pellet Compression Strength after 10 Minutes	14
11. Pellet Compression Strength after 14 Minutes	15

List of Figures (Continued)

<u>Description</u>	<u>Page No.</u>
12. Pellet Compression after Vertical Tube Furnace Roast at 1922 F	15
13. NO _x Production during Fluxed Pellet Firing with Excess Air Present	16
14. NO _x Production during Fluxed Pellet Firing	17
15. NO _x Production during Acid Pellet Firing	17
16. Average Fluxed Peak Pellet Temperature versus Pellet Compression Strength	18
17. Pellet Compression Strength of Acid Pellets versus Peak Pellet Temperature	19
18. Average Fluxed Pellet Peak Temperature versus Reducibility	20
19. Reducibility of Acid Pellets vs Average Peak Pellet Temperature	20
20. Average Fluxed Pellet Peak-Temperature vs Tumble Index	21
21. After Tumble Index of Acid Pellet vs Peak Pellet Temperature	21
22. Pellet Tumble Index and Pellet Reducibility	22
23. Average Fluxed Pellet Peak-Temperature vs LTD	23
24. LTD of Acid Pellets vs Average Peak Pellet Temperature	24
25. Ferrous Iron Content in Vertical-Tube Furnace Pellets Roasted at 1742 F	24
26. Ferrous Iron Content in Vertical-Tube Furnace Pellets Roasted at 1922 F	25
27. Ferrous Iron Content in Vertical-Tube Furnace Pellets Roasted at 2192 F	25
28. Average Fluxed Pellet Peak-Temp. and Ferrous Iron Content – Pot-Grate	26
29. Average Acid Pellet Peak-Temperature versus Ferrous Iron Content	26
30. Peak Hood Temp. vs Average Peak Pellet Temperature for Fluxed Pellets	27
31. Peak Hood Temperature vs Average Peak Pellet Temperature for Acid Pellets	27
32. After Tumble Index of Pellets Produced Using a Stoichiometric Firing Cycle	28
33. LTD Index of Pellets Produced Using a Stoichiometric Firing Cycle	28
34. Reducibility of Pellets Produced Using a Stoichiometric Firing Cycle	29
35. Compression Strength of Pellets Produced Using a Stoichiometric Firing	29

List of Tables

<u>Description</u>	<u>Page No.</u>
Muffle Furnace Test Results - Table 1	32
Vertical Tube Furnace Test Results – Table 2	33-34
Calcination Rate Constants – Carbon and Iron Oxidation Rate Constants –Table 3	35
Pellet Quality, Heat Input, Nitrogen Oxide, and Air Flow Data - Pot-Grate Tests – Table 4	36
Peak Temperature and Pellet Quality for Pot Grate Pellet Tests – Table 5	37
Pot-Grate Pellet Chemical Analyses – Table 6	38
Chemical Analyses of Coal Sample – Table 7	39

List of Appendices

<u>Description</u>	<u>Page No.</u>
Muffle Furnace Test Descriptions – Appendix 1	40-42
Vertical Tube Furnace Test Descriptions – Appendix 2	43-48
Pot-Grate Furnace Test Descriptions – Appendix 3	49-51
Pot Grate Test Data – Temperature, and, Gas Analyses – Appendix 4	52-171
Pot Grate Test Data – Flow Data – Appendix 5	172-183

Summary

NO_x Emissions. The addition of coal to pre-fired fluxed pellets resulted in a ten percent decrease in nitrogen oxide formation during pot-grate induration tests when compared to test results without coal present in the pre-fired pellets.

A 75 percent decrease in nitrogen oxide formation occurred during pot-grate tests that had a firing cycle with a stoichiometric firing step. The firing cycle with the stoichiometric air to gas ratio included the following steps.

1. Drying Zone One
2. Drying Zone Two
3. Preheat-Firing
4. Oxidizing air (no flame)
5. Stoichiometric Firing (stoichiometric air supplied for combustion)
6. Cooling Air (no flame)

This firing cycle used a preheat-firing cycle to heat the magnetite pellets hot enough to start oxidation of the magnetite. Once oxidation of magnetite began, the flame was turned off and air was passed through the pellet bed. Oxidation of magnetite created heat energy that helped maintain pellet temperature while air was passed through the pellet bed. A stoichiometric flame (low NO_x) was then applied to the pellet bed. Final oxidation of the magnetite occurred during the cooling cycle. In the normal firing cycle steps 4 and 5 were combined into a firing cycle that contained about 400 % excess air. This excess air was used for oxidation of magnetite and combustion of the fuel. Excess air creates a condition that allows increased nitrogen oxide formation in the flame.

Straight-grate and grate-kiln pellet-indurating furnaces use 400 to 500 percent excess air.

Pellet Quality. Coal addition to pre-fired pellets decreased fired-pellet compression strength by approximately 100 pounds for each 0.5% of coal added to pre-fired pellets. Coal addition to pre-fired fluxed pellets did not affect the Low Temperature Degradation (LTD) Index, the After Tumble Index, or the Reducibility (dR/dT). The addition of 0.6% coal to pre-fired pellets increased the average maximum pellet temperature attained during pot-grate tests by approximately 30° to 60° F depending on the hood firing temperature. Temperature control and heating rate of the pellets during pellet induration was more important when coal was present in the pre-fired pellets than when it was not present. Rapid heating and elevated temperature applied to pellets that contained coal during vertical-tube-furnace tests resulted in reduced oxidation rates of magnetite and decreased pellet compression strength.

Pot-grate and vertical-tube-furnace test results demonstrated that pellet quality was a function of pellet temperature during induration. An optimum temperature existed whereby the oxidation rate of magnetite was maximized. The oxidation rate of magnetite was slower both above and below this optimum temperature. Pot-grate test results demonstrated that when pellets were fired at the optimum magnetite-oxidation-temperature, pellet quality parameters of LTD and Reducibility (dR/dT) were maximized. The after-tumble index and pellet-compression strength continued to increase with increasing temperature.

Abstract

A research project was undertaken to determine if coal addition to fluxed-magnetite greenballs would reduce nitrogen oxide (NO_x) emissions during pellet induration. Iron oxidation rate tests, coal oxidation rate tests and calcination rate tests were conducted in a laboratory furnace to determine the amount of coal necessary to provide adequate heat for fluxstone calcination without producing detrimental effects to iron oxidation. Twenty pot-grate tests were performed with varying amounts of coal in the pre-fired pellets to verify pellet quality parameters and nitrogen oxide emissions. The off-gas during each pot-grate test was analyzed for NO_x , CO_2 , CO , SO_x , and O_2 . Pot-grate tests were conducted using a preheat cycle followed by air oxidation of the pellets. A firing cycle with a stoichiometric air to gas ratio was used to add heat to the pellet bed after air oxidation. This was followed by an air-cooling cycle. Compression strength, reducibility tests, tumble tests, and low temperature degradation tests were performed on pellets from each pot-grate test to determine fired pellet quality. There was approximately a ten percent reduction in NO_x emissions when coal was added to the pellets. There was a 75% reduction in NO_x emissions during the tests that used a stoichiometric air to gas ratio.

Introduction

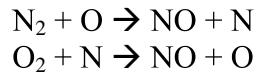
The production of nitrogen oxide during pellet induration is an environmental concern. Nitrogen oxide control systems, such as selective-catalytic-reduction (SCR) and selective-non-catalytic-reduction (SNCR), use urea or ammonia to react with the nitrogen oxide to form nitrogen and oxygen.¹ SCR and SNCR reactions require close tolerance reaction temperatures. If the temperature is too high additional NO_x can form. If the temperature is too low, “ammonia slip” can occur. Additional NO_x formation and ammonia emission are unwanted environmental problems. The SCR and SNCR control systems will create process problems and increase pellet production costs with no guarantee of NO_x emission reduction due to unpredictable process temperature variations. Previous work performed by the Coleraine Minerals Research Laboratory (CMRL) and the United States Bureau of Mines (USBM), demonstrate that NO_x formation during iron ore pellet induration is directly related to the amount of fuel used (BTU input) and the type of fuel used. Natural gas produces more NO_x during pellet induration than coal.^{2,3} Fluxed pellet production requires more heat input than does acid pellet production due to the additional heat required to decompose (calcine) the limestone and dolomite in the fluxed pellets. The heat required for calcination is added to the induration process through pre-heat burners that burn only natural gas. The addition of 0.5% to 1.0% coal to the pre-fired pellet could theoretically provide enough heat to calcine the limestone and dolomite. This would eliminate the need for preheat burners and thus decrease NO_x formation. It takes approximately 350,000 Btu to indurate one long ton of acid pellets and 500,000 Btu to indurate one long ton of fluxed pellets. Coal having a heat content of 11,500 Btu per pound would produce approximately 150,000 Btu per long ton of pellets if the dry pre-fired pellets contain 0.6% coal.

Acknowledgements

We would like to extend our thanks to USX Minntac for supplying the filtercake and bentonite that was used as pellet feed in this project.

Background

The Clean Air Act classifies Nitrogen Oxides (NO_x) as critical pollutants.⁴ Nitrogen Oxides are formed during pellet induration. The principal type of NO_x formed in the process is called thermal NO_x . It is formed due to the high flame temperatures that are obtained during pellet induration. Nitrogen Oxide formation increases with increasing flame temperature and becomes significant when the flame temperature in the furnace is greater than 2700 F. The mechanism for thermal NO_x formation is referred to as the Zeldovich reaction⁵ and is described in the following reaction equations:



A research program conducted by the Coleraine Minerals Research Laboratory and the United States Bureau of Mines determined that over 99 percent of the NO_x emitted from pellet-induration furnaces is NO .² When NO enters the atmosphere it reacts with oxygen forming NO_2 and Ozone (O_3).⁴ The NO_2 is soluble in water and, therefore, contributes to the formation of acid rain.⁴ Ozone is an air pollutant that is a major component of smog and poses a human health risk. A primary technique used to reduce Nitrogen Oxide formation in a cement kiln^{3,6} is to reduce excess air. A combustion process that uses a stoichiometric air to gas ratio produces much less nitrogen oxide than a process that uses excess air. The problem in a magnetite pellet kiln is that excess air is needed to oxidize the magnetite (Fe_3O_4) to hematite (Fe_2O_3). This oxidation reaction creates a crystalline-structure change that gives the fired pellet strength. The following reaction equation illustrates the oxidation reaction that occurs when hematite is formed during pellet induration.



Pellet temperature is very important to produce rapid oxidation of magnetite present in the pellet. The pellets are heated to a temperature of approximately 2200 F to 2300 F during the induration process. The flame temperature in a natural gas fired induration furnace can be over 3000° F. A natural gas flame at 3000° F with excess air present can produce more than 4 pounds of NO_x (as NO_2) per thousand standard cubic feet (MSCF) of natural gas burned.² At a NO_x production rate of 4 pounds per MSCF, the Minnesota Pollution Control Agency assessed NO_x fee is about \$0.02 per gross ton of pellets produced. The following graph illustrates NO_x production based on flame temperature in an induration furnace burning natural gas with and without excess air. The graph illustrates that decreasing the flame temperature and reducing energy (BTU) consumption will reduce the amount of nitrogen oxide released to the atmosphere. The graph also demonstrates that the quantity of NO_x produced by a stoichiometric flame is substantially less than the quantity of NO_x produced when excess air is present.

NOx Production Based on Flame Temperature

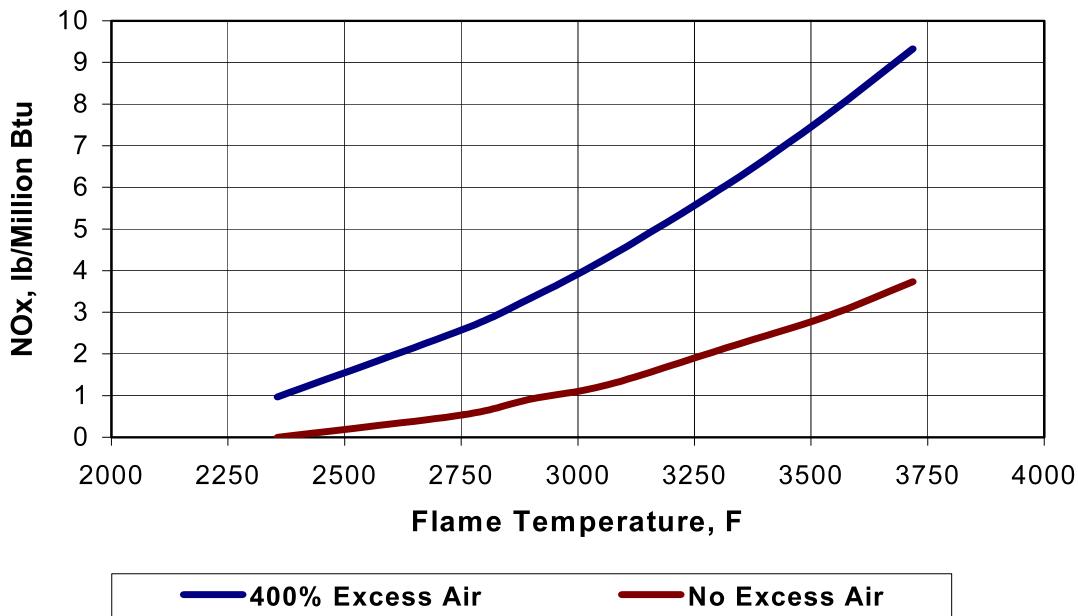
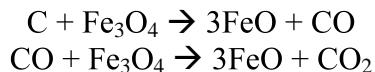


Figure 1

Several Minnesota taconite companies manufacture fluxed pellets. These are pellets that have limestone and dolomite added to the magnetite concentrate prior to ball formation and induration. The limestone and dolomite present in the pellet are calcined during the induration process. The calcination process requires additional heat that is not necessary when producing pellets without limestone and dolomite. This additional heat requirement for calcination is approximately 150,000 Btu per gross ton of pellets produced.

Coal addition to pre-pellets will increase the pellet temperature during coal oxidation and thus require less heat from the natural gas flame. Enough coal could be added to fulfill the calcination heat requirement for fluxed pellets. This sounds good in theory, however; the coal competes for oxygen with the magnetite. Coal that is heated in a magnetite pellet and cannot obtain oxygen from the air will obtain oxygen from the magnetite. The magnetite is reduced rather than oxidized. The reaction equations below demonstrate this reaction mechanism.



The reduced iron (FeO) will eventually oxidize thus increasing the pellet temperature. The calorific content of the coal will not be lost if no carbon monoxide (CO) escapes the pellet prior to oxidation to carbon dioxide (CO₂). The oxidation of magnetite to hematite can take longer when coal is present, because the magnetite can be reduced to wustite (FeO) prior to oxidation. Therefore, more residence time in the furnace would be

required. The best scenario is that the carbon(coal) oxidize to carbon dioxide prior to magnetite oxidation.

Test Program

Muffle Furnace Tests. Twenty-one muffle furnace tests were conducted with pellets produced from Minntac fluxed filter cake, bentonite, and coal. Tests were conducted at temperatures of 450 C (842F), 550 C (1022F), 650 C (1202F), 750 C (1382F), 850 C (1562F), 950 C (1742F), 1050 C (1922F). The dried pellets were heated at these temperatures for 6, 10 and 20 minutes. The fired pellets were removed from the furnace and cooled in a nitrogen atmosphere. The weight of the pellets was obtained prior to and after heating. Pre-fired dried pellets and fired pellets were pulverized and analyzed for carbon (C), carbon dioxide (CO_2) and magnetite (Fe_3O_4). The muffle furnace tests were conducted to investigate calcination rates, iron oxidation rates, and coal oxidation rates at various temperatures. A description of each muffle-furnace test is given in Appendix 1.

Vertical Tube Furnace Tests. Thirty-six vertical-tube furnace tests were conducted on pellets produced with Minntac fluxed filter cake, bentonite, and coal. Pellets were produced using no coal, 0.6% coal, and 1.0% coal. Tests were run at temperatures of 850 C (1562F), 950 C (1742F), 1050 C (1922F), and 1200 C (2192F). Test duration was 6, 10 and 14 minutes. The dried pellets were lowered into the hot zone of the furnace with a flow of one liter per minute air for the duration of the test. At the end of the test the air was turned off and a nitrogen purge of five liters per minute was started. The pellets were then lowered into a cooling chamber and purged with nitrogen until cool. Vertical tube furnace tests better simulate what occurs in a pellet-indurating furnace with air flow than do muffle furnace tests. These tests were conducted to study the oxidation rates of coal, the oxidation rates of iron and the calcination rates of the fluxstone (limestone and dolomite). The tests were also used to study how oxidation of coal in a pellet affects oxidation of magnetite. Pre-fired dried pellets and fired pellets were pulverized and analyzed for carbon (C), carbon dioxide (CO_2), total iron (Fe), ferrous iron (Fe^{++}), and magnetite (Fe_3O_4). A description of each vertical-tube furnace test is given in Appendix 2.

Pot-Grate Furnace Tests. Twenty pot-grate furnace tests were performed. A Continuous Emission Monitor (CEM) trailer was connected to the off-gas stack of the furnace. The furnace off-gas was continuously analyzed for oxygen (O_2), carbon dioxide (CO_2), carbon monoxide (CO), nitrogen oxide (NO_x), and sulfur dioxide (SO_2) during each test. Tests were conducted with and without coal in the pre-fired pellets. Three firing cycles were tested. One firing cycle was the standard cycle which consisted of a three minute down-draft-drying-1 (DDD1) cycle, a three minute down-draft-drying-2 (DDD2) cycle, a six minute preheat cycle, a ten minute firing cycle, and an air-cooling cycle. A second firing cycle consisted of a 1.9 minute down-draft-drying-1 cycle, a 2.5 minute down draft-drying-2 cycle, a 2.6 minute preheat cycle, a three minute firing cycle, a seven minute oxidation cycle (no flame), a six minute firing cycle with stoichiometric air, and an air-cooling cycle. The third firing cycle tested consisted of a 1.9 minute down-draft-drying-1 (DDD1) cycle, a 2.5 minute down draft-drying-2 (DDD2) cycle, a

2.6 minute preheat cycle, a three minute firing cycle, a seven minute oxidation cycle (no flame), a sixteen minute firing cycle with stoichiometric air, and an air-cooling cycle. A complete list of the pot-grate furnace test conditions is given in Appendix 3.

Discussion of Results

Muffle Furnace Tests. A description of each muffle furnace test is given in Appendix 1. The muffle furnace tests were conducted to study the oxidation of magnetite in pellets when coal is present, the oxidation of coal in pellets, and the calcination of fluxstone (limestone and dolomite mixture). The results from the muffle furnace tests are tabulated in Table 1. The data demonstrate that at 1922 F coal oxidation and fluxstone calcination were approximately 90 percent complete in 6 minutes. Magnetite oxidation was much slower than either coal oxidation or fluxstone calcination. Magnetite oxidation at 1922 F took about twenty minutes to attain 90 percent completion. The three graphs below demonstrate the dependence that oxidation and calcination had on time and temperature when a pre-fired pellet contained 0.6 percent coal.

**Magnetite Oxidation in Pellets - Muffle Furnace Tests
Pellets Contain 0.6% Coal**

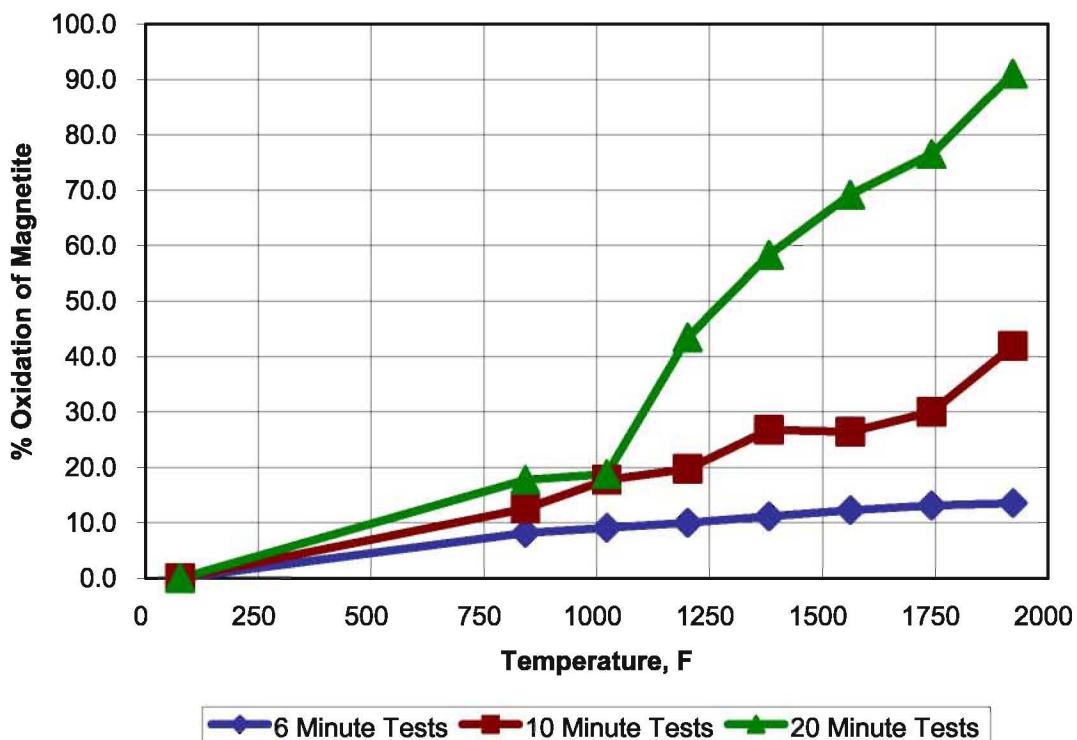


Figure 2

Coal Oxidation in Pellets - Muffle Furnace Tests
Pellets Contain 0.6% Coal

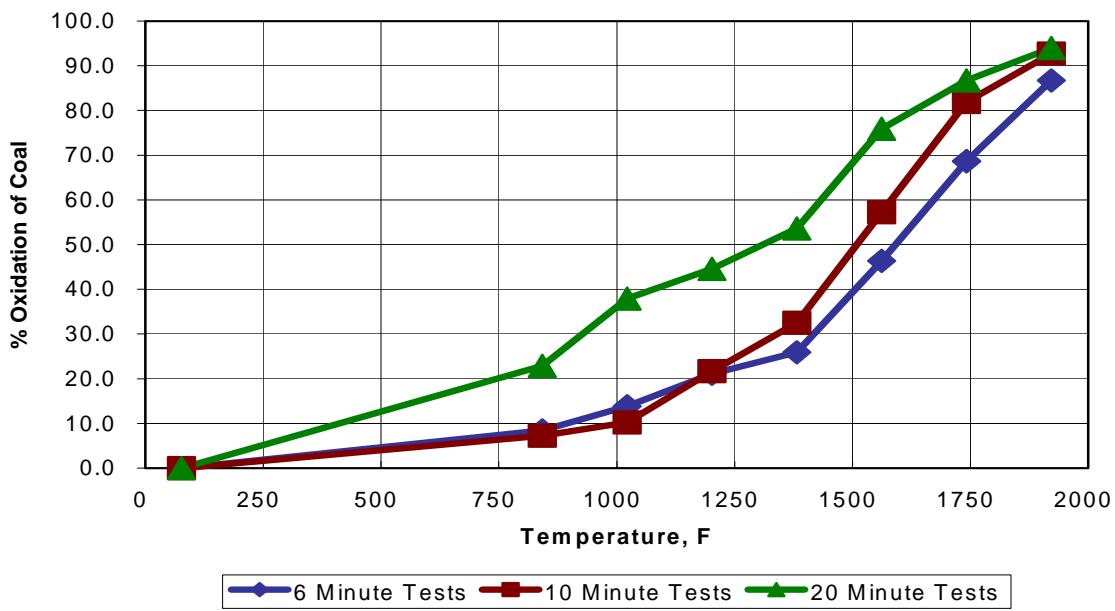


Figure 3

Calcination of Pellets in a Muffle Furnace
Pellets Contain 0.6% Coal

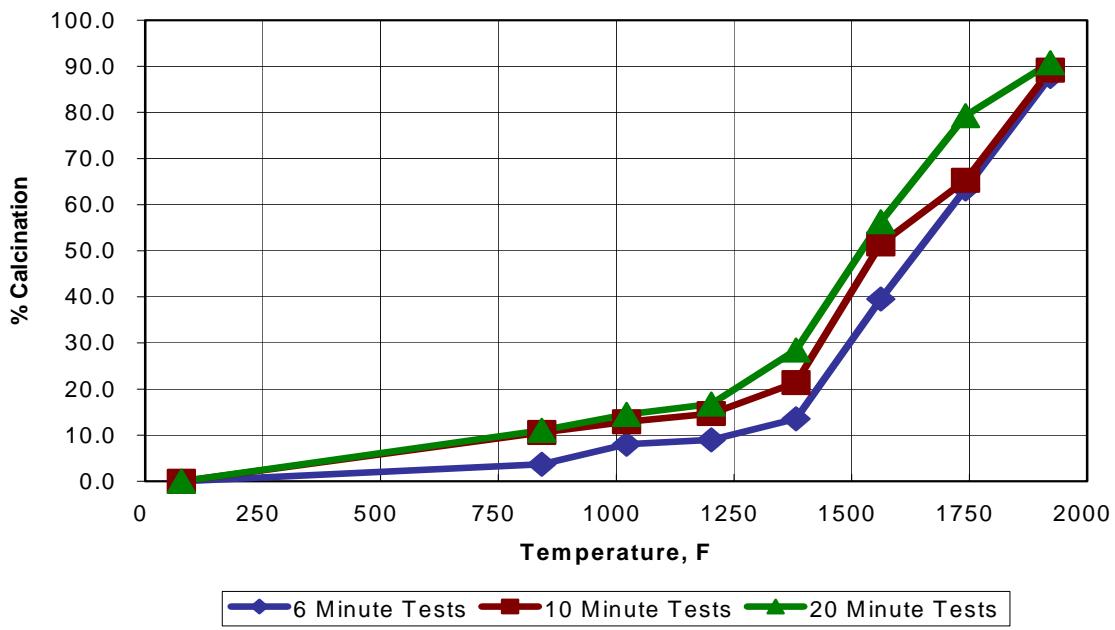


Figure 4

The above graphs demonstrate that the carbon in the pellets oxidized before the magnetite oxidized. The data indicate that a longer preheat time is necessary when coal is present.

Vertical Tube Furnace Tests. Vertical tube furnace tests were performed to study the oxidation of magnetite when coal is present in pre-fired pellets based on time, temperature, and coal content. Rate equations for magnetite oxidation, coal oxidation and calcination were calculated. Fired pellet compression strengths were also determined. Data from the vertical tube furnace tests are tabulated in Table 2. Calculated rate equations for magnetite oxidation, coal oxidation, and fluxstone calcination are listed in Table 3. Oxidation and calcination rate equations were calculated using a reiteration program that maximized the correlation coefficient. The equations were of the form

$$\begin{aligned}\% \text{Oxidation} &= 100 - 100e^{-kt} \\ \% \text{Calcination} &= 100 - 100e^{-kt}\end{aligned}$$

where k is the rate constant and t is the time in minutes. The graphs below are plots of the rate constants versus temperature. The larger the rate constant the faster the reaction.

Magnetite Oxidation Rate Constants for Pellets

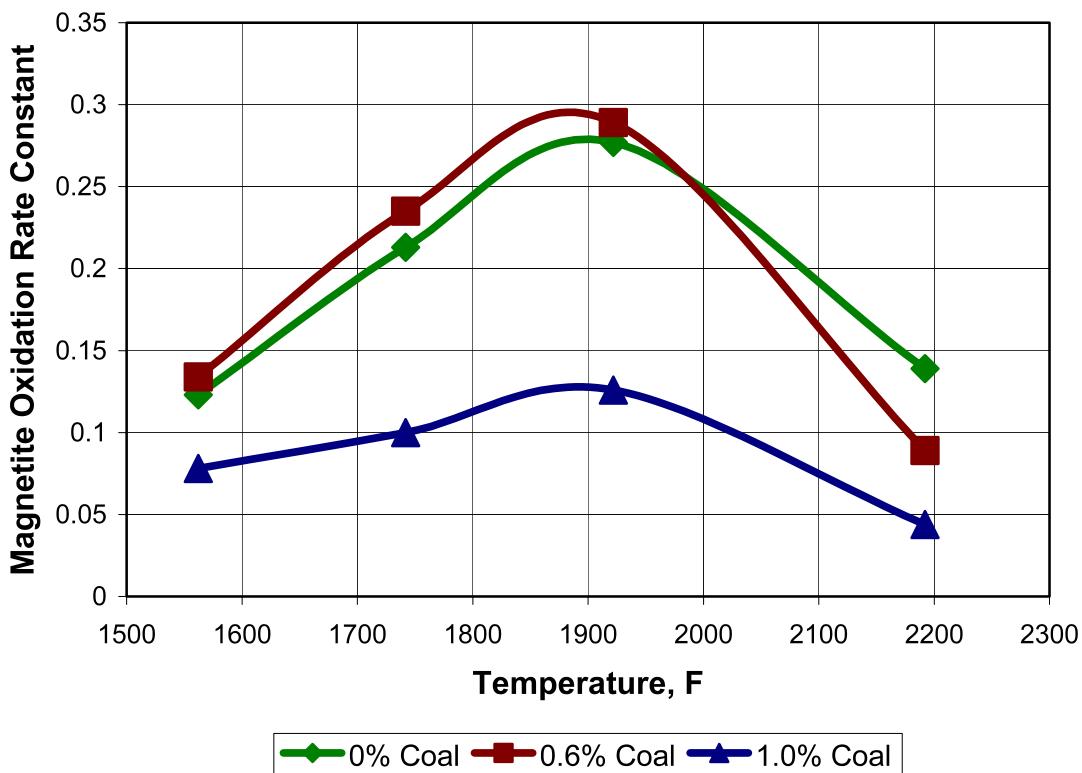


Figure 5

Carbon Oxidation Rate Constants for Coal in Pellets

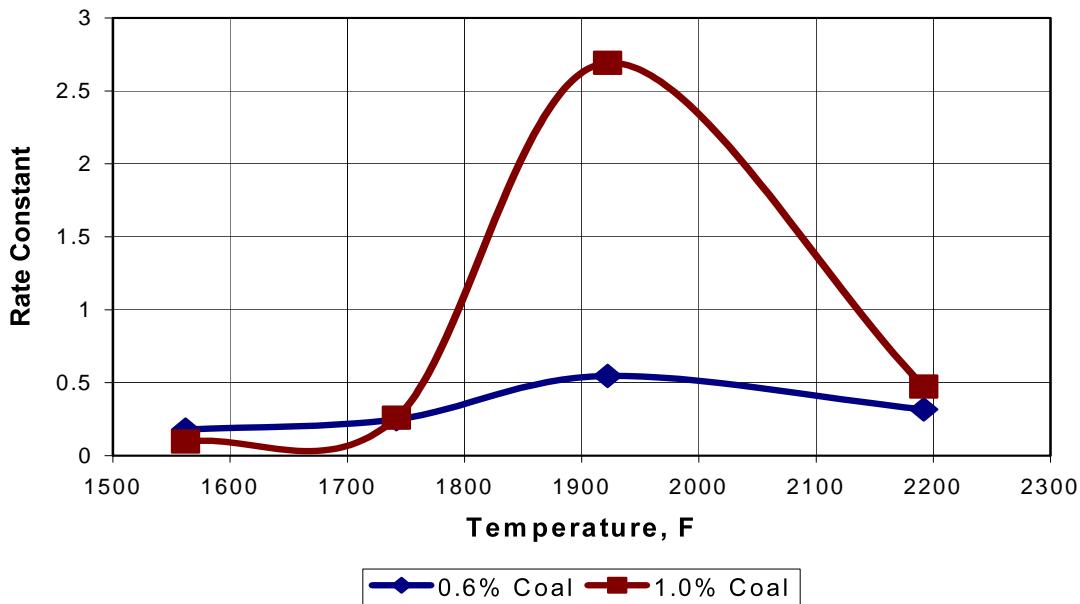


Figure 6

Calcination Rate Constants

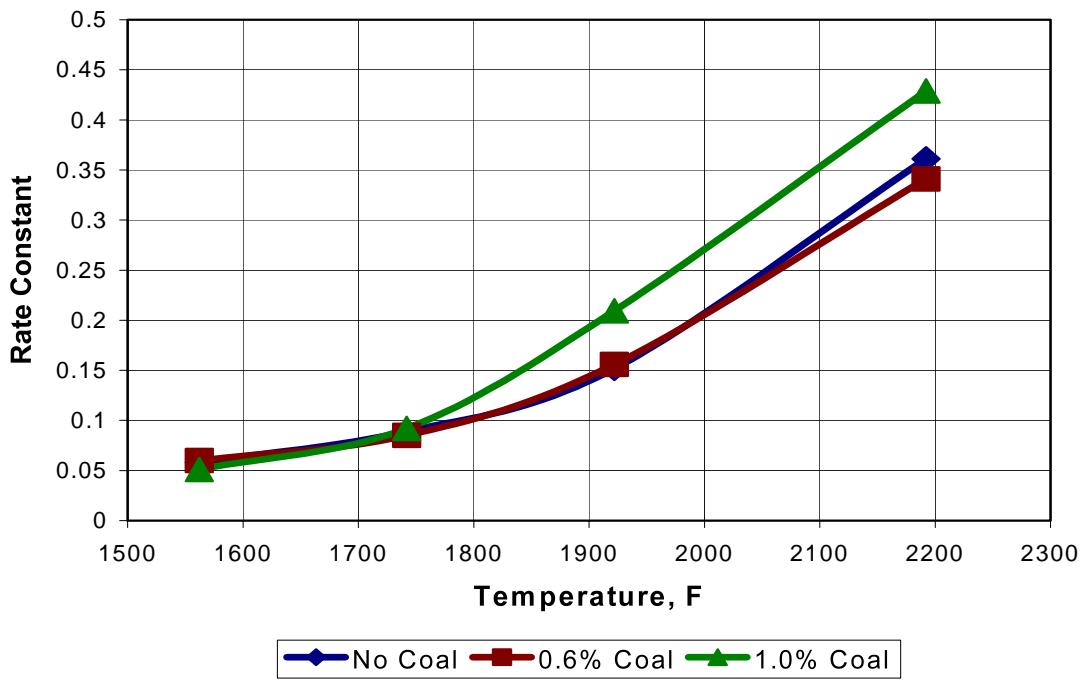


Figure 7

Maximum oxidation rates, as illustrated in Figures 5 and 6, occurred at approximately 1900 F. Magnetite oxidation rates dramatically slowed when coal addition was increased from 0.6% to 1.0% (Figure 5). Magnetite oxidation rates were higher with 0.6% coal than with no coal when oxidation temperatures were less than 1922 F. As the temperature increased from 1922 F to 2192 F, oxidation rates of both magnetite and coal decreased. This was probably due to rapid oxidation and formation of an outer shell on the pellet that did not allow oxygen to penetrate into the core of the pellet. It is apparent from the vertical-tube-furnace oxidation data that an optimum oxidation temperature existed whereby the oxidation rates of both coal and magnetite were maximized. A temperature that was either too high or too low decreased the oxidation rates of both magnetite and coal. The optimum oxidation temperature for the filter cake used in these tests was about 1900 F. The calcination rates when 0.6% coal was present and when no coal was present were about equal (Figure 7). Calcination rates were higher with 1.0% coal than with 0.6% coal (Figure 7).

The graph below illustrates the amount of ferrous iron present in fired pellets after firing at various temperatures for 10 and 14 minutes. It also illustrates that the optimum oxidation temperature for magnetite-pellets that contained no coal was approximately 1900 F.

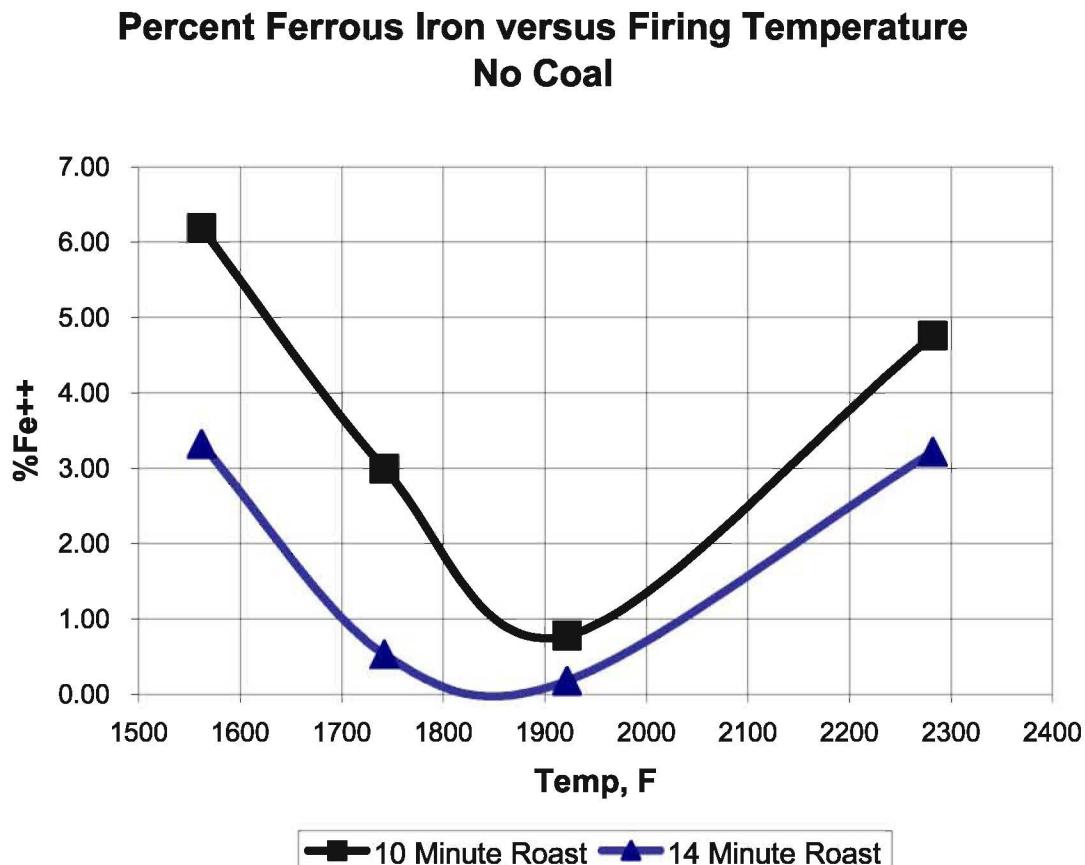


Figure 8

Pellet compression is an important quality parameter. The following four graphs demonstrate what occurred to pellet compression strength with and without coal in pre-fired pellets.

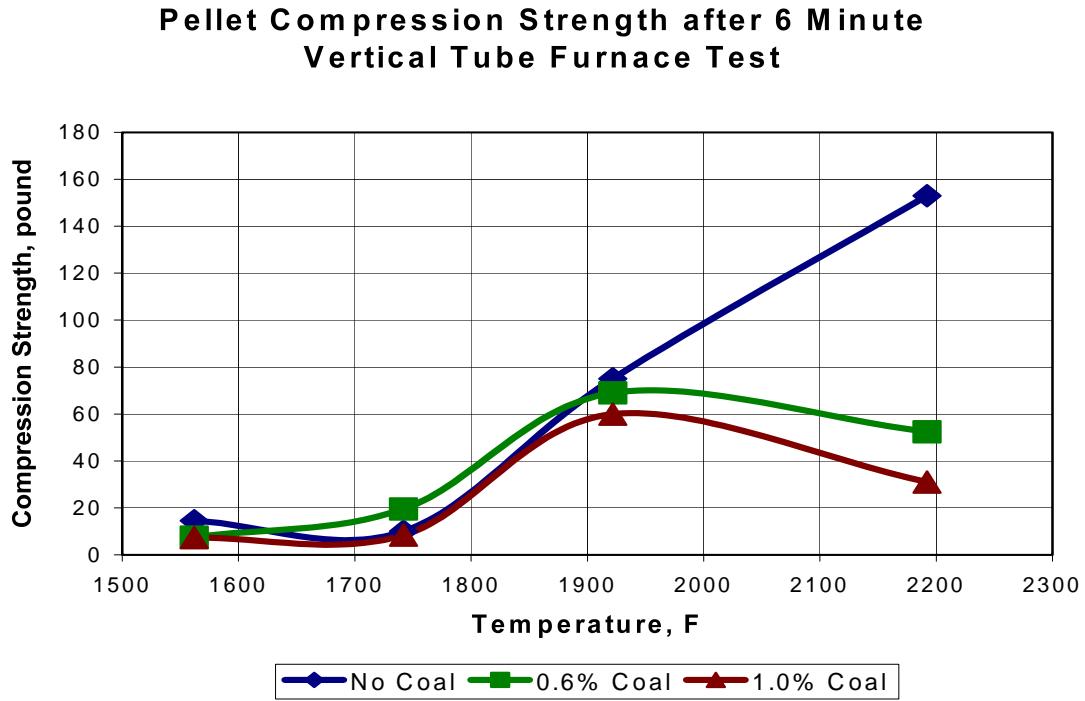


Figure 9

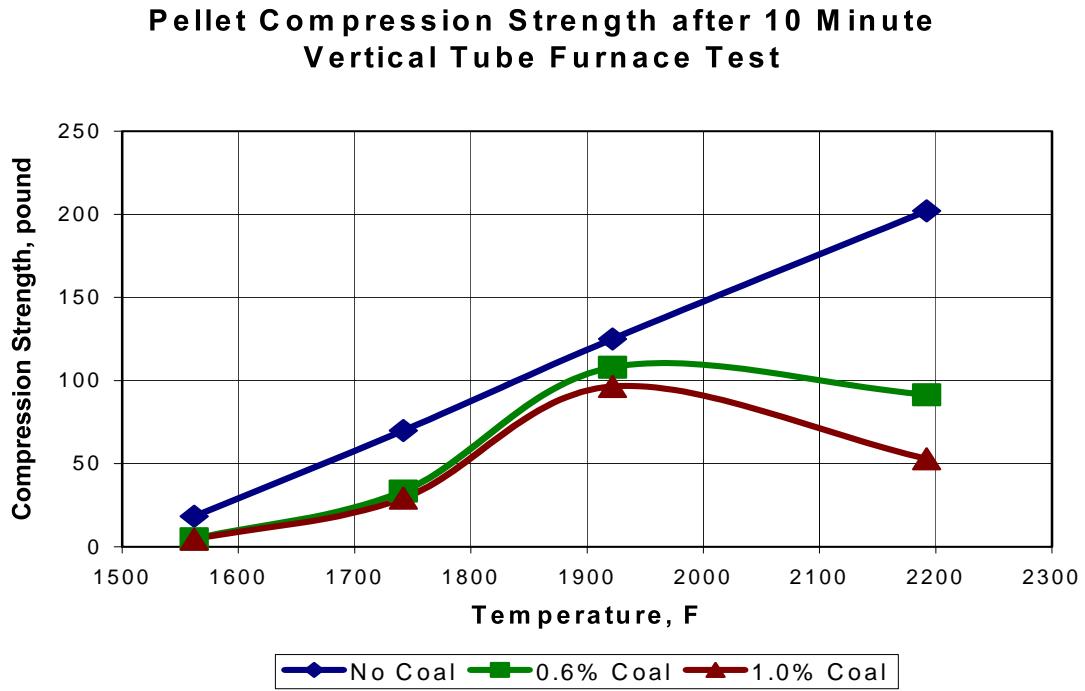


Figure 10

**Pellet Compression Strength after 14 Minute
Vertical Tube Furnace Test**

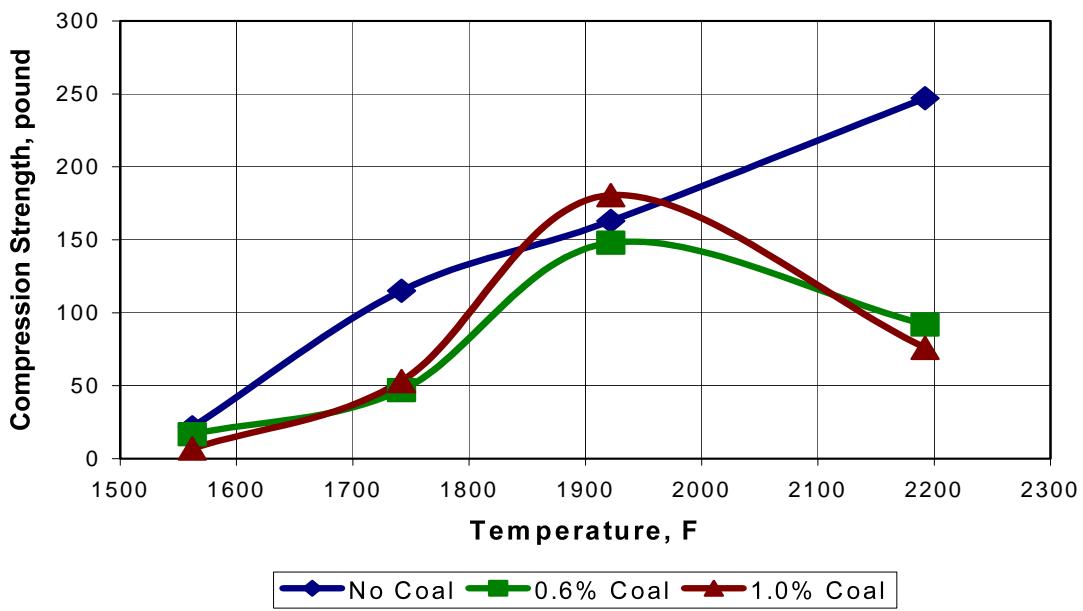


Figure 11

**Pellet Compression Strength after Vertical Tube
Furnace Roast at 1922 F**

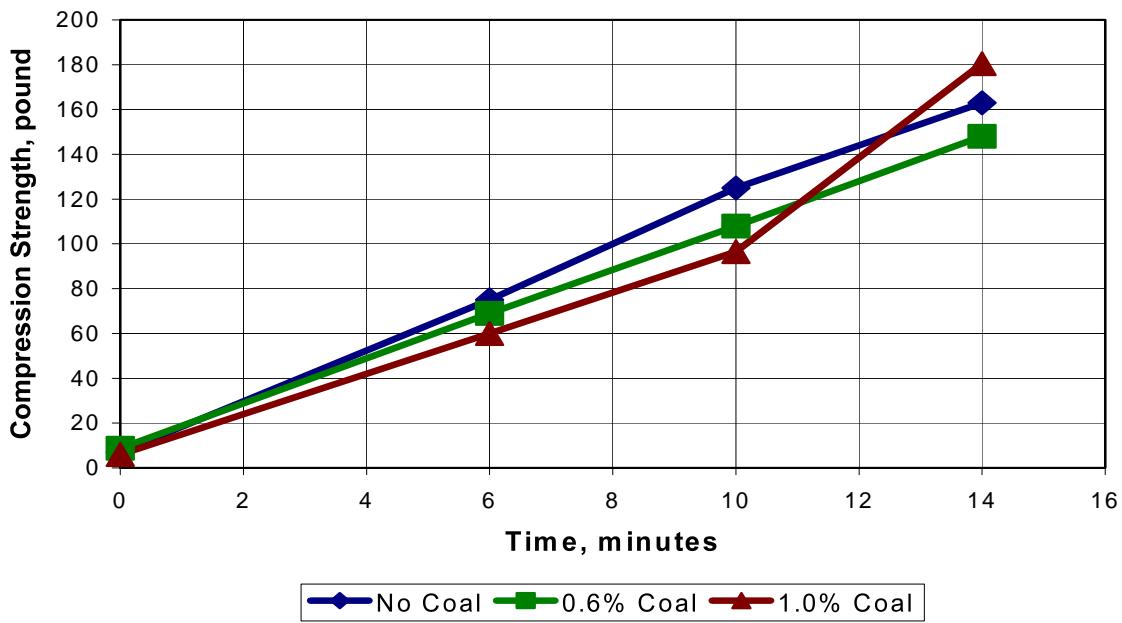


Figure 12

The above graphs indicate that if coal is present in the pre-fired pellets, the pre-heat firing temperature must be held below 2000 F. Pellets that were heated at 1922 F had about the same compression strength for tests with and without coal. The compression strength decreased when the firing temperature increased from 1922 F to 2192 F and coal was present in the pre-fired pellets. The data illustrated in Figures 9 through 12 demonstrate that when coal is added to pellets, the pre-heat firing temperature must be controlled in order to maintain adequate pellet strength. It appears that the optimum oxidation temperature was equal to the optimum compression-strength temperature. Oxidation of magnetite in the pellet core was apparently inhibited due to the formation of a gas impermeable outer pellet shell that formed at high temperatures. The non-oxidized magnetite inside the pellet led to weak pellets.

Pot-Grate Furnace Tests. Twenty pot-grate tests were performed and are described in Appendix 3. The data for the pot-grate tests are given in Appendix 4 and Appendix 5.

NO_x Production. There was a decrease in the amount of nitrogen oxides (NO_x) produced with coal present in the pre-fired fluxed-pellets (Figure 13). It should be noted that most of the heat input used in the pot-grate pellet induration is used to heat the pot-grate apparatus. If only 20 percent of the heat is used to indurate the pellets, then a 10% reduction in NO_x production in the pot-grate test could mean a 50% NO_x reduction in a continuous indurating-furnace. The graph below illustrates the decrease in NO_x emitted from fluxed pellets that contained coal during pot-grate induration tests.

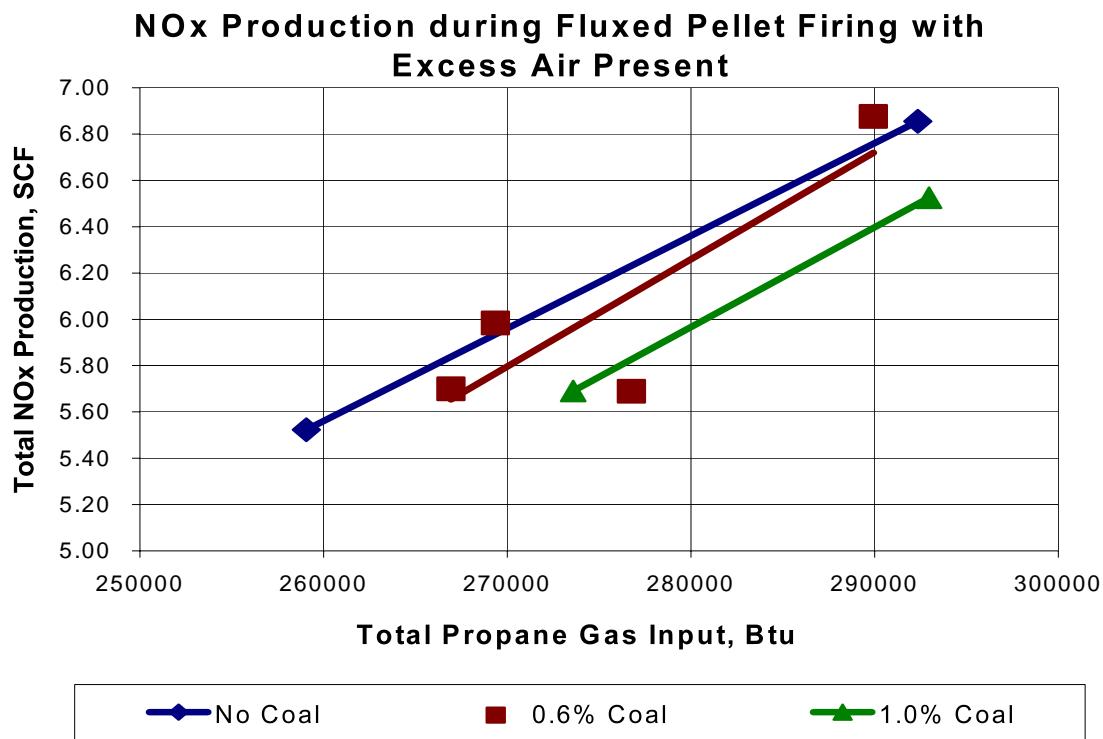


Figure 13

There was about a 75 percent reduction in NOx formation when the firing cycle included an oxidizing air cycle with no flame followed by a firing cycle with a stoichiometric amount of air supplied to the flame. The following graphs illustrate the NOx production with coal, without coal, and with stoichiometric air. The base case data were run with excess air. A summary of the gas analysis data, air-flow data and BTU data for the pot-grate tests are listed in Table 4.

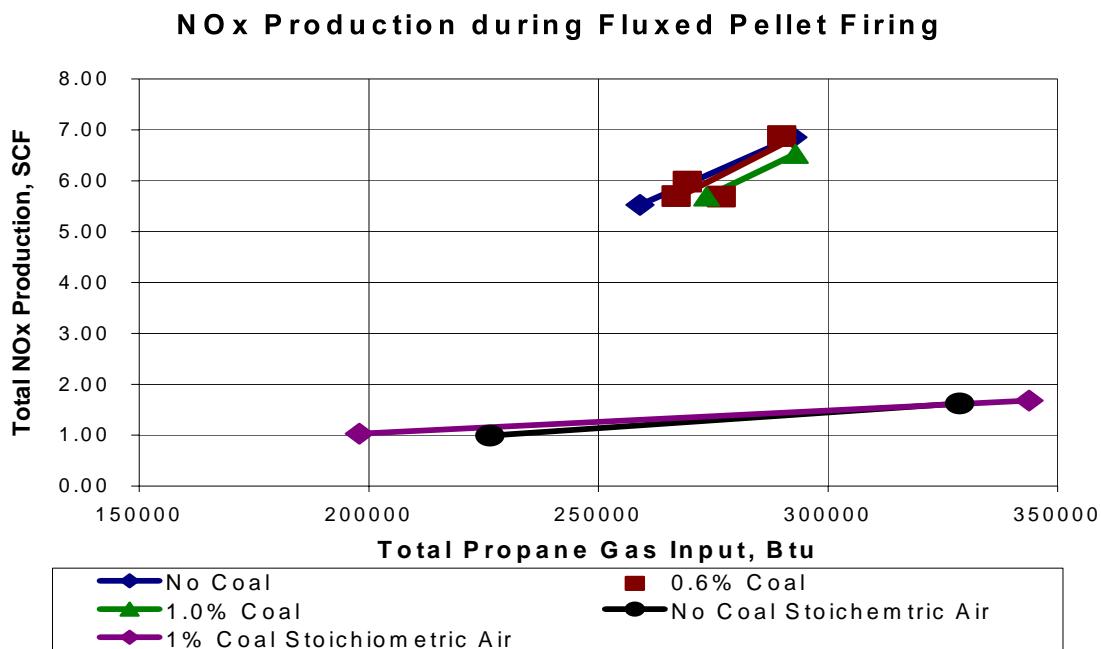


Figure 14

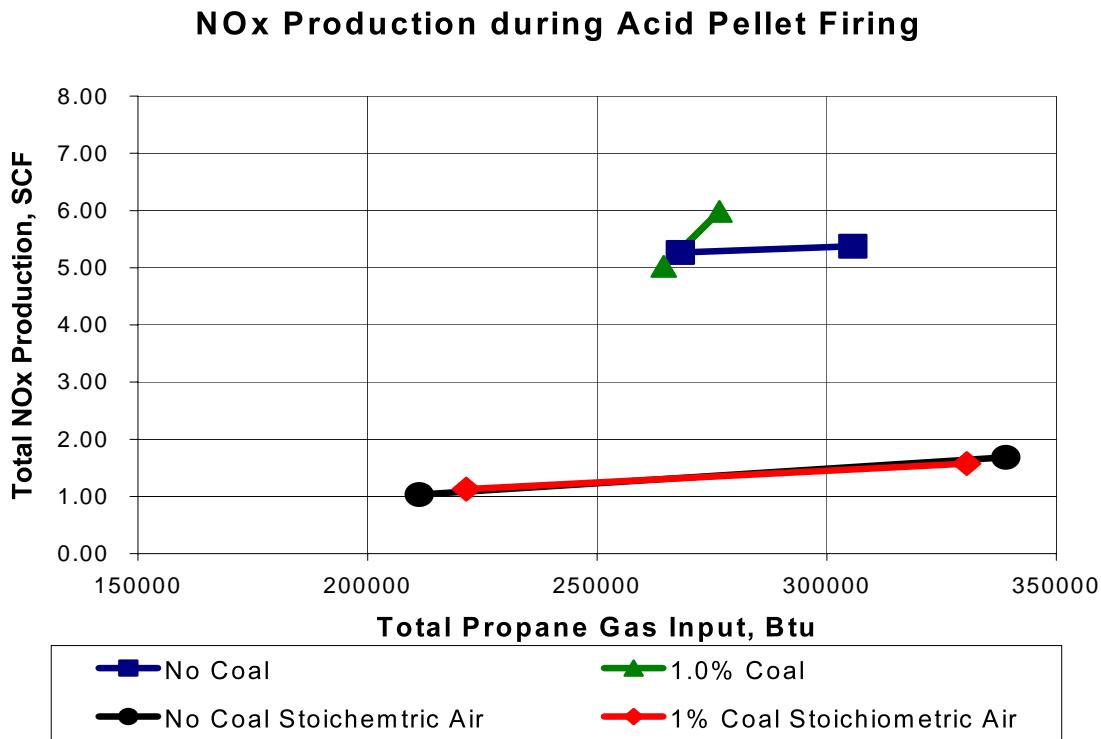


Figure 15

Fired Pellet Quality – Excess Air (Normal Cycle). A summary of the fired pellet quality data for the pot-grate tests are listed in Table 5. **Pellet compression strength** of the fired pellets decreased when coal was present in the pre-fired pellets. Pellet compression strength generally increased with increasing pellet firing temperatures; however, when 1% coal was present in the pre-fired pellets, the pellet compression strength decreased with increased pellet firing temperature. The addition of 0.6% coal to the pre-fired pellets decreased the compression strength of the fired pellets by approximately 100 pounds when compared to pellets that contained no coal. The addition of 1.0% coal to pre-fired pellets decreased the compression strength of fired pellets by more than 200 pounds. The following two figures illustrate the relationship that exists between pellet compression strength, coal addition rate, and pellet firing temperature for both fluxed pellets and acid pellets.

Average Fluxed Pellet Peak-Temperature versus Pellet Compression Strength

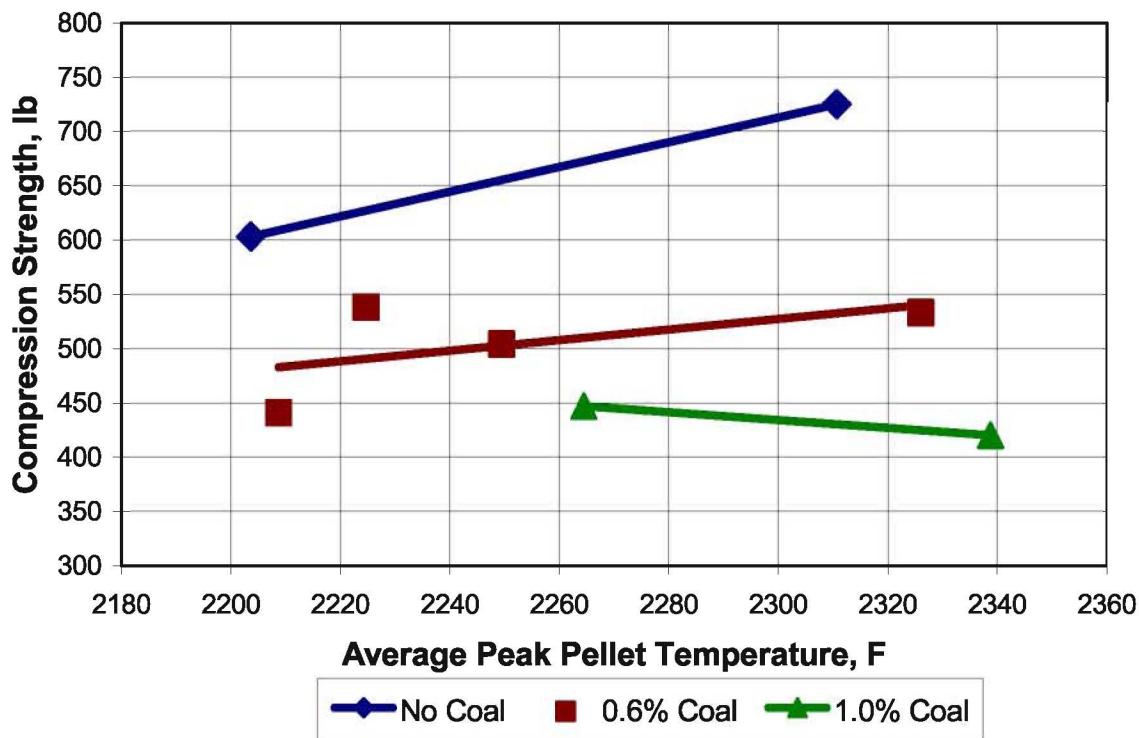


Figure 16

Pellet Compression Strength of Acid Pellets versus Average Peak Pellet Temperature

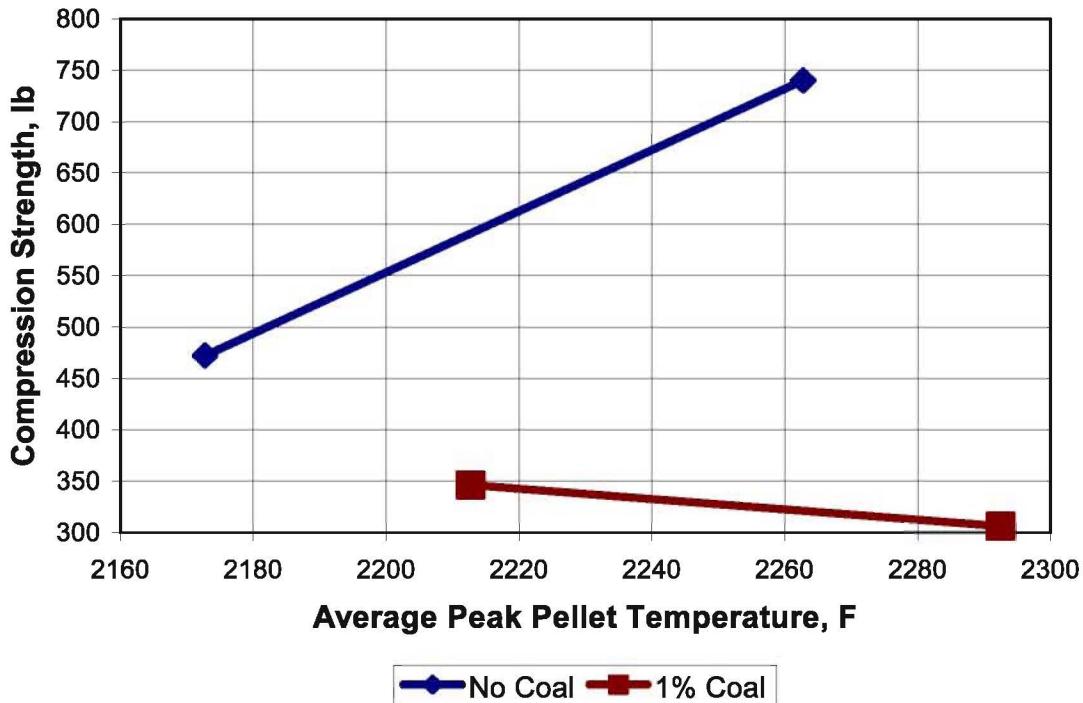


Figure 17

Reducibility and Tumble Index correlate very well with pellet firing temperature. As the pellet firing temperature increased the reducibility decreased. The reverse is true for the tumble index. As the pellet firing temperature increased, the tumble index increased. The addition of coal to the pre-fired pellets did not affect the reducibility of the pellets. The pellet reducibility is affected more by pellet firing temperature than by coal addition. However, coal addition does change the pellet temperature. The following two figures illustrate the relationship that exists between pellet firing temperature, coal addition rate, and pellet reducibility for both acid and fluxed pellets.

Average Fluxed Pellet Peak-Temperature versus Reducibility (dR/dT)

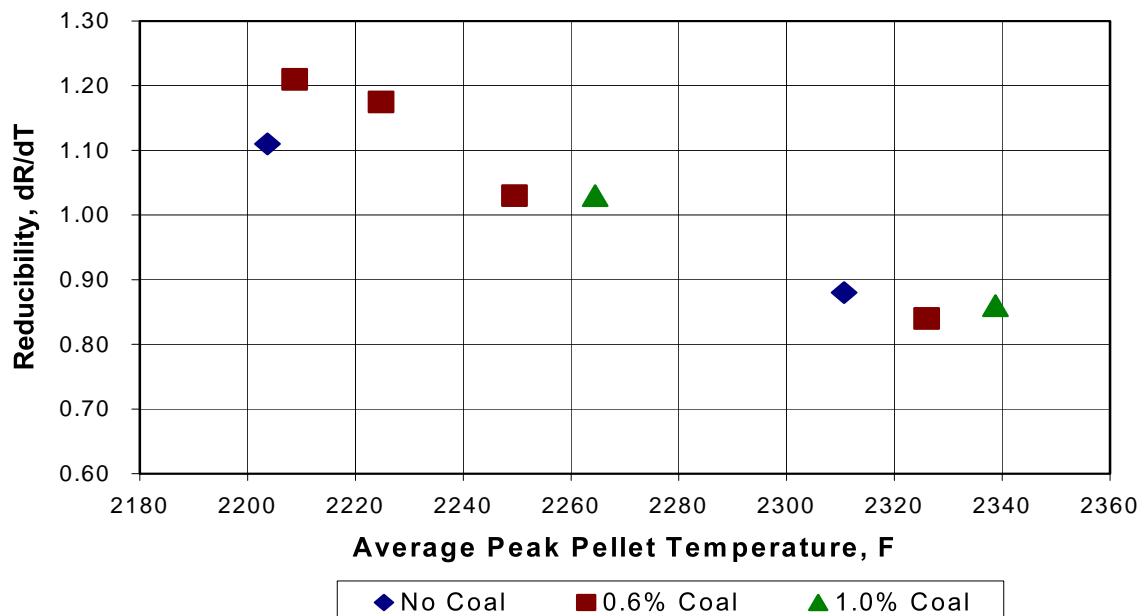


Figure 18

Reducibility of Acid Pellets versus Average Peak Pellet Temperature

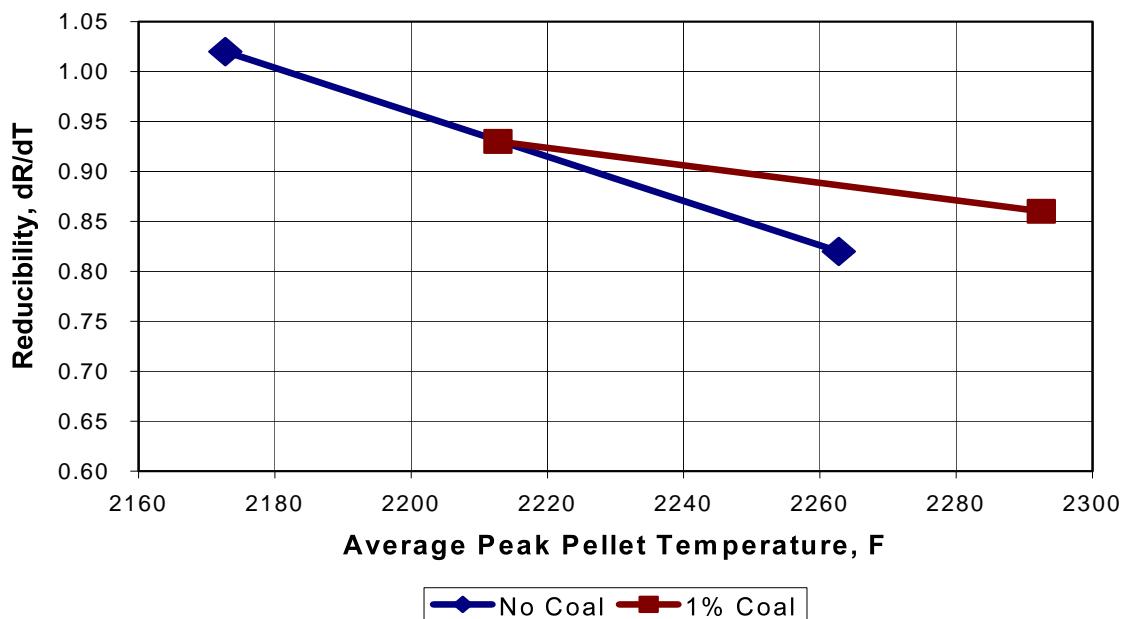


Figure 19

The addition of coal to pre-fired pellets decreased the tumble index by 1 to 4 percent. The affect of coal addition was greater in acid pellets than in fluxed pellets. The following graphs illustrate the affect that coal addition and firing temperature have on tumble index.

Average Fluxed Pellet Peak-Temperature versus Percent Passing 1/4 inch After Tumble

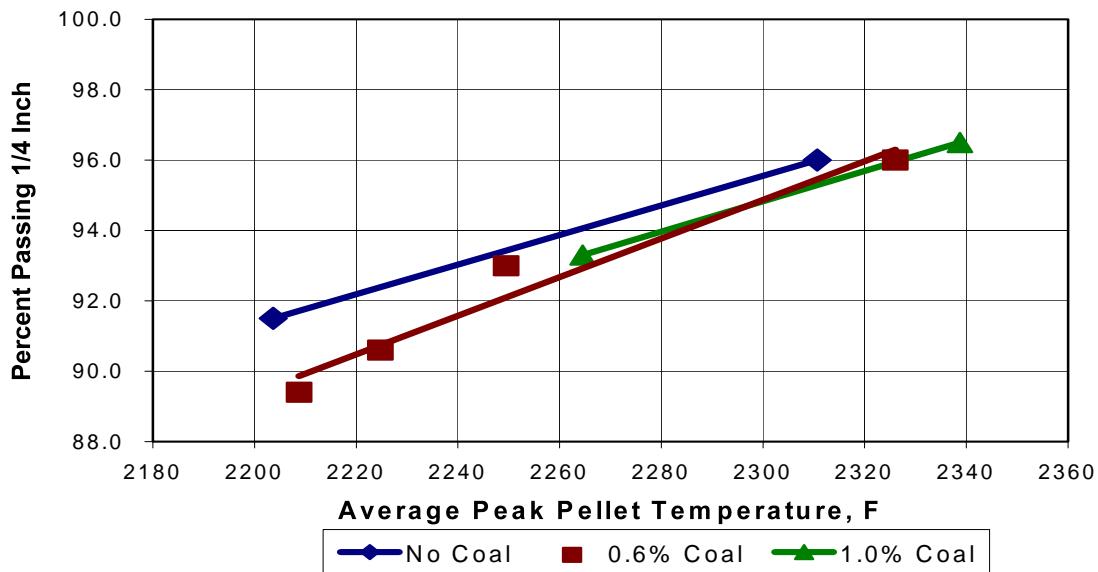


Figure 20

After Tumble Index of Acid Pellets versus Average Peak Pellet Temperature

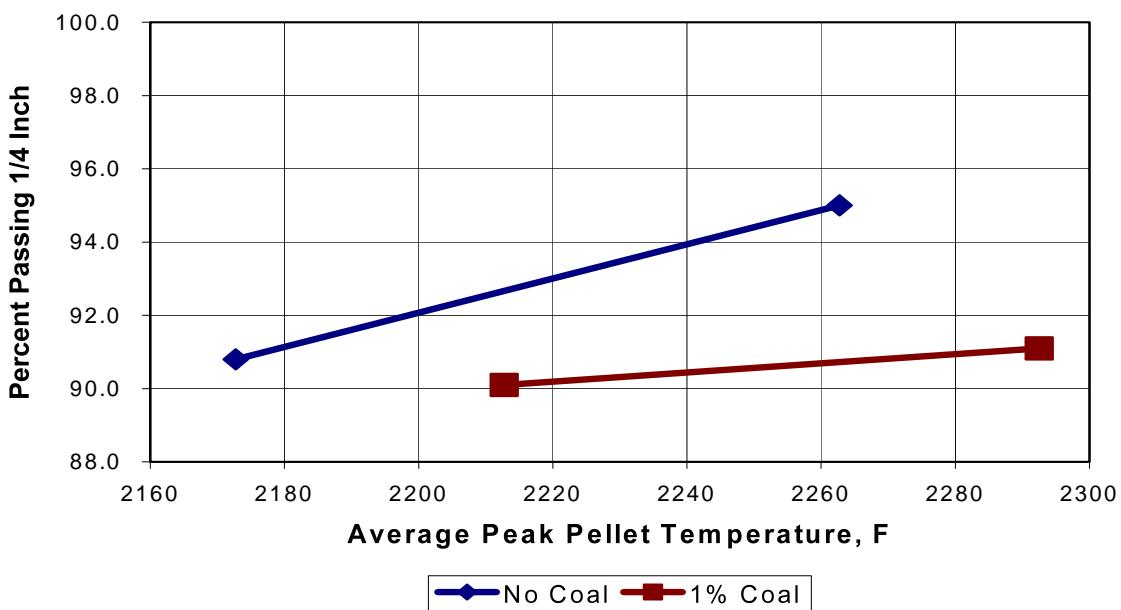


Figure 21

An inverse correlation exists between tumble index and reducibility. This means that if a required reducibility (independent variable) is a production parameter then the tumble index (dependent variable) will depend on the reducibility. It also means that if the required production parameter is the tumble index (independent variable) then the reducibility (dependent variable) will depend on the tumble index. The following graph illustrates the relationship between reducibility and tumble index.

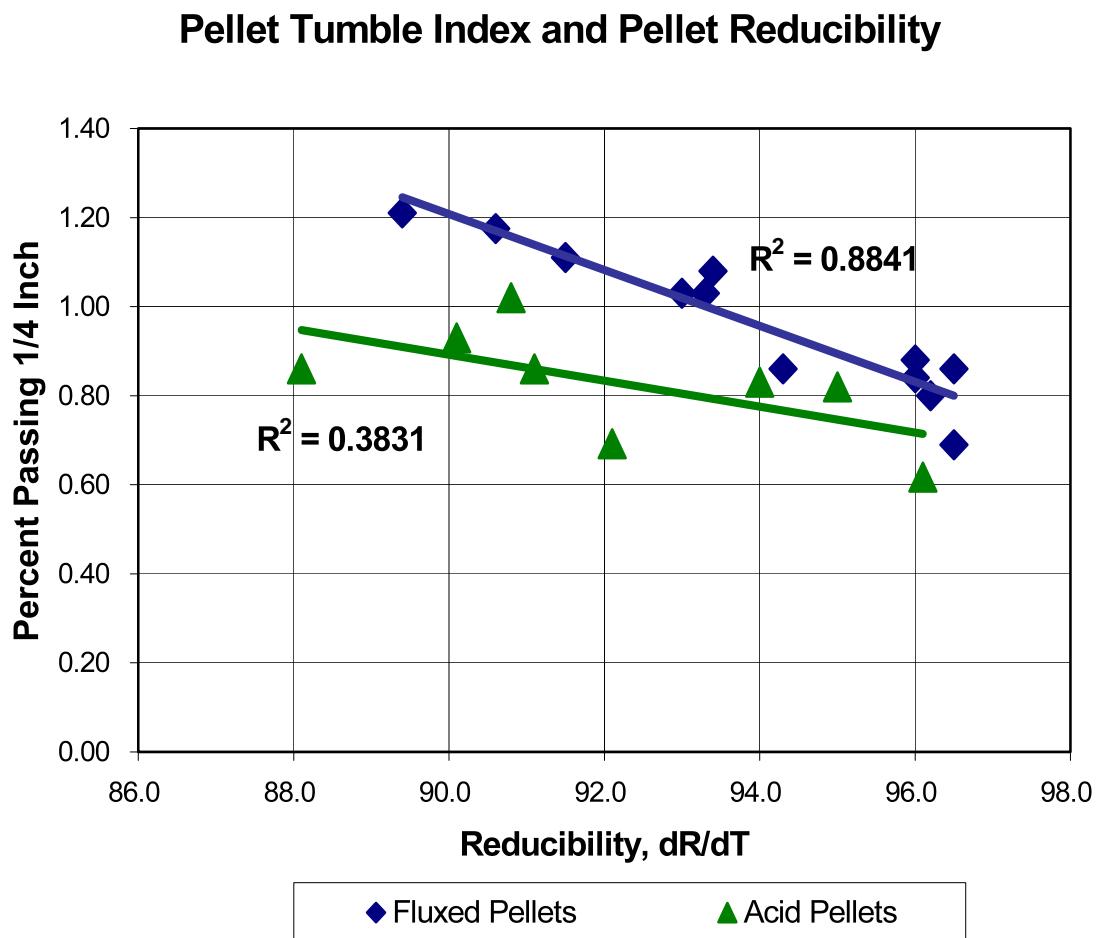


Figure 22

The correlation between pellet reducibility and tumble index is better for fluxed pellets ($R^2 = 0.884$) than for acid pellets ($R^2 = 0.383$).

Low Temperature Degradation (LTD) of fluxed pellets decreased with increasing pellet-firing temperature. The following graph illustrates this fact.

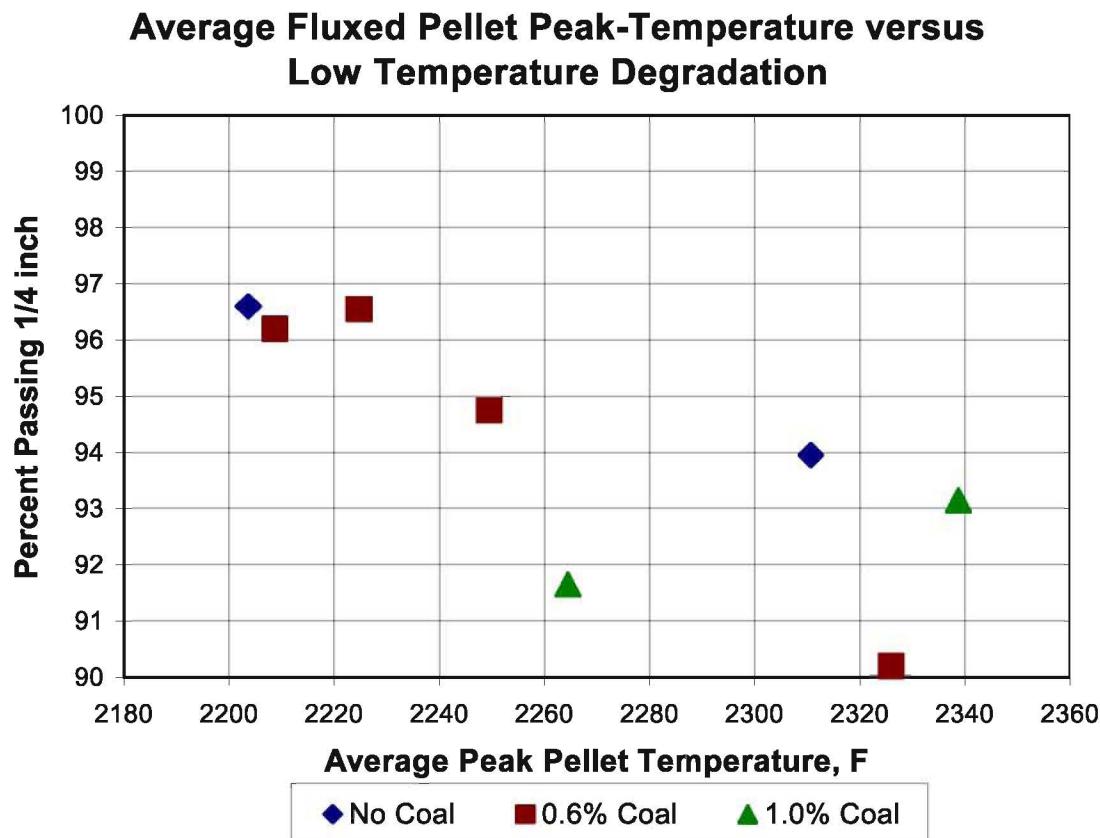


Figure 23

Peak pellet temperatures less than 2200 F were not tested in the pot-grate tests. If temperatures less than 2200 F had been tested, then at some temperature the LTD index (percent passing $\frac{1}{4}$ inch) would have started to decrease with decreasing temperature. The maximum LTD index for fluxed pellets occurred at a peak pellet-temperature close to 2200 F. The data demonstrate that the LTD index is sensitive to firing temperature. The addition of coal to pre-fired fluxed pellets had a slight affect on the LTD index. The addition of coal to pre-fired acid pellets had more of an affect on the LTD index than it did for fluxed pellets. The following graph illustrates the relationship between the LTD index, coal addition and peak pellet-temperature for acid pellets.

Low Temperature Degradation (LTD) of Acid Pellets versus Average Peak Pellet-Temperature

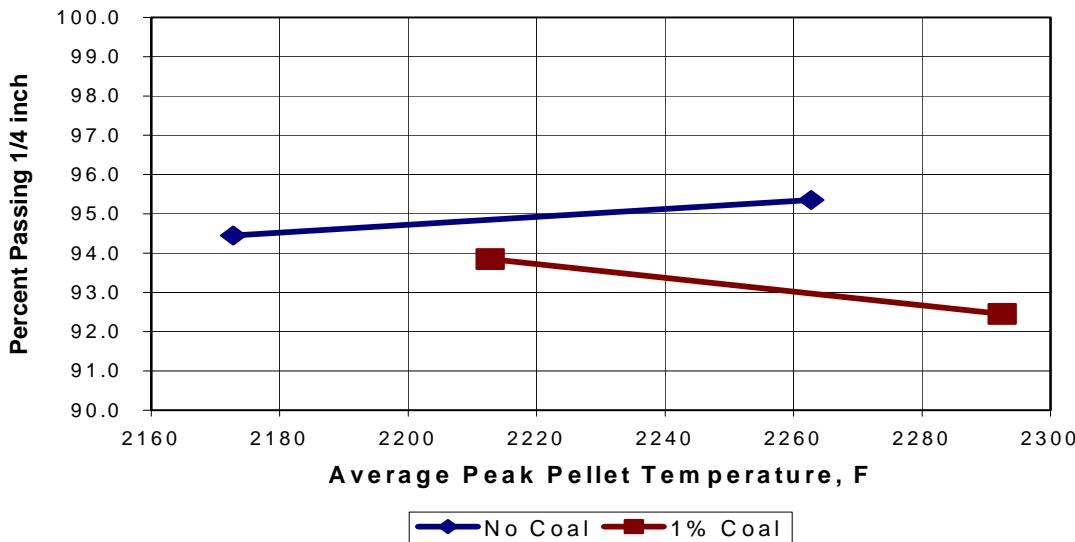


Figure 24

Pellet Chemistry data for the pot-grate tests are listed in Table 6. The ferrous iron content in fired fluxed pellets did not appear to be affected by coal addition to pre-fired fluxed pellets in the pot-grate tests. This was not true for the vertical-tube furnace tests. The ferrous iron content of the pot-grate fired fluxed pellets was affected by firing temperature. The pot-grate test data and the vertical tube furnace data demonstrate that there was an optimum firing temperature that produced a minimum ferrous iron content in fired pellets. Once this temperature was exceeded, the ferrous iron content of fluxed pellets increased. It appears that the optimum peak pellet-temperature for fluxed pellet induration in a pot-grate was about 2200 F. The following graphs illustrate the relationship that exists between ferrous iron content, temperature and coal content in the fired pellets.

Ferrous Iron Content in Vertical Furnace Pellets with Varying Amounts of Coal at 1742 F

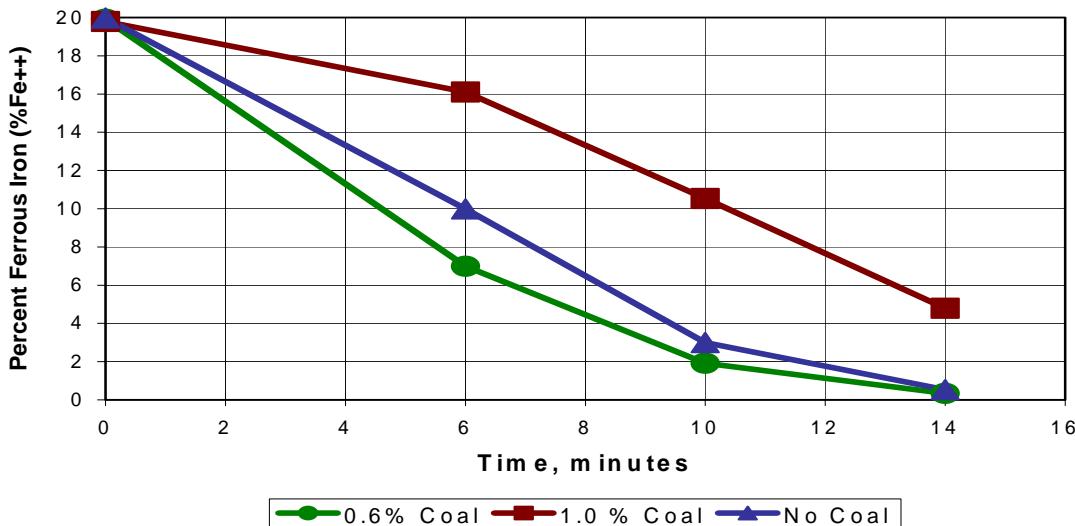


Figure 25

Ferrous Iron Content in Vertical-Furnace Pellets with Varying Amounts of Coal at 1922 F

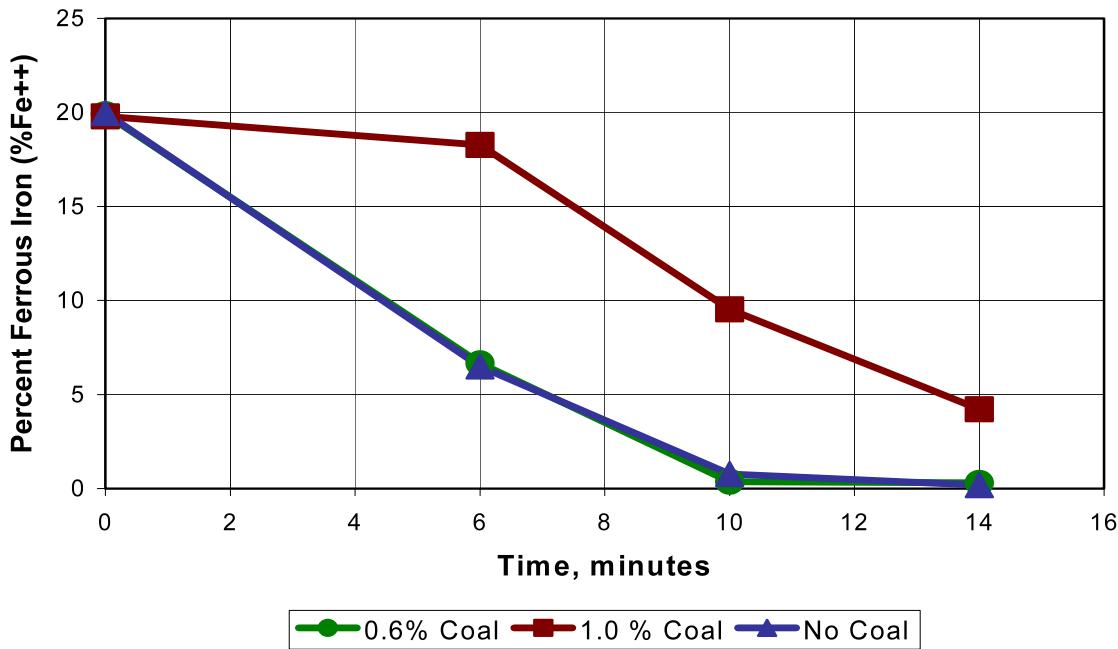


Figure 26

Ferrous Iron Content in Vertical-Furnace Pellets with Varying Amounts of Coal at 2192 F

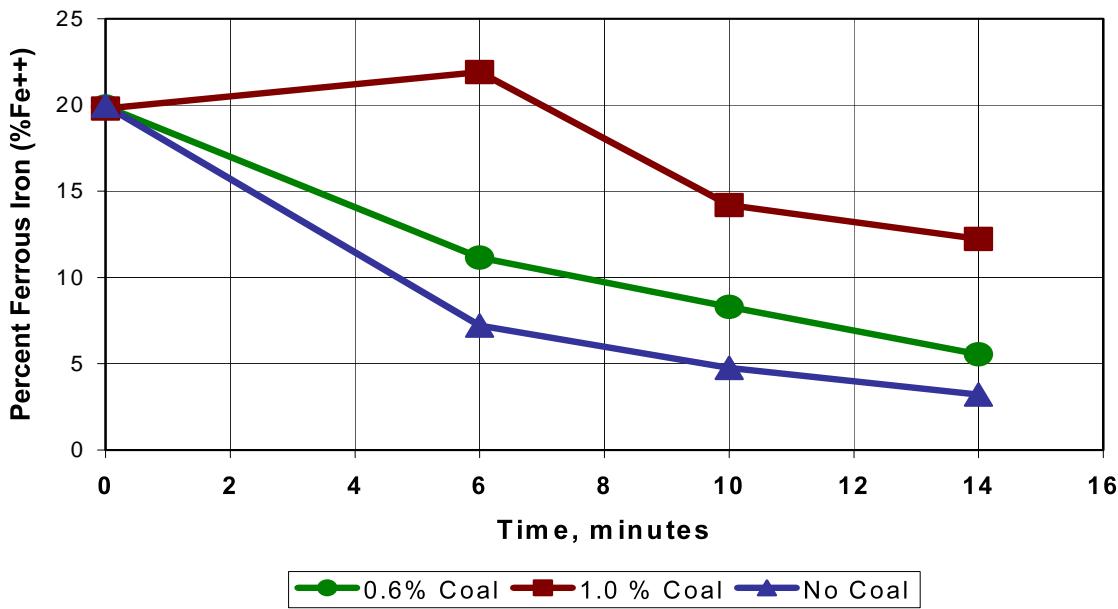


Figure 27

Average Fluxed Pellet Peak-Temperature and Ferrous Iron in Pot-Grate Pellets

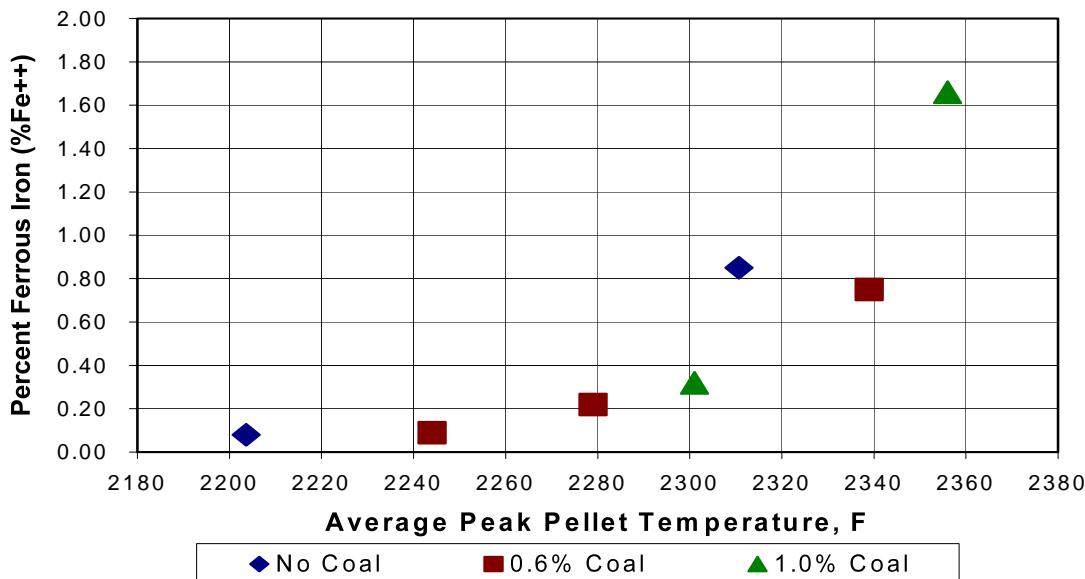


Figure 28

The ferrous iron content of fired acid pellets was not as dependent on firing temperature as it was for fired fluxed pellets. However, the ferrous iron content of fired acid pellets was affected by the addition of coal to pre-fired acid pellets. The addition of coal caused an increase in the ferrous iron content of the fired acid pellets. The following graph illustrates the affect that firing temperature and coal addition had on the ferrous iron content of fired acid pellets.

Average Acid Pellet Peak-Temperature versus Ferrous Iron

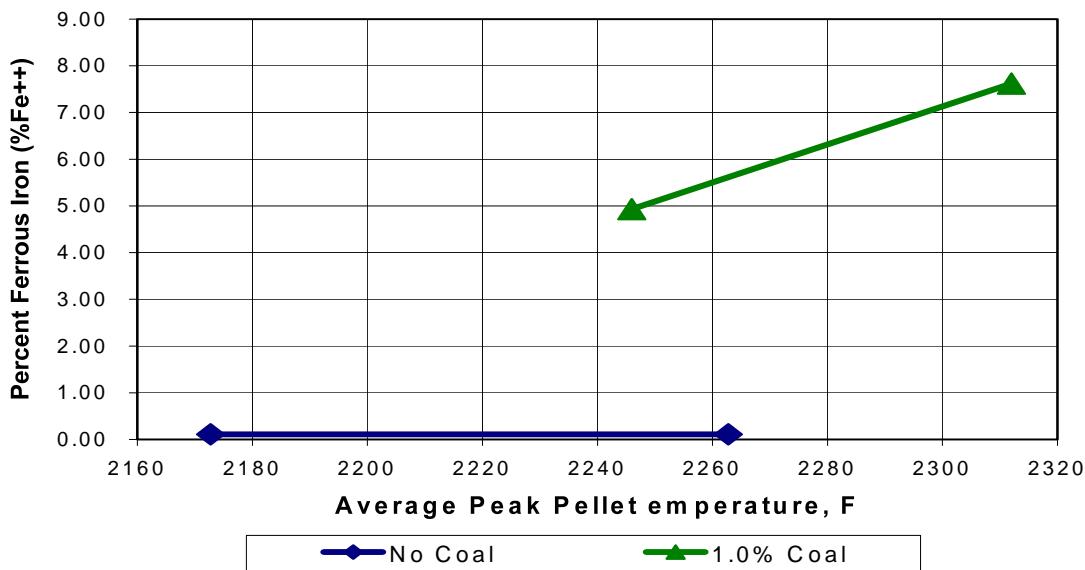


Figure 29

The Peak Pellet-Temperature increased when coal was added to the pre-fired pellets. A comparison of the peak-hood temperature and the average peak-pellet temperature indicate that the increase in the fluxed pellet temperature during induration with 0.6% coal was 20° to 50° F and with 1.0 % coal the increase in temperature was 30° to 60° F. The increase in the peak pellet-temperature for acid pellets with 1.0% coal addition was 30° to 40° F. The following graphs illustrate the increase in temperature with coal addition.

Increase in Average Peak Pellet Temperature with Coal Addition to Pre-fired Fluxed Pellets

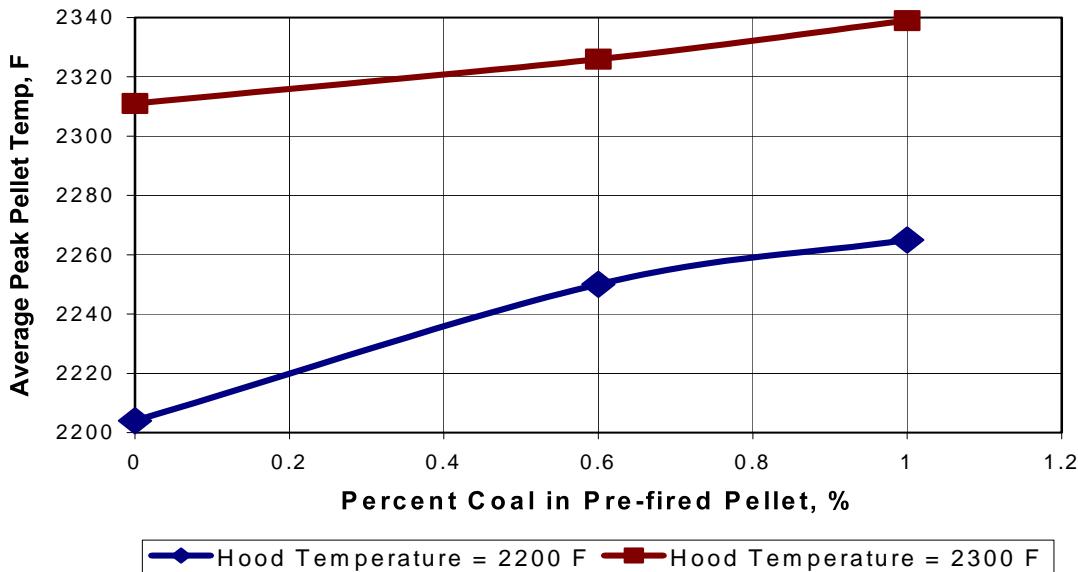


Figure 30

Increase in Average Peak Pellet Temperature with Coal Addition to Pre-fired Acid Pellets

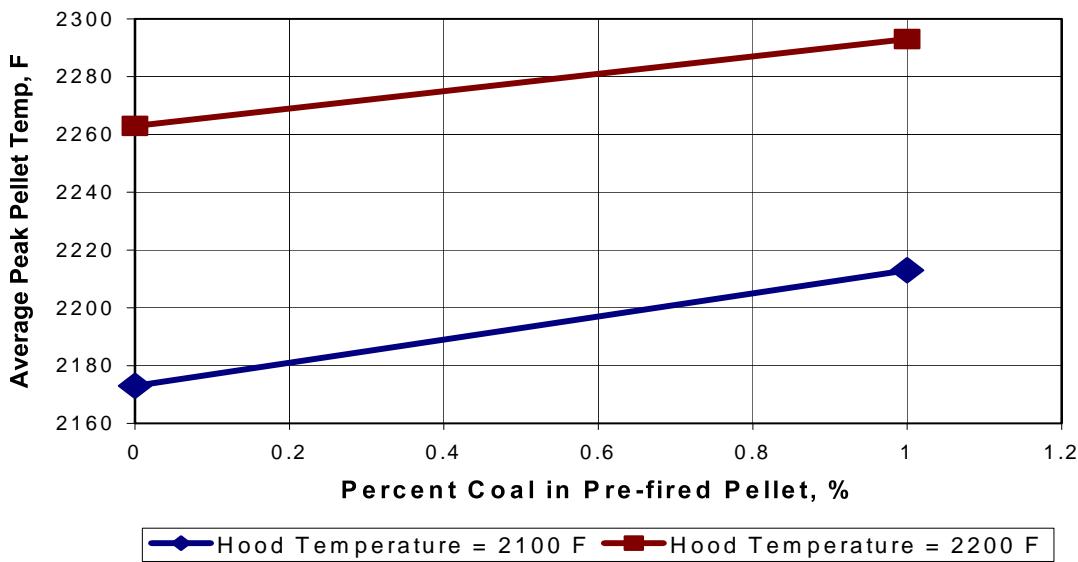


Figure 31

Fired Pellet Quality - Stoichiometric Flame. The quality of the pellets that were fired using oxidizing air followed by heating with a stoichiometric flame were similar to the quality of the pellets that were produced using a normal firing cycle. The following four graphs illustrate the tumble index, the LTD index, the reducibility and the compression strength for the pellets fired with a stoichiometric flame.

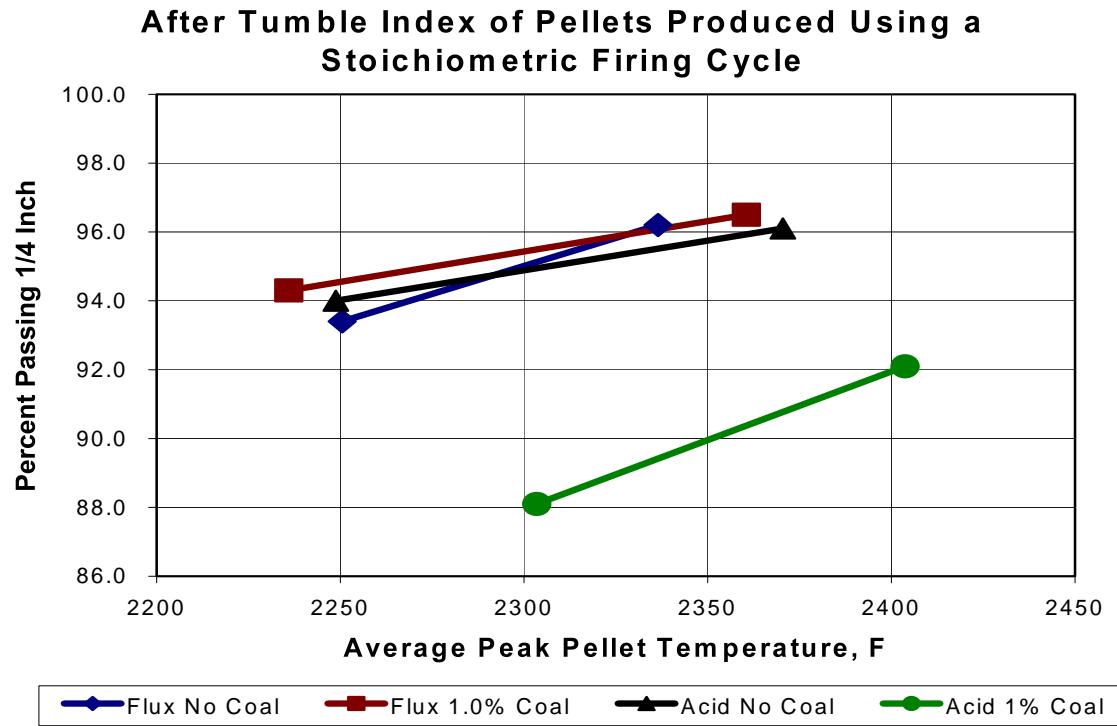


Figure 32

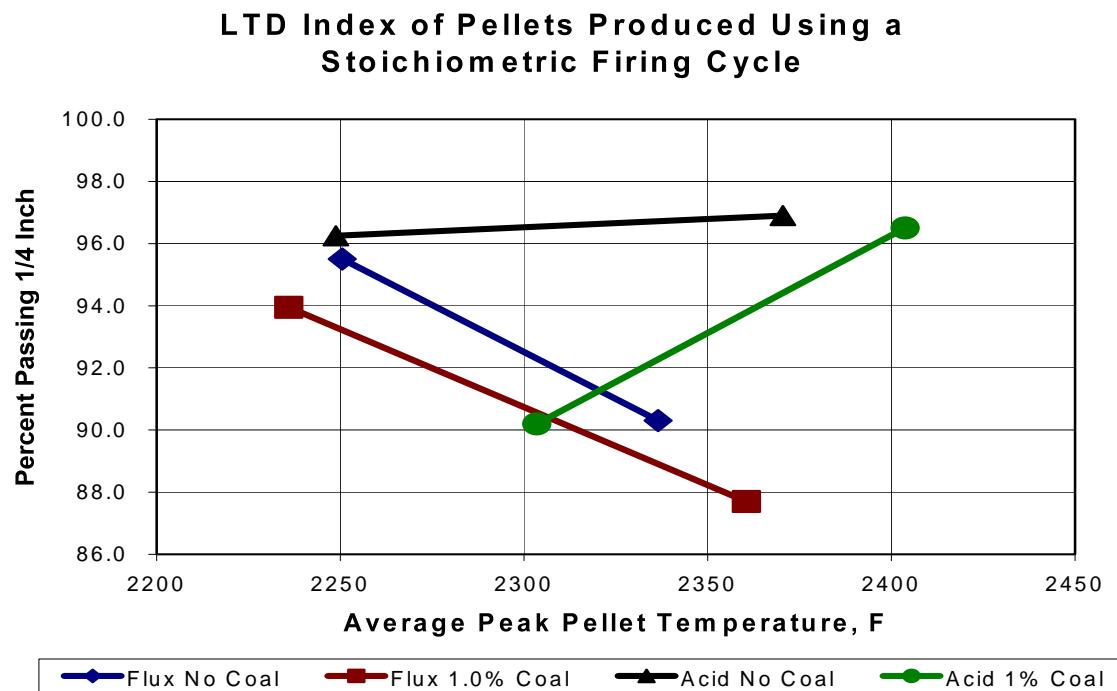


Figure 33

Reducibility of Pellets Produced Using a Stoichiometric Firing Cycle

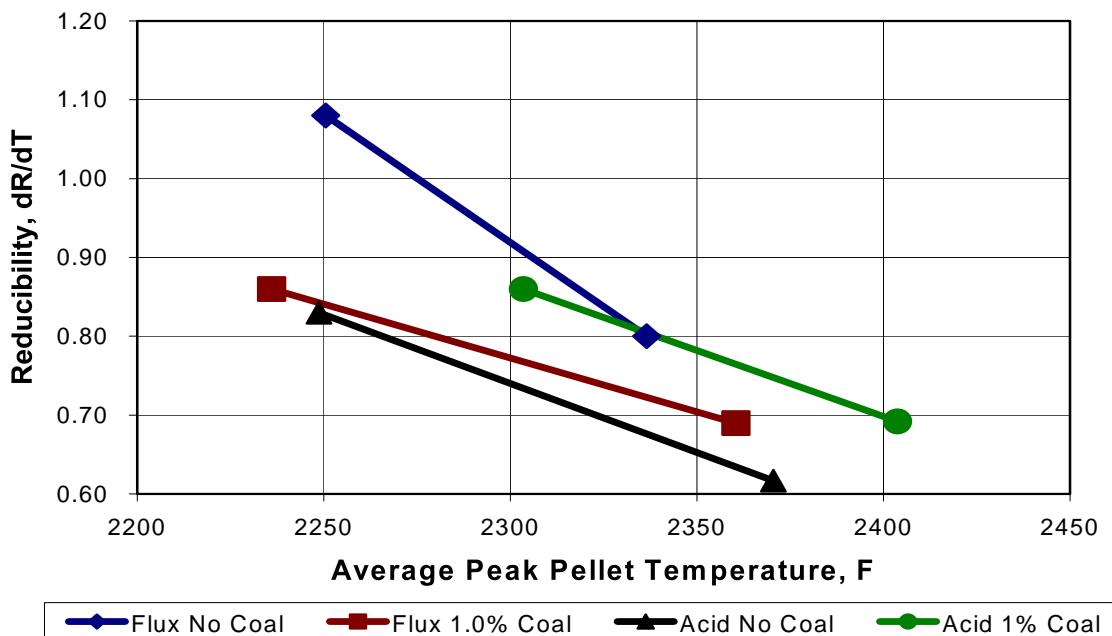


Figure 34

Compression Strength of Pellets Produced Using a Stoichiometric Firing Cycle

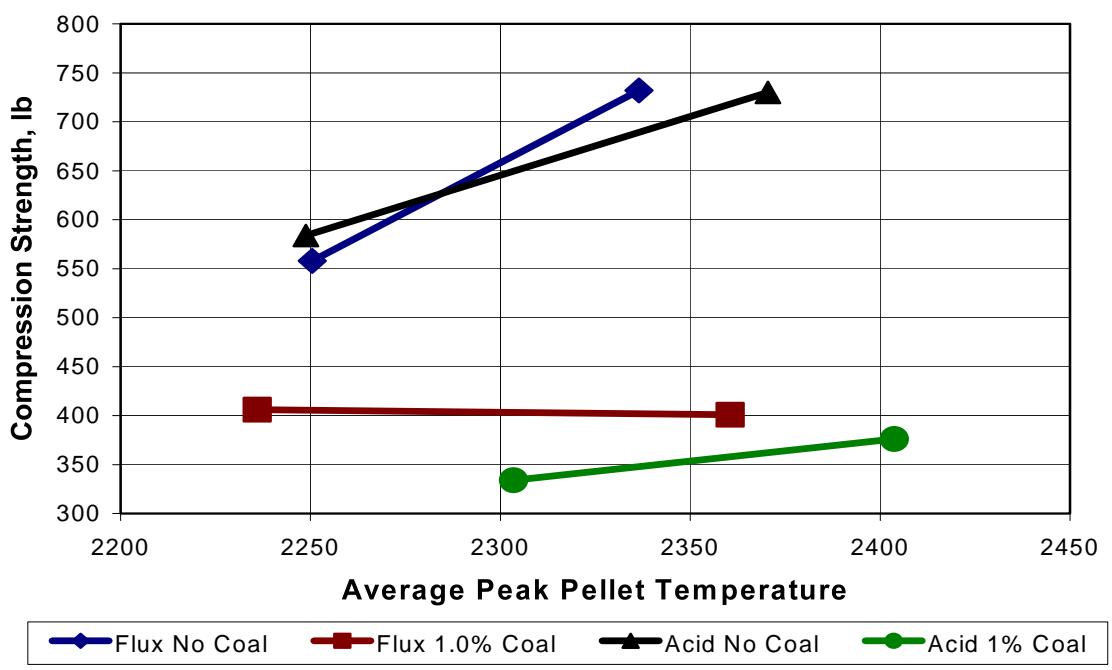


Figure 35

Comments and Recommendations

There was a reduction in the quantity of NO_x formed during induration with coal addition to pre-fired fluxed pellets. The pot-grate test apparatus can be used to study fired pellet quality. However, because of the heat losses and the amount of heat necessary to heat the apparatus, an emission study was difficult to perform. A furnace that is already hot, such as a furnace in a pellet production plant, does not require the additional heat needed to bring the furnace to induration temperatures. This additional heat required by the pot-grate increased the total thermal NO_x formation. Only a portion of this NO_x formed during a pot-grate test was due to the energy needed for pellet induration. Normal fluxed pellet production in a production furnace requires 500,000 to 600,000 BTU per Long Ton of pellets produced. This would mean a pot-grate with 200 pounds of pellets should require no more than 50,000 to 60,000 BTU of gas to indurate the pellets. The pot-grate tests performed for this study required 250,000 to 300,000 BTU. This means that 75 to 80 percent of the heat-input for a pot-grate test was required for heat loss and apparatus heating. A 10 percent reduction in nitrogen oxide formation in the pot-grate could translate to a 50 percent reduction in a continuous furnace operation. Tests need to be conducted using a continuous kiln operation or a continuous straight grate operation to determine the actual reduction in nitrogen oxide formation with coal addition to pre-fired fluxed pellets.

The use of a heating cycle with a stoichiometric flame reduced nitrogen oxide formation by approximately 75 percent. Application of this technology would require costly redesign of existing furnace operations and possible reduced production rates. However, the reduction of nitrogen oxide was so dramatic when this firing cycle was used that more research should be performed using stoichiometric firing cycles.

Conclusions

- 1) Coal addition to pre-fired fluxed pellets reduced nitrogen oxide formation during pellet induration.
- 2) A coal addition rate of less than 0.6% to pre-fired fluxed pellets had very little affect on the rate of magnetite oxidation during pellet induration.
- 3) Coal addition to pre-fired fluxed pellets had very little affect on the tumble index, reducibility, and LTD index of the fired pellets.
- 4) A coal addition rate of 0.6% to pre-fired fluxed pellets decreased fired pellet compression strength by about 100 pounds.
- 5) Coal addition to pre-fired acid pellets had a negative impact on all fired pellet quality parameters (i.e. tumble index, reducibility, compression strength, and reducibility).
- 6) Coal addition to pre-fired fluxed pellets had a minor affect on ferrous iron content of fired-fluxed pellets that were indurated in the pot-grate.

- 7) Coal addition to pre-fired acid pellets created a dramatic increase in ferrous iron content of pot-grate acid pellets.
- 8) Temperature control was the most important parameter in determining pellet oxidation and pellet quality parameters. An optimum temperature existed at which maximum magnetite oxidation occurred and maximum pellet quality parameters resulted.
- 9) Coal addition to pre-fired pellets had a negligible affect on silica content and the sulfur content of the fired pellets.
- 10) A stoichiometric air to gas ratio during pellet induration resulted in an 75 percent decrease in nitrogen oxide formation as compared to an excess air to gas ratios.

References:

1. S. Wood, "Select the Right NOx Control Technology", Chemical Engineering Progress, Jan 1994, pp 32-38.
2. Zahl, Hass, Engesser, "Formation of NOx in Iron Oxide Pelletizing Furnaces", Minnesota Department of Natural Resources – Division of Minerals, Sept 25, 1995.
3. Carter, Benson, "Combustion Modification Tests on a Subscale Cement Kiln for NOx Reduction." EPA-600/S7-84-075.
4. US-EPA, "The Regional Transport of Ozone" EPA-456/F 98-006, Sept 1998.
5. R. Davis "Thermal NOx Formation in a Taconite Pellet Rotary Kiln", Minnesota Department of Natural Resources – Division of Minerals, March 1995.
6. Walters, et. al. "Time-Variability of NOx Emissions from Portland Cement Kilns" Environmental Science and Technology, Vol 33, No. 5, pp700-704, 1999.
7. North American Mfg. Co. " NOx Reduction" Handbook Supplement 7-93.
8. A. Garg, "Trimming NOx", Chemical Engineering, Nov. 1992, pp122-129.
9. Parkinson, Fouhy, Moore, "NOx: US Plants Take Aim at a Moving Target", Chemical Engineering, Jan. 1994, pp28-31.
10. Zahl, "NOx Formation in Methane Combustion with High Temperature Air", Minnesota Department of Natural Resources – Division o Minerals. Nov. 1995.

Table 1
Muffle Furnace Test Results

	Roast		Crucible	Cruc+Pell	Aft Roast	Pellet	Wt Loss	%	%	%	%	%	%
Test	Time, min	Temp,C	Wt, g	Wt, g	Wt, g	Wt, g	Wt, g	Mag Fe	C	CO2	Fe Oxid.	Calcin.	C Oxid.
0	Na	25						59.12	1.66	4.35	0.0	0.0	0.0
1	10	450	16.407	24.128	24.141	7.721	-0.013	51.72	1.54	3.89	12.5	10.6	7.2
2	10	550	16.170	24.512	24.497	8.342	0.015	48.63	1.49	3.79	17.7	12.9	10.2
3	10	650	16.147	24.566	24.519	8.419	0.047	47.49	1.30	3.71	19.7	14.7	21.7
4	10	750	16.104	22.837	22.764	6.733	0.073	43.29	1.12	3.42	26.8	21.4	32.5
5	10	850	16.409	23.281	23.012	6.872	0.269	43.50	0.71	2.11	26.4	51.5	57.2
6	10	950	16.170	24.499	24.162	8.329	0.337	41.41	0.30	1.51	30.0	65.3	81.9
7	10	1050	16.171	22.469	22.214	6.298	0.255	34.35	0.12	0.47	41.9	89.2	92.8
8	6	450	16.409	22.991	22.991	6.582	0.000	54.29	1.52	4.19	8.2	3.7	8.4
9	6	550	16.146	23.220	23.197	7.074	0.023	53.77	1.43	4.00	9.0	8.0	13.9
10	6	650	16.171	22.782	22.744	6.611	0.038	53.21	1.31	3.96	10.0	9.0	21.1
11	6	750	16.146	23.172	23.091	7.026	0.081	52.52	1.23	3.76	11.2	13.6	25.9
12	6	850	16.102	22.619	22.414	6.517	0.205	51.87	0.89	2.63	12.3	39.5	46.4
13a	6	950	16.145	21.514	21.275	5.369	0.239	51.38	0.52	1.59	13.1	63.4	68.7
13b	6	950	16.408	22.860	22.575	6.452	0.285	51.38	0.52	1.59	13.1	63.4	68.7
14	6	1050	16.408	23.013	22.679	6.605	0.334	51.13	0.22	0.53	13.5	87.8	86.7
15	20	450	16.146	23.512	23.522	7.366	-0.010	48.62	1.28	3.87	17.8	11.0	22.9
16	20	550	16.409	23.194	23.197	6.785	-0.003	48.01	1.03	3.72	18.8	14.5	38.0
17	20	650	16.102	22.945	22.942	6.843	0.003	33.43	0.92	3.62	43.5	16.8	44.6
18	20	750	16.409	23.239	23.209	6.830	0.030	24.63	0.77	3.11	58.3	28.5	53.6
19	20	850	16.172	23.269	23.055	7.097	0.214	18.21	0.40	1.90	69.2	56.3	75.9
20	20	950	16.147	23.046	22.854	6.899	0.192	13.85	0.22	0.90	76.6	79.3	86.7
21	20	1050	16.102	22.345	22.192	6.243	0.153	5.31	0.10	0.40	91.0	90.8	94.0

Table 2
Vertical Tube Furnace Test Results

Test	Temp	Mix	Time	%	%	%	%	Avg	Pellet Compression	%	% Fe	% C
No.	C	No.	min	Fe	Fe++	C	CO2	Mag Fe	lb	Four Pellets, lb	Calcin.	Oxid.
	850	1	0	61.9	19.92	1.44	4.03	59.48	9		0.0	0.0
1	850	1	6	63.2	11.98	0.78	2.22	37.32	8	8, 7, 9, 7	44.9	39.9
2	850	1	10	62.9	5.99	0.61	2.05	17.87	5	7, 4, 2, 6	49.1	69.9
3	850	1	14	62.9	2.86	0.53	1.92	8.00	17	13, 18, 18, 18	52.4	85.6
4	950	1	6	63.6	6.99	0.52	1.72	19.83	20	14, 21, 21, 22	57.3	64.9
5	950	1	10	62.6	1.92	0.40	1.73	4.87	34	32, 35, 35, 32	57.1	90.4
6	950	1	14	63.2	0.34	0.36	1.34	0.50	47	49, 57, 38, 45	66.7	98.3
7	1050	1	6	64.1	6.67	0.18	0.83	14.04	69	95, 76, 47, 59	79.4	66.5
8	1050	1	10	63.8	0.37	0.20	0.82	0.74	108	104, 138, 91, 98	79.7	98.1
9	1050	1	14	63.4	0.30	0.22	0.81	0.67	149	113, 98, 185, 198	79.9	98.5
10	1200	1	6	64.7	11.16	0.05	0.26	28.42	53	62, 46, 58, 44	93.5	44.0
11	1200	1	10	64.6	8.29	0.03	0.13	23.40	92	89, 75, 101, 102	96.8	58.4
12	1200	1	14	64.0	5.54	0.02	0.23	15.33	92	125, 66, 101, 77	94.3	72.2
	850	2	0	61.9	19.79	1.74	4.06	59.25	6		0.0	0.0
13	850	2	6	63.7	15.81	1.05	2.39	47.72	8	8, 6, 8, 8	41.1	20.1
14	850	2	10	62.9	10.68	0.84	2.17	32.61	5	4, 6, 5, 4	46.6	46.0
15	850	2	14	63.0	6.69	0.68	2.22	20.11	7	9, 8, 7, 4	45.3	66.2
16	950	2	6	64.0	16.10	0.82	1.99	46.79	9	9, 6, 9, 10	51.0	18.6
17	950	2	10	63.4	10.53	0.46	1.44	28.34	30	24, 31, 29, 34	64.5	46.8
18	950	2	14	63.3	4.79	0.30	1.26	11.42	53	47, 56, 51, 59	69.0	75.8

Table 2 (Continued)

Test	Temp	Mix	Time	%	%	%	%	Avg	Pellet Compression	%	% Fe	% C
No.	C	No.	min	Fe	Fe++	C	CO ₂	Mag Fe	lb	Four Pellets, lb	Calcin.	Oxid.
19	1050	2	6	64.6	18.27	0.31	0.82	38.65	64	57, 68, 75, 55	79.8	7.7
20	1050	2	10	64.2	9.53	0.13	0.53	16.26	105	113, 109, 91, 107	86.9	51.8
21	1050	2	14	63.2	4.22	0.08	0.46	7.21	186	195, 188, 166, 196	88.7	78.7
22	1200	2	6	66.5	21.91	0.04	0.07	41.07	32	27, 30, 34, 36	98.3	-10.7
23	1200	2	10	64.9	14.20	0.02	0.02	32.25	54	52, 53, 55, 54	99.5	28.2
24	1200	2	14	64.7	12.23	0.02	0.08	27.47	76	79, 72, 73, 80	98.0	38.2
	850	3	0	62.2	19.97	1.00	4.17	60.40	7		0.0	0.0
25	850	3	6	63.0	10.04	0.58	2.28	30.36	15	16, 14, 15, 14	45.3	49.7
26	850	3	10	62.5	6.19	0.53	2.25	18.33	19	18, 17, 18, 21	46.0	69.0
27	850	3	14	62.3	3.32	0.50	2.01	9.35	22	22, 21, 19, 24	51.8	83.4
28	950	3	6	62.6	9.99	0.47	2.11	29.90	10	5,,10, 17, 8	49.4	50.0
29	950	3	10	62.3	3.00	0.35	1.48	8.79	71	70, 70, 81, 62	64.5	85.0
30	950	3	14	62.2	0.53	0.33	1.38	1.21	116	101, 121, 147, 94	66.9	97.3
31	1050	3	6	63.1	6.50	0.25	1.07	19.77	76	62, 79, 88, 73	74.3	67.5
32	1050	3	10	62.7	0.78	0.13	0.81	2.44	125	155, 139, 122, 85	80.6	96.1
33	1050	3	14	62.9	0.18	0.13	0.79	0.29	163	144, 153, 197, 158	81.1	99.1
34	1200	3	6	63.9	7.21	0.02	0.21	25.09	153	156, 142, 163, 151	95.0	63.9
35	1200	3	10	63.8	4.76	0.00	0.15	16.90	202	191, 176, 253, 189	96.4	76.2
36	1200	3	14	63.5	3.22	0.00	0.20	11.29	247	200, 335, 305, 149	95.2	83.9
												100.0

Table 3**Calcination Rate Constants – Carbon and Iron Oxidation Rate Constants**

Calcination Rate Constants
 $\% \text{ Calcination} = 100 - 100e^{-kt}$
 t - time in minutes, k -rate constant

Temperature	0% Coal	0.6% Coal	1.0%Coal
Degrees F	k	k	k
1562	0.058	0.060	0.051
1742	0.089	0.085	0.092
1922	0.152	0.156	0.210
2192	0.361	0.341	0.429

Iron Oxidation Rate Constants
 $\% \text{ Fe Oxidation} = 100 - 100e^{-kt}$
 t - time in minutes, k -rate constant

Temperature	0% Coal	0.6% Coal	1.0%Coal
Degrees F	k	k	k
1562	0.123	0.134	0.078
1742	0.213	0.235	0.100
1922	0.277	0.289	0.126
2192	0.139	0.089	0.044

Carbon Oxidation Rate Constants
 $\% \text{ C Oxidation} = 100 - 100e^{-kt}$
 t - time in minutes, k -rate constant

Temperature	0.6% Coal	1.0%Coal
Degrees F	k	k
1562	0.178	0.097
1742	0.249	0.261
1922	0.546	2.692
2192	0.316	0.473

Table 4
Pellet Quality, Heat Input, Nitrogen Oxide, and Air Flow Data for Pot-Grate Tests

Firing		Air	Pellet	Test	NOx	Total Dry	Average Pellet	Pellet			Total Heat
Test	Coal	Type	Type	Time, min	SCF	Flow, SCF	Compression pounds	After Tumble % -1/4 inch	Reducibility dR/dT	LTD % -1/4 inch	Input BTU
1	No Coal	Excess	Fluxed	35.13	5.52	7469	603	91.5	1.11	96.6	259060
2	No Coal	Excess	Fluxed	34.17	6.85	8077	725	96.0	0.88	94.0	292350
3	0.6% Coal	Excess	Fluxed	33.68	5.98	6934	504	93.0	1.03	94.8	269350
4	0.6% Coal	Excess	Fluxed	33.78	5.70	7148	441	89.4	1.21	96.2	266928
5	1.0% Coal	Excess	Fluxed	33.47	5.69	7626	447	93.3	1.03	91.7	273587
6	1.0% Coal	Excess	Fluxed	32.95	6.52	8002	420	96.5	0.86	93.2	292956
7	0.6% Coal	Excess	Fluxed	33.50	6.88	7485	533	96.0	0.84	90.2	289929
8	No Coal	Stoich.	Fluxed	35.03	0.99	4546	558	93.4	1.08	95.5	226375
9	No Coal	Stoich.	Fluxed	46.88	1.62	5737	732	96.2	0.80	90.3	328667
10	1.0% Coal	Stoich.	Fluxed	36.35	1.03	4659	406	94.3	0.86	94.0	197927
11	1.0% Coal	Stoich.	Fluxed	48.38	1.68	6372	401	96.5	0.69	87.7	343799
12	No Coal	Excess	Acid	31.43	5.26	7632	472	90.8	1.02	94.5	268139
13	No Coal	Excess	Acid	31.75	5.38	6907	740	95.0	0.82	95.4	305666
14	No Coal	Stoich.	Acid	34.83	1.03	4483	584	94.0	0.83	96.3	211243
15	No Coal	Stoich.	Acid	47.12	1.68	5849	730	96.1	0.62	96.9	338957
16	1.0% Coal	Excess	Acid	32.03	5.02	7628	346	90.1	0.93	93.9	264507
17	1.0% Coal	Excess	Acid	32.42	5.99	7306	306	91.1	0.86	92.5	276613
18	1.0% Coal	Stoich.	Acid	35.32	1.13	4779	334	88.1	0.86	90.2	221532
19	1.0% Coal	Stoich.	Acid	48.00	1.58	5917	376	92.1	0.69	96.5	330483
20	0.6% Coal	Excess	Fluxed	33.78	5.69	7488	538	90.6	1.18	96.6	276764

Table 5
Peak Temperature and Pellet Quality for Pot Grate Pellet Tests

Firing	Avg Peak	2" Peak	4" Peak	6" Peak	8" Peak	Hood ASP	Avg.Pellet	Pellet				
Test	Temp	Temp, F	Temp, F	Temp, F	Temp, F	Peak Temp,F	Compression pounds	% -1/4 inch	dR/dT	% -1/4 inch	Pellet Type	Air Type
1	2204	2221	2221	NA	2169	2202	603	91.5	1.11	96.6	Fluxed	Excess
2	2311	2301	2324	2307	NA	2301	725	96.0	0.88	94.0	Fluxed	Excess
3	2250	2264	2279	2250	2205	2209	504	93.0	1.03	94.8	Fluxed	Excess
4	2209	2228	2244	2199	2164	2148	441	89.4	1.21	96.2	Fluxed	Excess
5	2265	2282	2301	2248	2227	2200	447	93.3	1.03	91.7	Fluxed	Excess
6	2339	2342	2356	2330	2327	2306	420	96.5	0.86	93.2	Fluxed	Excess
7	2326	2325	2339	2320	2320	2308	533	96.0	0.84	90.2	Fluxed	Excess
8	2251	2154	2242	2281	2325	2348	558	93.4	1.08	95.5	Fluxed	Stoich.
9	2337	2293	2317	2356	2380	2361	732	96.2	0.80	90.3	Fluxed	Stoich.
10	2236	2132	2266	2332	2214	2302	406	94.3	0.86	94.0	Fluxed	Stoich.
11	2361	2296	2367	2373	2406	2371	401	96.5	0.69	87.7	Fluxed	Stoich.
12	2173	2203	2186	2170	2132	2111	472	90.8	1.02	94.5	Acid	Excess
13	2263	2281	2275	2268	2227	2206	740	95.0	0.82	95.4	Acid	Excess
14	2249	2130	2310	2248	2307	2337	584	94.0	0.83	96.3	Acid	Stoich.
15	2371	2353	2355	2407	2367	2370	730	96.1	0.62	96.9	Acid	Stoich.
16	2213	2266	2246	2206	2133	2118	346	90.1	0.93	93.9	Acid	Excess
17	2293	2330	2312	2286	2242	2222	306	91.1	0.86	92.5	Acid	Excess
18	2304	2254	2369	2284	2307	2345	334	88.1	0.86	90.2	Acid	Stoich.
19	2404	2385	2390	2440	2400	2110	376	92.1	0.69	96.5	Acid	Stoich.
20	2225	2261	2254	2210	2174	2154	538	90.6	1.18	96.6	Fluxed	Excess

Table 6
Pot Grate Pellet Chemical Analyses

Test #	%Fe	%Fe++	%S	%CO2	%C	%CaO	% MgO
No Coal							
Greenball	62.9	21.12	0.015	3.88		3.41	1.12
1	64.0	0.08	0.005	0.22		3.44	1.09
2	63.8	0.20	0.005	0.21			
0.6% Coal							
Greenball	62.4	20.86		3.92	1.54		
3	63.7	0.22	0.006	0.12			
4	63.5	0.09	0.007	0.43		3.40	1.09
7	63.4	0.73	0.005	0.15			
20	63.7	2.66	0.002	0.18			
1.0% Coal							
Greenball	62.4	20.88		3.95	1.72		
5	63.8	0.32	0.004	0.13		3.47	1.08
6	63.7	1.66	0.003	0.12			
No Coal							
Greenball	62.9	21.12	0.015	3.88			
8	63.2	0.16	0.004	0.21		3.46	1.10
9	63.5	0.34	0.002	0.17			
1.0% Coal							
Greenball	62.4	20.88		3.95	1.72		
10	63.2	1.75	0.004	0.15			
11	63.9	2.10	0.005	0.11			
No Coal							
Greenball	66.8	22.80	0.014	0.98			
12	65.6	0.11	0.004	0.08		0.45	0.27
13	65.8	0.11	0.003	0.11		0.40	0.23
No Coal							
Greenball	66.8	22.80	0.014	0.98			
14	65.7	0.10	0.003	0.11			
15	66.2	0.11	0.004	0.08			
1.0% Coal							
Greenball	66.4	22.94		1.00			
16	66.3	4.93	0.003	0.07			
17	66.2	7.62	0.004	0.12		0.41	0.25
1.0% Coal							
Greenball	66.4	22.94		1.00			
18	66.7	7.13	0.004	0.07			
19	66.1	4.09	0.002	0.15			

Table 7
Chemical Analyses of Coal Sample

Analysis		%C	%H	%N	%S	%O	%Ash	%H ₂ O	%VM
Ultimate	Dry	85.51	2.94	1.20	0.74	1.34	8.25		
Ultimate	As is	85.08	3.00	1.19	0.74	1.78	8.21	0.50	
Proximate	Dry	75.04					8.33		16.63

Appendix 1

Muffle Furnace Tests with 0.6% Coal

NOx Reduction with Coal Addition

A series of Muffle Furnace tests will be run at different temperatures to determine at what temperature the coal oxidizes. The sample will be weighed before and after firing. The pellets will contain magnetite, fluxstone, bentonite and coal. Analyses of the fired pellets will be performed for %C, %CO₂ and %Mag Fe by Satmagon.

Pellet Mix :		
	<u>15 lb Bent/LT (as is)</u>	20.1 grams
	<u>13.5 lb Coal/LT (as is)</u>	18.1 grams
	<u>2213 lb Filter Cake/LT (Dry Basis)</u>	<u>2961.8 grams NRRI 36-99</u>
	Total (Dry Basis)	3000 grams

Muffle Furnace Tests - 10 minutes

Record Weights. Weigh the empty crucible, then weigh the crucible with the dry pellets prior to heating in the muffle furnace. When the firing is complete, and the nitrogen purge is over, weigh the crucible and heated pellets.

Test 0 - Pulverize 6 dry pellets and submit for %C, %CO₂, and %MagFe.

Test 1 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **450 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 2 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **550 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 3 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **650 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 4 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **750 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 5 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **850 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 6 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **950 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 7 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 10 minutes at **1050 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Muffle Furnace Tests - 6 minutes

Record Weights. Weigh the empty crucible, then weigh the crucible with the dry pellets prior to heating in the furnace. When the firing is complete, and the nitrogen purge is over, weigh the crucible and heated pellets.

Test 8 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **450 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 9 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **550 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 10- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **650 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 11- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **750 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 12- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **850 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 13- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **950 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 14- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 6 minutes at **1050 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Muffle Furnace Tests - 20 minutes

Record Weights. Weigh the empty crucible, then weigh the crucible with the dry pellets prior to heating in the furnace. When the firing is complete, and the nitrogen purge is over, weigh the crucible and heated pellets.

Test 15 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **450 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 16 - Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **550 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 17- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **650 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 18- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **750 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 19- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **850 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 20- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **950 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Test 21- Place 3 pellets into a platinum crucible and place the crucible into muffle furnace for 20 minutes at **1050 C**. Remove from the furnace and purge in a nitrogen atmosphere for 10 minutes to cool. Pulverize and analyze for %C, %CO₂, %MagFe.

Appendix 2
Vertical Tube Furnace Tests
Use Minntac Fluxed Filter Cake NRRI 36-99

Pellet Mix 1 :	15 lb Bent/LT <u>(as is)</u>	20.1 grams
0.6% Coal	13.5 lb Coal/LT <u>(as is)</u>	18.1 grams
	<u>2213 lb Filter Cake/LT (Dry Basis)</u>	<u>2961.8 grams</u> <u>NRRI 36-99</u>
	Total (Dry Basis)	3000 grams

Submit a sample of dry balls for chemical analysis.

Pellet Mix 2:	15 lb Bentonite/LT <u>(as is)</u>	20.1 grams
1.0% Coal	22.4 lb Coal/LT <u>(as is)</u>	30.0 grams
	<u>2213 lb Filter Cake/LT (Dry Basis)</u>	<u>2949.9 grams</u> <u>NRRI 36-99</u>
	Total (Dry Basis)	3000 grams

Submit a sample of dry balls for chemical analysis.

Pellet Mix 3:	15 lb Bent/LT <u>(as is)</u>	20.1 grams
No Coal	<u>2213 lb Filter Cake/LT (Dry Basis)</u>	<u>2979.9 grams</u> <u>NRRI 36-99</u>
	Total (Dry Basis)	3000 grams

Submit a sample of dry balls for chemical analysis.

Vertical Tube Furnace Tests
Tube Furnace Tests with 0.6% Coal - Fluxed Pellet (Mix 1)
Tests 1-12

These tests will be run at 4 temperatures. 850C, 950C, 1050 C and 1200C.
The flow through the chamber during each test will be 1 liter of air per minute. When each test is complete lower the platinum basket into the water-cooled chamber at the bottom of the furnace. Cool the pellets in a quench(cooling) flow of 5 liters of nitrogen per minute.

Tests at 850 C.

Test 1. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 2. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 3. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 14 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 950 C

Test 4. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 6 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 5. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 10 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 6. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 14 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 1050 C.

Test 7. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 6 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 8. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 10 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 9. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 14 minutes.

Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 1200 C.

Test 10. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 11. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 12. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Vertical Tube Furnace Tests
Tube Furnace Tests with 1.0% Coal - Fluxed Pellet (Mix 2)
Tests 13-24

These tests will be run at 4 temperatures. 850C, 950C, 1050 C and 1200C.
The flow through the chamber during each test will be 1 liter of air per minute. When each test is complete lower the platinum basket into the water-cooled chamber at the bottom of the furnace. Cool the pellets in a quench(cooling) flow of 5 liters of nitrogen per minute.

Tests at 850 C.

Test 13. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 14. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 15. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 950 C

Test 16. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 17. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 18. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 1050 C.

Test 19. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 20. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 21. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 1200 C.

Test 22. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 23. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 24. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Vertical Tube Furnace Tests
Tube Furnace Tests - Fluxed Pellet Base Case No Coal (Mix 3)
Tests 25-36

These tests will be run at 4 temperatures. 850C, 950C, 1050 C and 1200C.
The flow through the chamber during each test will be 1 liter of air per minute. When each test is complete lower the platinum basket into the water-cooled chamber at the bottom of the furnace. Cool the pellets in a quench(cooling) flow of 5 liters of nitrogen per minute.

Tests at 850 C.

Test 25. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 6

minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 26. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 27. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **850 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 950 C

Test 28. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 29. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 30. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **950 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 1050 C.

Test 31. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 32. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 33. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1050 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Tests at 1200 C.

Test 34. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 6 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 35. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 10 minutes. Weigh the 4 pellets after firing. Run Compression Tests. Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Test 36. Weigh 4 pellets into a platinum basket. Run the test with 1 liter of air per minute flow through the furnace at **1200 C**. Quench the pellets in Nitrogen after 14 minutes. Weigh the 4 pellets after firing. Run Compression Tests Analyze the pellets for Fe, Fe++, C, CO₂ and Mag Fe.

Appendix 3

Pot Grate Test Conditions

Flux Base Case Tests

Tests 01 to 07 DDD1 3 min@ 600 F
 DDD2 3 min@ 900 F
Preheat 6 minutes
Firing 10 minutes
Cooling

Test 01 Flux Base Case – Preheat 1950, fire at 2200. 18 pounds of Bentonite per Long Ton and No Coal

Test 02 Flux Base Case – Preheat 1950, fire at 2300. 18 pounds of Bentonite per Long Ton and No Coal

Test 03 Coal(0.6%) Flux Test – Preheat 1900, fire at 2200. 18 pounds of Bentonite per Long Ton and 0.6 % Coal

Test 04 Coal(0.6%) Flux Test – Preheat 1850, fire at 2150. 18 pounds of Bentonite per Long Ton and 0.6 % Coal

Test 05 Coal(1.0%) Flux Test – Preheat 1900, fire at 2200. 18 pounds of Bentonite per Long Ton and 1.0 % Coal

Test 06 Coal(1.0%) Flux Test – Preheat 1900, fire at 2300. 18 pounds of Bentonite per Long Ton and 1.0 % Coal

Test 07 Coal(0.6%) Flux Test – Preheat 1900, fire at 2300. 18 pounds of Bentonite per Long Ton and 0.6 % Coal

Flux Pellet Oxidizing Air and Stoichiometric Post Fire Tests

Tests 08 to 11 DDD1 1.9 min@ 650 F
 DDD2 2.5 min@ 1350 F
Preheat 2.6 min @2000F
Firing 3 min @ 2100
Oxidizing air (7 min)
Stoichiometric fire @ 2350 (per test description 6 or 16 minutes)

Test 08 Flux Base Case Stoichiometric Air – Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(6 min). 18 pounds of Bentonite per Long Ton.

Test 09 Flux Base Case Stoichiometric Air – Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(16 min). 18 pounds of Bentonite per Long Ton.

Test 10 Coal(1%) Flux Case Stoichiometric Air - Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(6 min). 18 pounds of Bentonite per Long Ton.

Test 11 Coal(1%) Flux Case Stoichiometric Air - Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(16 min). 18 pounds of Bentonite per Long Ton.

Acid Pellet Base Case Tests

Tests 12 to 13 DDD1 3 min@ 600 F
 DDD2 3 min@ 900 F
 Preheat 6 minutes
 Firing 10 minutes

Test 12 Acid Base Case - Preheat 1800. Fire at 2100. 18 pounds of Bentonite per Long Ton

Test 13 Acid Base Case - Preheat 1900. Fire at 2200. 18 pounds of Bentonite per Long Ton

Acid Pellet Oxidizing Air and Stoichiometric Post Fire Tests

Tests 14 to 15 DDD1 1.9 min@ 650 F
 DDD2 2.5 min@ 1350 F
 Preheat 2.6 min @2000F
 Firing 3 min @ 2100
 Oxidizing air (7 min)
 Stoichiometric fire @ 2350 (per test description 6 or 16 minutes)

Test 14 Acid Base Case Stoichiometric Air – Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(6 min). 18 pounds of Bentonite per Long Ton.

Test 15 Acid Base Case Stoichiometric Air – Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(16 min). 18 pounds of Bentonite per Long Ton.

Acid with Coal Base Case Tests

Tests 16 to 17 DDD1 3 min@ 600 F
 DDD2 3 min@ 900 F
 Preheat 6 minutes
 Firing 10 minutes

Test 16 Coal (1%) Acid Base Case - Preheat 1800. Fire at 2100. 18 pounds of Bentonite per Long Ton

Test 17 Coal (1%) Acid Base Case - Preheat 1900. Fire at 2200. 18 pounds of Bentonite per Long Ton

Acid Pellets with Coal Pellet Oxidizing Air and Stoichiometric Post Fire

Tests 18 to 19 DDD1 1.9 min@ 650 F
 DDD2 2.5 min@ 1350 F
 Preheat 2.6 min @2000F

Test 18 Coal (1%) Acid Base Case Stoichiometric Air – Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(6 min). 18 pounds of Bentonite per Long Ton.

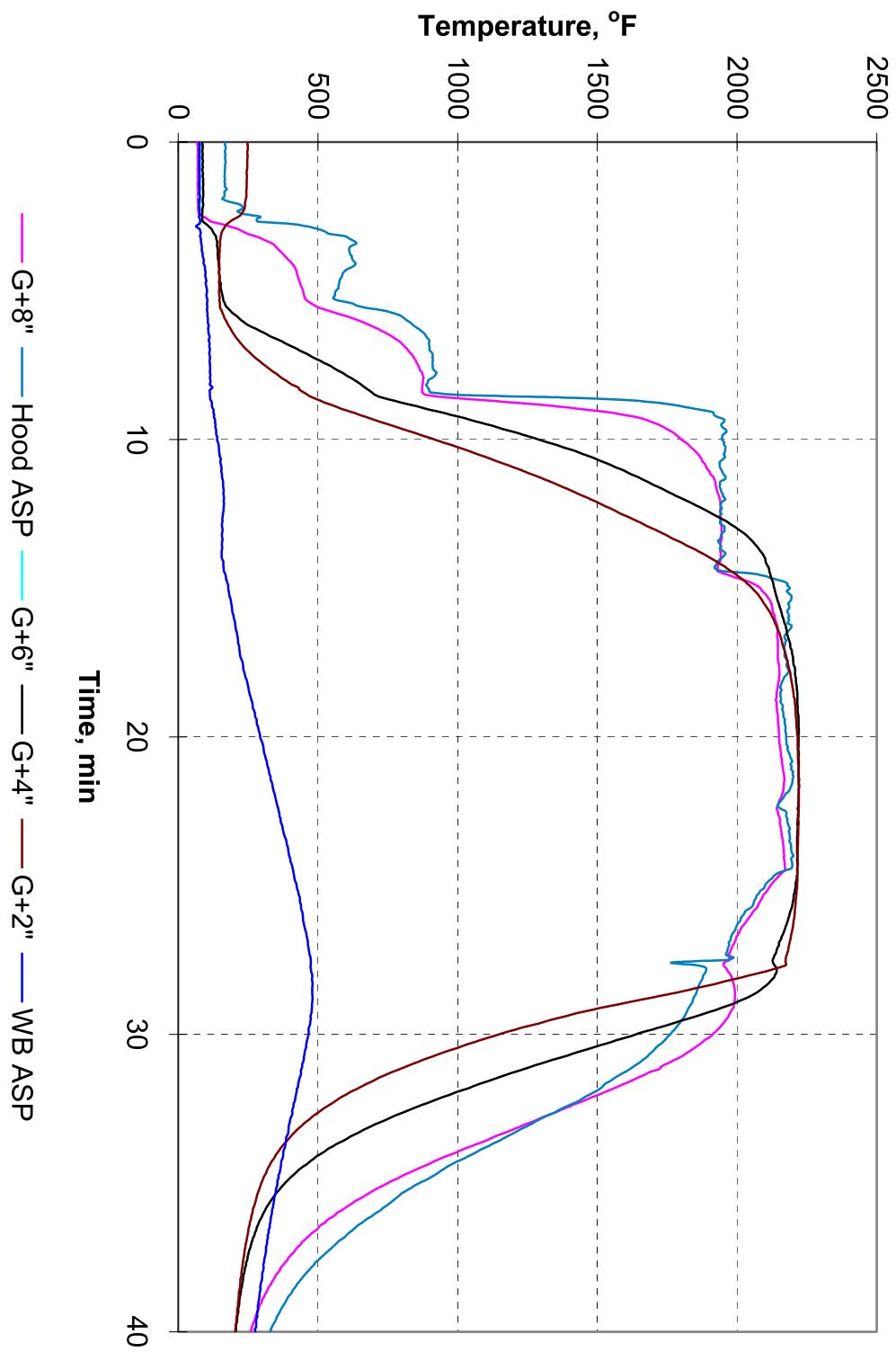
Test 19 Coal (1%) Acid Base Case Stoichiometric Air – Initial fire 2100(3 min). Oxidizing Air(7 min). Stoichiometric fire 2350(16 min). 18 pounds of Bentonite per Long Ton

Test 20 Coal(0.6%) Flux Test – Repeat of Test 04 - Preheat 1850, fire at 2150. 18 pounds of Bentonite per Long Ton and 0.6 % Coal

Appendix 4
Test 1 Pot-Grate NOx Base Case 2200F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2169	2202	78	2221	2221	479
0	69	167	78	86	248	75
1	71	167	77	88	245	76
2	70	181	78	88	240	76
3	229	523	No Reading	124	158	79
4	399	628	No Reading	144	146	91
5	446	564	No Reading	154	146	103
6	646	819	No Reading	226	171	106
7	823	900	No Reading	433	247	113
8	876	896	No Reading	630	381	115
9	1467	1872	No Reading	902	596	126
10	1800	1945	No Reading	1289	917	139
11	1894	1942	No Reading	1583	1219	155
12	1938	1959	No Reading	1806	1474	164
13	1944	1954	No Reading	2001	1699	158
14	1941	1941	No Reading	2100	1909	157
15	2083	2189	No Reading	2134	2055	179
16	2135	2183	No Reading	2165	2128	198
17	2146	2169	No Reading	2192	2167	218
18	2150	2169	No Reading	2210	2193	241
19	2141	2164	No Reading	2217	2209	267
20	2150	2176	No Reading	2220	2217	293
21	2164	2196	No Reading	2221	2220	320
22	2159	2168	No Reading	2220	2221	346
23	2155	2185	No Reading	2217	2219	373
24	2169	2202	No Reading	2216	2217	397
25	2119	2100	No Reading	2209	2215	424
26	2049	2022	No Reading	2188	2205	445
27	1986	1972	No Reading	2150	2187	464
28	1977	1881	No Reading	2135	2052	479
29	1987	1834	No Reading	1977	1569	479
30	1912	1761	No Reading	1638	1148	467
31	1746	1644	No Reading	1293	838	444
32	1512	1477	No Reading	980	605	422
33	1250	1267	No Reading	711	449	398
34	986	1058	No Reading	513	353	376

**Pot Grate NO_x Test -Base 2200F
Test #00-1, Temperature Profile**



Test 1 Pot-Grate Gas Analysis

<u>Date</u>	<u>Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>SO2, ppm</u>	<u>O2, %</u>	<u>CO2, %</u>
14/Aug/00	10:37: 2	0.000	0.54	0.11	20.94	0.04
14/Aug/00	10:37:22	0.333	0.46	0.41	20.94	0.03
14/Aug/00	10:37:42	0.667	0.42	-0.17	20.95	0.03
14/Aug/00	10:38: 2	1.000	0.46	-0.02	20.96	0.03
14/Aug/00	10:38:22	1.333	0.50	0.45	20.96	0.03
14/Aug/00	10:38:42	1.667	0.38	0.34	20.96	0.03
14/Aug/00	10:39: 2	2.000	0.49	0.02	20.96	0.03
14/Aug/00	10:39:22	2.333	0.43	0.34	20.96	0.03
14/Aug/00	10:39:42	2.667	0.49	0.02	20.96	0.04
14/Aug/00	10:40: 2	3.000	0.51	-0.01	20.88	0.04
14/Aug/00	10:40:22	3.333	0.59	0.50	20.03	0.54
14/Aug/00	10:40:42	3.667	0.66	0.64	18.13	1.74
14/Aug/00	10:41: 2	4.000	0.64	0.15	17.35	2.54
14/Aug/00	10:41:22	4.333	0.50	0.53	17.68	2.66
14/Aug/00	10:41:42	4.667	0.60	0.70	17.78	2.50
14/Aug/00	10:42: 2	5.000	1.27	-0.25	18.09	2.43
14/Aug/00	10:42:22	5.333	2.11	0.21	18.41	2.13
14/Aug/00	10:42:42	5.667	2.62	0.66	18.56	2.00
14/Aug/00	10:43: 2	6.000	2.98	0.89	18.67	1.88
14/Aug/00	10:43:22	6.333	4.66	0.37	17.50	2.37
14/Aug/00	10:43:42	6.667	8.25	0.69	16.61	3.03
14/Aug/00	10:44: 2	7.000	11.25	0.38	16.34	3.2
14/Aug/00	10:44:22	7.333	13.57	0.00	16.16	
14/Aug/00	10:44:42	7.667	15.08	0.74	16.27	
14/Aug/00	10:45: 2	8.000	16.56	-0.37	16.29	
14/Aug/00	10:45:22	8.333	17.77	1.16	16.38	
14/Aug/00	10:45:42	8.667	18.51	0.73	16.50	
14/Aug/00	10:46: 2	9.000	19.20	0.59	16.70	14.2
14/Aug/00	10:46:22	9.333	609.66	1.57	15.49	
14/Aug/00	10:46:42	9.667	1159.66	1.99	10.07	
14/Aug/00	10:47: 2	10.000	1322.37	3.21	10.53	15.2
14/Aug/00	10:47:22	10.333	1323.95	3.25	12.71	
14/Aug/00	10:47:42	10.667	1292.57	2.68	13.84	
14/Aug/00	10:48: 2	11.000	1309.22	2.79	14.37	13.4
14/Aug/00	10:48:22	11.333	1311.84	3.10	15.05	
14/Aug/00	10:48:42	11.667	1324.69	3.37	15.65	
14/Aug/00	10:49: 2	12.000	1365.97	3.75	15.76	12.5
14/Aug/00	10:49:22	12.333	1372.21	3.86	16.40	
14/Aug/00	10:49:42	12.667	1411.69	3.68	16.53	
14/Aug/00	10:50: 2	13.000	1406.46	3.85	17.10	11.4
14/Aug/00	10:50:22	13.333	1408.86	3.36	17.44	
14/Aug/00	10:50:42	13.667	1458.26	4.13	17.55	
14/Aug/00	10:51: 2	14.000	1443.08	3.60	18.08	10.6
14/Aug/00	10:51:22	14.333	1459.08	4.02	18.46	
14/Aug/00	10:51:42	14.667	1496.71	3.59	18.72	
14/Aug/00	10:52: 2	15.000	1464.47	3.87	19.58	11.6
14/Aug/00	10:52:22	15.333	1590.63	3.76	12.11	
14/Aug/00	10:52:42	15.667	1605.97	4.09	10.37	
14/Aug/00	10:53: 2	16.000	1605.07	3.79	11.92	13.4

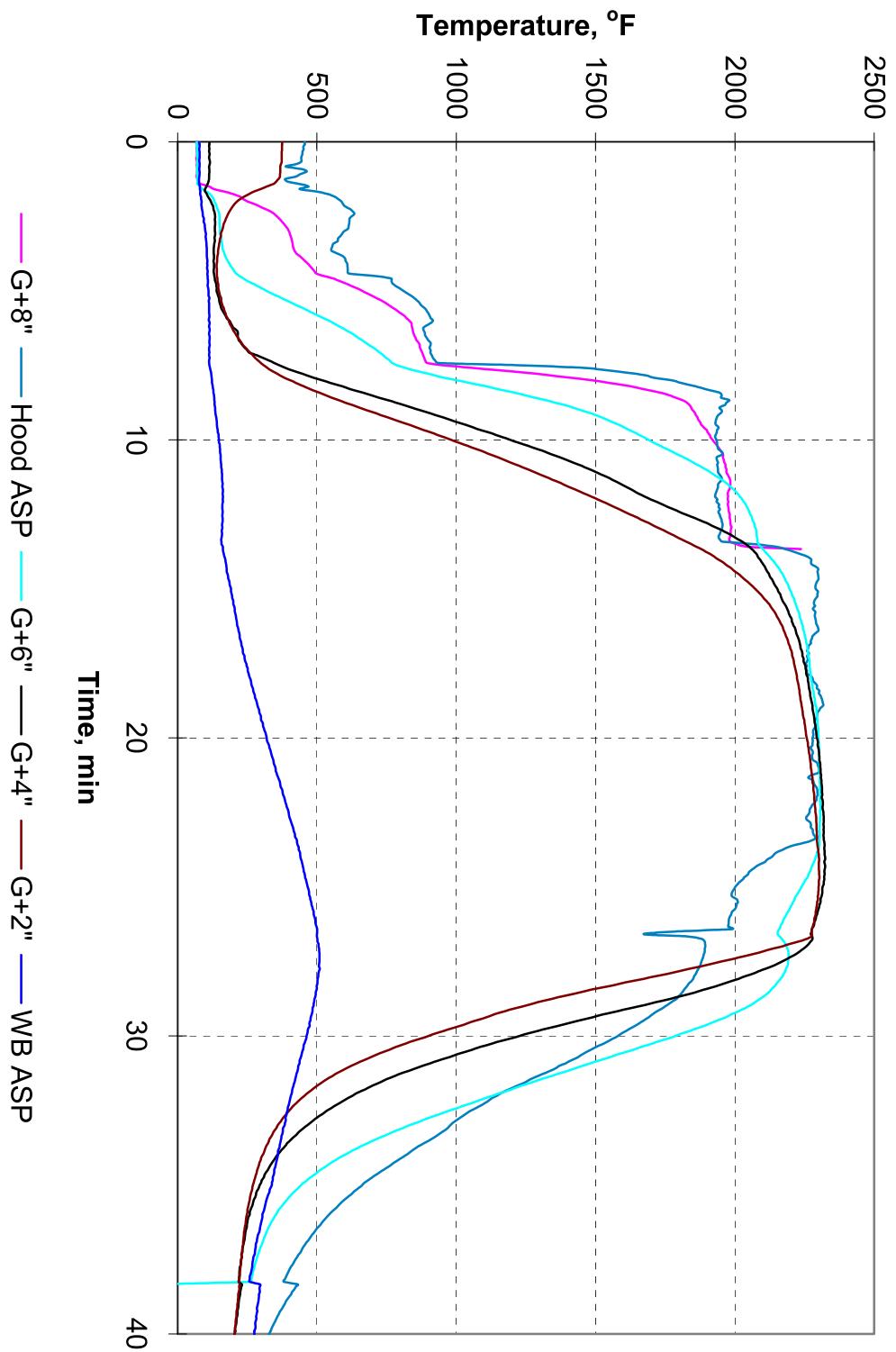
14/Aug/00	10:53:22	16.333	1569.21	3.14	12.99	
14/Aug/00	10:53:42	16.667	1555.99	3.87	13.36	
14/Aug/00	10:54: 2	17.000	1562.02	3.82	13.47	12
14/Aug/00	10:54:22	17.333	1513.97	4.47	14.29	
14/Aug/00	10:54:42	17.667	1503.03	4.06	14.49	
14/Aug/00	10:55: 2	18.000	1503.24	3.79	14.56	11.4
14/Aug/00	10:55:22	18.333	1511.49	3.70	14.62	
14/Aug/00	10:55:42	18.667	1484.49	3.52	14.91	
14/Aug/00	10:56: 2	19.000	1422.14	2.79	15.66	10.4
14/Aug/00	10:56:22	19.333	1426.66	3.47	15.67	
14/Aug/00	10:56:42	19.667	1438.88	3.09	15.56	
14/Aug/00	10:57: 2	20.000	1443.42	4.08	15.55	10.5
14/Aug/00	10:57:22	20.333	1442.95	3.80	15.56	
14/Aug/00	10:57:42	20.667	1433.61	3.47	15.61	
14/Aug/00	10:58: 2	21.000	1423.62	3.24	15.63	10.4
14/Aug/00	10:58:22	21.333	1449.69	3.65	15.62	
14/Aug/00	10:58:42	21.667	1473.44	3.28	15.60	
14/Aug/00	10:59: 2	22.000	1473.01	3.86	15.66	10.4
14/Aug/00	10:59:22	22.333	1428.03	3.20	16.02	
14/Aug/00	10:59:42	22.667	1343.23	3.24	16.68	
14/Aug/00	11: 0: 2	23.000	1287.28	3.34	17.34	9.9
14/Aug/00	11: 0:22	23.333	1372.00	2.62	16.33	
14/Aug/00	11: 0:42	23.667	1389.48	3.09	16.20	
14/Aug/00	11: 1: 2	24.000	1391.07	2.74	16.21	10
14/Aug/00	11: 1:22	24.333	1387.50	3.04	16.23	
14/Aug/00	11: 1:42	24.667	1368.96	4.17	16.26	
14/Aug/00	11: 2: 2	25.000	1340.93	3.68	16.31	8
14/Aug/00	11: 2:22	25.333	1177.17	3.30	18.10	
14/Aug/00	11: 2:42	25.667	1102.89	2.85	18.92	
14/Aug/00	11: 3: 2	26.000	1064.99	2.55	19.17	7.8
14/Aug/00	11: 3:22	26.333	1034.82	2.27	19.33	
14/Aug/00	11: 3:42	26.667	990.21	2.40	19.86	
14/Aug/00	11: 4: 2	27.000	946.16	2.24	20.03	7
14/Aug/00	11: 4:22	27.333	919.16	2.14	20.07	
14/Aug/00	11: 4:42	27.667	906.92	2.33	20.09	
14/Aug/00	11: 5: 2	28.000	848.05	1.96	20.03	
14/Aug/00	11: 5:22	28.333	386.52	1.32	17.39	2.98
14/Aug/00	11: 5:42	28.667	159.39	0.99	20.84	0.99
14/Aug/00	11: 6: 2	29.000	88.75	0.01	20.98	0.25
14/Aug/00	11: 6:22	29.333	62.08	0.13	20.98	0.16
14/Aug/00	11: 6:42	29.667	48.69	0.21	20.99	0.14
14/Aug/00	11: 7: 2	30.000	40.38	0.05	20.99	0.13
14/Aug/00	11: 7:22	30.333	34.90	0.06	20.99	0.13
14/Aug/00	11: 7:42	30.667	30.56	-0.13	21.00	0.12
14/Aug/00	11: 8: 2	31.000	27.32	0.53	21.01	0.12
14/Aug/00	11: 8:22	31.333	24.66	0.31	21.00	0.12
14/Aug/00	11: 8:42	31.667	22.70	-0.17	21.01	0.11
14/Aug/00	11: 9: 2	32.000	20.86	0.68	21.01	0.11
14/Aug/00	11: 9:22	32.333	19.45	0.45	21.01	0.11
14/Aug/00	11: 9:42	32.667	18.10	-0.10	21.01	0.11
14/Aug/00	11:10: 2	33.000	16.99	0.48	21.00	0.11
14/Aug/00	11:10:22	33.333	16.05	-0.02	21.00	0.10
14/Aug/00	11:10:42	33.667	15.14	0.10	21.01	0.10
14/Aug/00	11:11: 2	34.000	14.55	0.02	21.00	0.10

14/Aug/00	11:11:22	34.333	13.78	0.01	21.00	0.10
14/Aug/00	11:11:42	34.667	12.99	-0.07	21.00	0.10
14/Aug/00	11:12: 2	35.000	12.48	0.27	20.99	0.10
14/Aug/00	11:12:22	35.333	12.14	-0.07	21.00	0.10
14/Aug/00	11:12:42	35.667	11.68	-0.46	21.01	0.10
14/Aug/00	11:13: 2	36.000	11.27	-0.11	21.00	0.10

Test 2 Pot-Grate NOx Base Case 2300F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	1986	2307	2307	2324	2301	506
0	67	456	70	114	375	77
1	69	463	70	114	368	78
2	250	588	132	119	214	86
3	399	598	152	134	159	99
4	457	603	180	129	142	106
5	662	810	318	140	148	111
6	831	916	542	185	183	112
7	874	908	715	250	252	112
8	1484	1771	1000	518	403	123
9	1849	1953	1447	870	677	135
10	1920	1935	1690	1193	981	148
11	1970	1939	1896	1481	1259	159
12	1974	1937	2026	1698	1508	161
13	1986	1953	2076	1945	1736	159
14	No Reading	2273	2132	2090	1938	170
15	No Reading	2290	2196	2152	2072	191
16	No Reading	2289	2236	2203	2156	210
17	No Reading	2263	2260	2237	2199	233
18	No Reading	2279	2273	2262	2223	259
19	No Reading	2307	2293	2278	2241	289
20	No Reading	2278	2300	2295	2258	320
21	No Reading	2301	2303	2307	2273	351
22	No Reading	2293	2307	2312	2285	383
23	No Reading	2272	2304	2319	2293	414
24	No Reading	2131	2291	2324	2301	441
25	No Reading	2002	2239	2315	2301	467
26	No Reading	1982	2181	2291	2288	491
27	No Reading	1894	2186	2256	2168	506
28	No Reading	1854	2171	2037	1715	505
29	No Reading	1750	2049	1657	1241	487
30	No Reading	1580	1787	1228	901	462
31	No Reading	1372	1455	881	625	433
32	No Reading	1147	1133	629	456	406
33	No Reading	978	832	465	359	383
34	No Reading	818	597	357	304	360

**Pot Grade NOx Test -Base 2300F
Test #00-2, Temperature Profile**



Test 2 Pot-grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, pp m</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>O2, %</u>	<u>CO2, %</u>
15/Aug/ 0	10: 9:40	0.000	3.7	2.6	0.7	21.01
15/Aug/ 0	10: 9:50	0.167	4.0	2.5	-0.2	21.03
15/Aug/ 0	10:10: 0	0.333	4.0	2.7	1.0	21.02
15/Aug/ 0	10:10:10	0.500	4.0	2.5	1.1	21.03
15/Aug/ 0	10:10:20	0.667	4.2	2.7	0.2	21.01
15/Aug/ 0	10:10:30	0.833	4.7	3.0	0.7	20.97
15/Aug/ 0	10:10:40	1.000	4.7	5.0	0.4	20.88
15/Aug/ 0	10:10:50	1.167	6.1	121.0	0.6	20.12
15/Aug/ 0	10:11: 0	1.333	7.3	372.9	0.2	19.46
15/Aug/ 0	10:11:10	1.500	8.7	703.0	0.2	18.73
15/Aug/ 0	10:11:20	1.667	9.8	825.1	-0.4	18.36
15/Aug/ 0	10:11:30	1.833	10.4	826.1	0.3	18.28
15/Aug/ 0	10:11:40	2.000	11.1	800.2	0.3	18.15
15/Aug/ 0	10:11:50	2.167	11.3	778.6	-0.2	18.11
15/Aug/ 0	10:12: 0	2.333	11.3	768.8	0.6	18.31
15/Aug/ 0	10:12:10	2.500	10.7	763.9	0.8	18.39
15/Aug/ 0	10:12:20	2.667	10.8	767.1	0.8	18.49
15/Aug/ 0	10:12:30	2.833	10.8	765.2	0.3	18.69
15/Aug/ 0	10:12:40	3.000	10.8	751.2	-0.2	18.82
15/Aug/ 0	10:12:50	3.167	10.8	755.5	0.8	18.97
15/Aug/ 0	10:13: 0	3.333	10.6	754.1	0.2	19.03
15/Aug/ 0	10:13:10	3.500	11.0	778.1	-0.1	18.81
15/Aug/ 0	10:13:20	3.667	11.5	811.6	0.2	18.59
15/Aug/ 0	10:13:30	3.833	12.1	810.5	0.1	18.51
15/Aug/ 0	10:13:40	4.000	12.7	807.8	0.2	18.52
15/Aug/ 0	10:13:50	4.167	14.0	798.3	0.6	18.25
15/Aug/ 0	10:14: 0	4.333	16.4	754.8	0.2	17.24
15/Aug/ 0	10:14:10	4.500	18.2	811.4	0.7	17.14
15/Aug/ 0	10:14:20	4.667	19.7	808.7	0.3	17.04
15/Aug/ 0	10:14:30	4.833	21.0	784.8	1.0	16.85
15/Aug/ 0	10:14:40	5.000	22.2	733.2	0.2	16.70
15/Aug/ 0	10:14:50	5.167	23.6	679.8	0.7	16.61
15/Aug/ 0	10:15: 0	5.333	24.8	626.0	-0.2	16.55
15/Aug/ 0	10:15:10	5.500	25.6	582.2	0.3	16.47
15/Aug/ 0	10:15:20	5.667	26.8	566.9	0.1	16.46
15/Aug/ 0	10:15:30	5.833	26.8	566.5	-0.1	16.57
15/Aug/ 0	10:15:40	6.000	26.5	599.6	0.4	16.83
15/Aug/ 0	10:15:50	6.167	26.5	587.4	0.3	16.85
15/Aug/ 0	10:16: 0	6.333	26.9	564.5	-0.4	16.76
15/Aug/ 0	10:16:10	6.500	27.4	542.6	0.1	16.64
15/Aug/ 0	10:16:20	6.667	27.1	548.2	1.2	16.71
15/Aug/ 0	10:16:30	6.833	27.1	541.4	0.5	16.70
15/Aug/ 0	10:16:40	7.000	26.7	526.0	1.0	16.60
15/Aug/ 0	10:16:50	7.167	119.9	436.5	0.4	15.95
15/Aug/ 0	10:17: 0	7.333	502.8	144.0	0.5	14.56
15/Aug/ 0	10:17:10	7.500	844.8	50.4	1.3	13.74
15/Aug/ 0	10:17:20	7.667	1093.6	37.8	2.4	12.70
15/Aug/ 0	10:17:30	7.833	1279.7	33.5	2.3	12.23
15/Aug/ 0	10:17:40	8.000	1416.0	30.9	2.4	11.85

15/Aug/	0	10:17:50	8.167	1509.2	29.4	2.6	11.64	13.95
15/Aug/	0	10:18: 0	8.333	1560.3	27.7	3.6	12.08	14.43
15/Aug/	0	10:18:10	8.500	1550.2	26.0	3.6	12.98	14.45
15/Aug/	0	10:18:20	8.667	1487.6	23.7	3.1	13.92	13.88
15/Aug/	0	10:18:30	8.833	1445.8	21.7	3.4	14.52	13.48
15/Aug/	0	10:18:40	9.000	1403.6	19.6	2.8	15.16	13.11
15/Aug/	0	10:18:50	9.167	1388.8	17.8	2.4	15.45	12.84
15/Aug/	0	10:19: 0	9.333	1403.9	16.1	2.5	15.49	12.76
15/Aug/	0	10:19:10	9.500	1408.0	14.4	3.4	15.74	12.67
15/Aug/	0	10:19:20	9.667	1419.6	13.1	2.6	16.01	12.53
15/Aug/	0	10:19:30	9.833	1444.8	12.1	2.6	16.08	12.46
15/Aug/	0	10:19:40	10.000	1475.4	10.8	3.1	16.09	12.48
15/Aug/	0	10:19:50	10.167	1486.6	10.2	2.6	16.12	12.45
15/Aug/	0	10:20: 0	10.333	1484.9	9.5	2.8	16.52	12.24
15/Aug/	0	10:20:10	10.500	1496.9	8.9	2.6	16.82	12.09
15/Aug/	0	10:20:20	10.667	1502.8	8.5	3.4	16.96	11.98
15/Aug/	0	10:20:30	10.833	1522.8	8.3	2.9	17.01	11.89
15/Aug/	0	10:20:40	11.000	1569.4	7.9	2.9	17.00	11.93
15/Aug/	0	10:20:50	11.167	1565.9	8.0	3.3	17.15	11.85
15/Aug/	0	10:21: 0	11.333	1542.9	7.9	3.4	17.59	11.47
15/Aug/	0	10:21:10	11.500	1523.5	7.7	2.8	17.79	11.13
15/Aug/	0	10:21:20	11.667	1525.2	7.5	2.8	17.88	10.87
15/Aug/	0	10:21:30	11.833	1539.9	7.5	3.3	17.98	10.68
15/Aug/	0	10:21:40	12.000	1564.2	7.5	3.3	18.05	10.52
15/Aug/	0	10:21:50	12.167	1579.8	7.4	3.5	18.12	10.31
15/Aug/	0	10:22: 0	12.333	1601.6	7.4	3.0	18.21	10.09
15/Aug/	0	10:22:10	12.500	1629.0	7.5	3.0	18.26	9.93
15/Aug/	0	10:22:20	12.667	1644.3	7.4	3.6	18.42	9.77
15/Aug/	0	10:22:30	12.833	1630.3	7.6	4.5	18.75	9.41
15/Aug/	0	10:22:40	13.000	1614.6	7.5	3.6	18.99	9.10
15/Aug/	0	10:22:50	13.167	1698.8	7.5	3.0	17.74	9.38
15/Aug/	0	10:23: 0	13.333	1762.8	14.0	3.8	11.62	12.37
15/Aug/	0	10:23:10	13.500	1811.2	56.2	4.6	9.15	14.37
15/Aug/	0	10:23:20	13.667	1868.8	82.9	4.2	8.74	15.18
15/Aug/	0	10:23:30	13.833	1919.4	81.0	4.8	9.56	15.04
15/Aug/	0	10:23:40	14.000	1966.5	47.5	5.0	10.08	14.57
15/Aug/	0	10:23:50	14.167	1988.3	24.0	4.4	10.63	14.09
15/Aug/	0	10:24: 0	14.333	2000.6	16.2	4.5	11.20	13.64
15/Aug/	0	10:24:10	14.500	1992.5	13.5	4.1	11.78	13.24
15/Aug/	0	10:24:20	14.667	1986.1	12.5	4.3	12.06	12.96
15/Aug/	0	10:24:30	14.833	1983.7	12.2	3.8	12.16	12.83
15/Aug/	0	10:24:40	15.000	1964.5	11.8	3.7	12.47	12.67
15/Aug/	0	10:24:50	15.167	1944.9	11.1	3.5	12.83	12.39
15/Aug/	0	10:25: 0	15.333	1918.0	10.4	4.8	13.03	12.18
15/Aug/	0	10:25:10	15.500	1902.1	10.1	3.9	13.14	12.03
15/Aug/	0	10:25:20	15.667	1908.2	9.4	3.9	13.17	12.01
15/Aug/	0	10:25:30	15.833	1920.8	9.0	3.8	13.19	12.03
15/Aug/	0	10:25:40	16.000	1925.1	8.6	3.8	13.22	12.03
15/Aug/	0	10:25:50	16.167	1909.7	8.5	4.0	13.43	11.96
15/Aug/	0	10:26: 0	16.333	1843.9	7.9	3.3	14.03	11.54
15/Aug/	0	10:26:10	16.500	1796.8	7.5	3.5	14.39	11.13
15/Aug/	0	10:26:20	16.667	1767.4	7.3	3.8	14.52	10.97
15/Aug/	0	10:26:30	16.833	1753.3	7.2	3.7	14.56	10.91
15/Aug/	0	10:26:40	17.000	1748.1	6.9	3.9	14.60	10.88

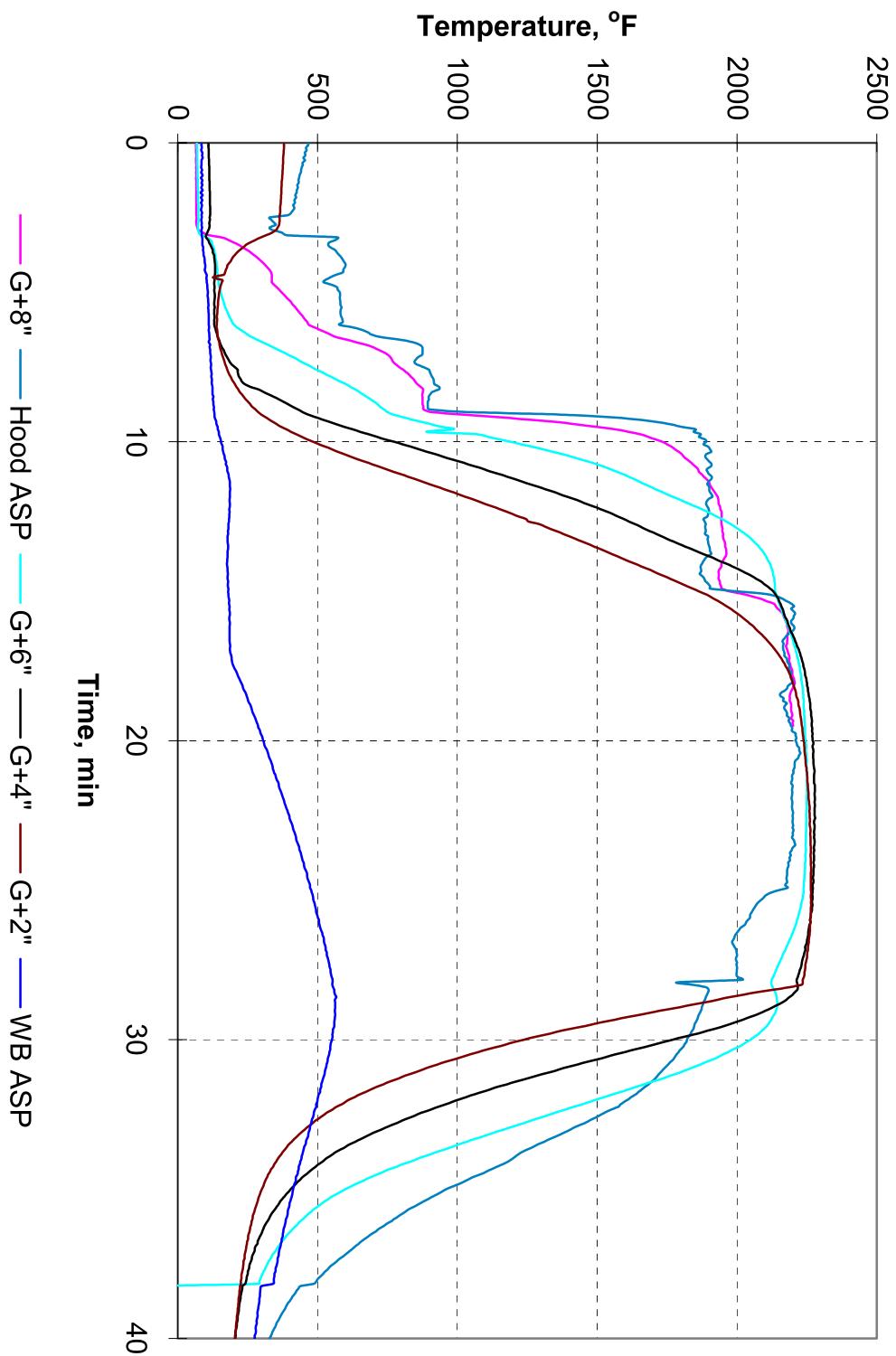
15/Aug/	0	10:26:50	17.167	1727.3	6.9	3.8	14.66	10.84
15/Aug/	0	10:27: 0	17.333	1686.7	6.8	3.7	14.76	10.66
15/Aug/	0	10:27:10	17.500	1685.5	6.6	3.5	14.69	10.59
15/Aug/	0	10:27:20	17.667	1719.4	6.5	3.8	14.19	10.85
15/Aug/	0	10:27:30	17.833	1749.5	6.5	3.9	13.96	11.10
15/Aug/	0	10:27:40	18.000	1773.1	6.6	3.3	13.86	11.22
15/Aug/	0	10:27:50	18.167	1788.2	6.5	4.4	13.83	11.27
15/Aug/	0	10:28: 0	18.333	1797.8	6.6	3.7	13.81	11.29
15/Aug/	0	10:28:10	18.500	1805.6	6.4	4.0	13.83	11.28
15/Aug/	0	10:28:20	18.667	1777.5	6.4	3.9	14.08	11.17
15/Aug/	0	10:28:30	18.833	1732.6	6.5	4.6	14.54	10.83
15/Aug/	0	10:28:40	19.000	1689.0	6.3	4.2	14.77	10.57
15/Aug/	0	10:28:50	19.167	1654.5	6.3	3.6	14.87	10.42
15/Aug/	0	10:29: 0	19.333	1623.1	6.2	3.3	14.93	10.31
15/Aug/	0	10:29:10	19.500	1600.0	6.1	3.9	14.99	10.22
15/Aug/	0	10:29:20	19.667	1570.1	6.2	2.9	15.07	10.12
15/Aug/	0	10:29:30	19.833	1558.9	6.3	3.1	15.20	10.03
15/Aug/	0	10:29:40	20.000	1557.6	6.3	2.8	15.22	10.02
15/Aug/	0	10:29:50	20.167	1551.2	6.2	3.6	15.23	10.01
15/Aug/	0	10:30: 0	20.333	1562.2	6.1	2.8	15.24	10.02
15/Aug/	0	10:30:10	20.500	1621.9	6.2	3.0	15.17	10.18
15/Aug/	0	10:30:20	20.667	1723.6	6.1	3.0	15.05	10.54
15/Aug/	0	10:30:30	20.833	1770.7	6.4	3.6	15.05	10.85
15/Aug/	0	10:30:40	21.000	1635.3	6.2	3.7	15.59	10.29
15/Aug/	0	10:30:50	21.167	1584.0	6.0	3.1	15.64	9.80
15/Aug/	0	10:31: 0	21.333	1586.9	6.0	3.6	15.45	9.91
15/Aug/	0	10:31:10	21.500	1604.2	6.0	4.0	15.30	10.14
15/Aug/	0	10:31:20	21.667	1594.7	5.7	3.2	15.30	10.15
15/Aug/	0	10:31:30	21.833	1553.4	5.8	2.5	15.53	9.96
15/Aug/	0	10:31:40	22.000	1519.3	5.7	3.4	15.86	9.71
15/Aug/	0	10:31:50	22.167	1492.2	5.6	3.4	16.11	9.50
15/Aug/	0	10:32: 0	22.333	1452.9	5.6	3.3	16.37	9.31
15/Aug/	0	10:32:10	22.500	1446.1	5.4	3.2	16.21	9.18
15/Aug/	0	10:32:20	22.667	1476.0	5.5	2.7	15.70	9.51
15/Aug/	0	10:32:30	22.833	1494.5	5.6	4.0	15.50	9.75
15/Aug/	0	10:32:40	23.000	1502.4	5.7	3.5	15.48	9.79
15/Aug/	0	10:32:50	23.167	1429.4	5.3	3.1	15.72	9.63
15/Aug/	0	10:33: 0	23.333	1280.0	5.2	3.7	17.58	8.60
15/Aug/	0	10:33:10	23.500	1142.5	4.9	3.1	18.61	7.63
15/Aug/	0	10:33:20	23.667	1067.5	4.8	2.2	18.95	7.16
15/Aug/	0	10:33:30	23.833	1021.5	5.1	3.1	19.10	7.02
15/Aug/	0	10:33:40	24.000	978.1	4.7	2.6	19.38	6.86
15/Aug/	0	10:33:50	24.167	944.9	4.8	2.0	19.76	6.61
15/Aug/	0	10:34: 0	24.333	916.5	4.4	2.5	19.85	6.48
15/Aug/	0	10:34:10	24.500	887.2	4.6	2.6	19.89	6.37
15/Aug/	0	10:34:20	24.667	865.8	4.5	2.4	19.91	6.26
15/Aug/	0	10:34:30	24.833	851.3	4.7	2.0	19.93	6.22
15/Aug/	0	10:34:40	25.000	853.0	5.1	1.3	19.89	6.23
15/Aug/	0	10:34:50	25.167	854.3	4.4	2.2	19.13	6.51
15/Aug/	0	10:35: 0	25.333	817.8	4.5	2.1	18.28	6.71
15/Aug/	0	10:35:10	25.500	736.0	4.6	1.9	17.61	6.66
15/Aug/	0	10:35:20	25.667	659.3	4.4	1.7	17.08	6.46
15/Aug/	0	10:35:30	25.833	590.9	4.4	1.3	16.46	6.37
15/Aug/	0	10:35:40	26.000	506.1	4.4	1.3	15.75	6.40

15/Aug/	0	10:35:50	26.167	360.3	4.4	0.7	14.06	6.20
15/Aug/	0	10:36: 0	26.333	229.7	4.1	0.5	17.89	3.66
15/Aug/	0	10:36:10	26.500	151.1	3.7	0.8	20.34	1.51
15/Aug/	0	10:36:20	26.667	102.3	3.5	0.1	20.82	0.56
15/Aug/	0	10:36:30	26.833	78.3	3.4	0.3	20.93	0.28
15/Aug/	0	10:36:40	27.000	63.1	2.9	-0.1	20.96	0.19
15/Aug/	0	10:36:50	27.167	54.0	3.1	0.6	20.96	0.17
15/Aug/	0	10:37: 0	27.333	48.2	3.0	-0.4	20.97	0.15
15/Aug/	0	10:37:10	27.500	43.8	2.7	-0.1	20.97	0.14
15/Aug/	0	10:37:20	27.667	40.8	2.7	-0.3	20.99	0.14
15/Aug/	0	10:37:30	27.833	38.2	2.8	-0.2	20.98	0.13
15/Aug/	0	10:37:40	28.000	36.4	2.5	0.2	20.99	0.13
15/Aug/	0	10:37:50	28.167	34.4	2.6	0.5	20.98	0.13
15/Aug/	0	10:38: 0	28.333	33.1	2.7	0.4	21.00	0.13
15/Aug/	0	10:38:10	28.500	31.7	2.2	0.3	20.98	0.12
15/Aug/	0	10:38:20	28.667	30.3	2.4	0.6	21.00	0.12
15/Aug/	0	10:38:30	28.833	29.1	2.5	-0.3	21.01	0.12
15/Aug/	0	10:38:40	29.000	28.1	2.3	-0.1	21.00	0.12
15/Aug/	0	10:38:50	29.167	27.3	2.2	-0.4	20.98	0.12
15/Aug/	0	10:39: 0	29.333	26.2	2.4	0.0	21.00	0.12
15/Aug/	0	10:39:10	29.500	25.5	2.2	-0.2	20.98	0.11
15/Aug/	0	10:39:20	29.667	24.9	2.4	0.3	21.00	0.12
15/Aug/	0	10:39:30	29.833	24.0	2.3	-0.6	21.00	0.12
15/Aug/	0	10:39:40	30.000	23.7	2.0	-0.2	21.00	0.11
15/Aug/	0	10:39:50	30.167	22.9	2.2	0.3	21.00	0.11
15/Aug/	0	10:40: 0	30.333	22.5	2.2	0.5	21.00	0.11
15/Aug/	0	10:40:10	30.500	21.9	2.1	0.1	20.99	0.11
15/Aug/	0	10:40:20	30.667	21.5	2.0	-0.0	21.01	0.11
15/Aug/	0	10:40:30	30.833	20.9	2.1	-0.2	21.00	0.11
15/Aug/	0	10:40:40	31.000	20.5	1.9	-0.3	21.02	0.11
15/Aug/	0	10:40:50	31.167	20.1	2.1	-0.1	21.00	0.11
15/Aug/	0	10:41: 0	31.333	19.9	2.2	0.3	21.02	0.11
15/Aug/	0	10:41:10	31.500	19.4	1.8	0.3	21.00	0.11
15/Aug/	0	10:41:20	31.667	19.1	1.9	0.5	21.01	0.11
15/Aug/	0	10:41:30	31.833	18.8	1.9	-0.0	21.01	0.11
15/Aug/	0	10:41:40	32.000	18.4	1.9	0.2	21.01	0.11
15/Aug/	0	10:41:50	32.167	18.1	1.9	0.0	21.00	0.10
15/Aug/	0	10:42: 0	32.333	18.0	1.9	-0.3	21.02	0.11
15/Aug/	0	10:42:10	32.500	17.6	2.0	0.2	21.00	0.11
15/Aug/	0	10:42:20	32.667	17.4	1.7	-0.0	21.01	0.10
15/Aug/	0	10:42:30	32.833	17.1	1.9	0.4	21.02	0.11
15/Aug/	0	10:42:40	33.000	16.9	1.9	0.2	21.02	0.10
15/Aug/	0	10:42:50	33.167	16.6	1.7	0.4	21.01	0.10
15/Aug/	0	10:43: 0	33.333	16.4	1.6	0.5	21.02	0.10
15/Aug/	0	10:43:10	33.500	16.1	1.6	0.3	21.01	0.10
15/Aug/	0	10:43:20	33.667	15.9	1.8	-0.4	21.02	0.11
15/Aug/	0	10:43:30	33.833	15.7	1.7	0.1	21.02	0.10
15/Aug/	0	10:43:40	34.000	15.4	1.8	-0.1	21.01	0.10
15/Aug/	0	10:43:50	34.167	15.3	1.9	0.2	21.02	0.11
15/Aug/	0	10:44: 0	34.333	15.2	1.9	0.3	21.02	0.11
15/Aug/	0	10:44:10	34.500	14.9	1.6	0.2	21.02	0.10
15/Aug/	0	10:44:20	34.667	14.8	1.7	-0.5	21.01	0.10
15/Aug/	0	10:44:30	34.833	14.7	1.7	0.3	21.03	0.10
15/Aug/	0	10:44:40	35.000	14.4	1.6	0.4	21.02	0.10

Test 3 Pot-Grate NOx With 0.6% Coal – 2200

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2205	2209	2250	2279	2264	562
0	65	468	68	109	380	84
1	66	439	70	113	374	83
2	66	419	73	115	368	83
3	89	373	75	105	338	86
4	303	596	138	132	186	96
5	372	579	153	132	148	107
6	464	590	194	130	139	111
7	735	876	375	167	156	116
8	851	916	586	231	200	121
9	902	1022	749	445	287	130
10	1732	1891	1189	773	483	154
11	1863	1894	1570	1121	771	178
12	1934	1891	1811	1441	1077	185
13	1948	1888	2016	1690	1356	179
14	1949	1879	2113	1941	1614	177
15	1971	1995	2137	2130	1863	180
16	2174	2194	2175	2180	2036	185
17	2181	2168	2210	2223	2139	188
18	2205	2201	2231	2248	2197	223
19	2194	2175	2240	2264	2225	266
20	No Reading	2209	2245	2270	2239	306
21	No Reading	2201	2250	2277	2249	342
22	No Reading	2197	2250	2279	2257	380
23	No Reading	2202	2248	2277	2263	414
24	No Reading	2189	2245	2276	2264	446
25	No Reading	2152	2238	2270	2264	477
26	No Reading	2040	2215	2261	2262	505
27	No Reading	1997	2173	2244	2254	529
28	No Reading	2020	2125	2214	2235	554
29	No Reading	1873	2141	2112	1749	562
30	No Reading	1821	2049	1771	1240	551
31	No Reading	1736	1825	1364	877	528
32	No Reading	1612	1500	1009	616	500
33	No Reading	1406	1169	730	455	472
34	No Reading	1195	855	528	357	442

**Pot Grade NO_x Test -0.6% Coal 2200F
Test #00-3, Temperature Profile**



Test 3 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
16/Aug/ 0	10:12:59	0.00	2.9	0.4	0.3	0.11
16/Aug/ 0	10:13: 9	0.17	2.9	0.4	0.3	0.11
16/Aug/ 0	10:13:19	0.33	3.0	-0.1	0.1	0.11
16/Aug/ 0	10:13:29	0.50	3.0	0.9	0.3	0.10
16/Aug/ 0	10:13:39	0.67	3.0	1.9	-0.2	0.11
16/Aug/ 0	10:13:49	0.83	3.0	1.5	0.7	0.11
16/Aug/ 0	10:13:59	1.00	3.0	0.8	-0.0	0.11
16/Aug/ 0	10:14: 9	1.17	3.1	-0.1	0.4	0.11
16/Aug/ 0	10:14:19	1.33	3.0	-0.4	0.4	0.11
16/Aug/ 0	10:14:29	1.50	2.9	-0.6	0.3	0.11
16/Aug/ 0	10:14:39	1.67	2.9	-0.9	-0.1	0.11
16/Aug/ 0	10:14:49	1.83	3.1	-1.2	0.5	0.10
16/Aug/ 0	10:14:59	2.00	2.9	-0.9	0.6	0.11
16/Aug/ 0	10:15: 9	2.17	3.0	-1.5	0.0	0.10
16/Aug/ 0	10:15:19	2.33	2.9	-1.5	0.3	0.10
16/Aug/ 0	10:15:29	2.50	2.7	-1.8	0.3	0.10
16/Aug/ 0	10:15:39	2.67	2.6	-2.0	0.4	0.10
16/Aug/ 0	10:15:49	2.83	3.0	-1.7	-0.4	0.11
16/Aug/ 0	10:15:59	3.00	3.1	-1.7	-0.2	0.11
16/Aug/ 0	10:16: 9	3.17	3.2	-1.8	0.4	0.11
16/Aug/ 0	10:16:19	3.33	3.7	42.0	0.4	0.22
16/Aug/ 0	10:16:29	3.50	5.8	442.9	0.2	0.81
16/Aug/ 0	10:16:39	3.67	7.6	922.9	0.6	1.64
16/Aug/ 0	10:16:49	3.83	8.2	1105.1	-0.8	1.81
16/Aug/ 0	10:16:59	4.00	8.7	1094.8	-0.4	1.88
16/Aug/ 0	10:17: 9	4.17	8.9	1077.0	-0.2	1.92
16/Aug/ 0	10:17:19	4.33	9.2	1053.3	-0.1	1.96
16/Aug/ 0	10:17:29	4.50	9.5	1017.7	-0.6	1.98
16/Aug/ 0	10:17:39	4.67	9.5	972.6	-0.5	1.95
16/Aug/ 0	10:17:49	4.83	9.2	945.2	0.6	1.84
16/Aug/ 0	10:17:59	5.00	9.0	925.1	0.2	1.63
16/Aug/ 0	10:18: 9	5.17	9.2	901.7	0.5	1.58
16/Aug/ 0	10:18:19	5.33	9.8	919.9	-0.3	1.69
16/Aug/ 0	10:18:29	5.50	10.3	908.5	-0.1	1.75
16/Aug/ 0	10:18:39	5.67	10.7	906.9	0.3	1.77
16/Aug/ 0	10:18:49	5.83	11.0	909.8	-0.1	1.78
16/Aug/ 0	10:18:59	6.00	11.3	916.4	0.2	1.77
16/Aug/ 0	10:19: 9	6.17	11.6	916.2	0.1	1.75
16/Aug/ 0	10:19:19	6.33	12.0	911.8	0.3	1.75
16/Aug/ 0	10:19:29	6.50	12.3	949.4	0.0	1.75
16/Aug/ 0	10:19:39	6.67	13.6	1075.1	0.8	1.96
16/Aug/ 0	10:19:49	6.83	15.3	1095.1	0.9	2.17
16/Aug/ 0	10:19:59	7.00	18.4	980.8	-0.3	2.52
16/Aug/ 0	10:20: 9	7.17	21.5	800.3	0.1	2.93
16/Aug/ 0	10:20:19	7.33	23.0	756.4	0.3	3.09
16/Aug/ 0	10:20:29	7.50	23.2	789.9	0.2	3.06
16/Aug/ 0	10:20:39	7.67	22.9	856.5	0.4	2.95
16/Aug/ 0	10:20:49	7.83	23.2	859.6	0.5	2.86
16/Aug/ 0	10:20:59	8.00	23.7	816.4	0.1	2.93
16/Aug/ 0	10:21: 9	8.17	24.3	783.1	0.4	3.00

16/Aug/	0	10:21:19	8.33	24.8	778.7	0.0	3.02	16.34
16/Aug/	0	10:21:29	8.50	25.1	792.5	0.3	3.04	16.31
16/Aug/	0	10:21:39	8.67	25.5	755.4	0.2	3.09	16.24
16/Aug/	0	10:21:49	8.83	24.6	834.9	0.4	2.98	16.55
16/Aug/	0	10:21:59	9.00	24.4	862.1	-0.1	2.89	16.66
16/Aug/	0	10:22: 9	9.17	23.8	873.5	0.6	2.84	16.70
16/Aug/	0	10:22:19	9.33	63.0	876.1	-0.3	2.87	16.61
16/Aug/	0	10:22:29	9.50	412.8	513.6	0.5	4.83	15.07
16/Aug/	0	10:22:39	9.67	830.9	550.2	1.6	8.41	13.08
16/Aug/	0	10:22:49	9.83	1185.1	776.3	2.6	11.50	11.68
16/Aug/	0	10:22:59	10.00	1404.9	845.1	2.8	13.05	11.04
16/Aug/	0	10:23: 9	10.17	1494.6	861.6	3.9	13.46	11.61
16/Aug/	0	10:23:19	10.33	1524.9	839.2	3.3	13.51	12.35
16/Aug/	0	10:23:29	10.50	1510.5	799.6	3.6	13.38	13.18
16/Aug/	0	10:23:39	10.67	1530.0	757.9	3.1	13.41	13.67
16/Aug/	0	10:23:49	10.83	1514.3	725.6	2.9	13.44	14.18
16/Aug/	0	10:23:59	11.00	1509.0	682.7	3.3	13.33	14.55
16/Aug/	0	10:24: 9	11.17	1519.0	633.1	2.8	13.42	14.60
16/Aug/	0	10:24:19	11.33	1506.8	587.4	3.0	13.35	14.95
16/Aug/	0	10:24:29	11.50	1519.1	535.2	3.4	13.22	15.19
16/Aug/	0	10:24:39	11.67	1551.0	486.5	3.5	13.32	15.23
16/Aug/	0	10:24:49	11.83	1545.6	444.3	2.8	13.22	15.62
16/Aug/	0	10:24:59	12.00	1557.2	392.9	3.0	13.09	15.83
16/Aug/	0	10:25: 9	12.17	1583.5	339.9	3.2	13.13	15.87
16/Aug/	0	10:25:19	12.33	1570.0	309.7	3.1	13.05	16.15
16/Aug/	0	10:25:29	12.50	1553.0	263.9	3.0	12.81	16.56
16/Aug/	0	10:25:39	12.67	1545.0	225.0	1.8	12.66	16.71
16/Aug/	0	10:25:49	12.83	1528.6	185.3	3.2	12.54	16.84
16/Aug/	0	10:25:59	13.00	1509.2	150.9	3.9	12.29	17.17
16/Aug/	0	10:26: 9	13.17	1507.0	117.3	3.6	12.11	17.39
16/Aug/	0	10:26:19	13.33	1510.2	91.0	4.0	11.97	17.48
16/Aug/	0	10:26:29	13.50	1515.4	68.7	3.3	11.80	17.58
16/Aug/	0	10:26:39	13.67	1539.4	53.3	3.1	11.67	17.64
16/Aug/	0	10:26:49	13.83	1549.0	41.6	3.4	11.51	17.71
16/Aug/	0	10:26:59	14.00	1567.2	33.6	3.8	11.32	17.77
16/Aug/	0	10:27: 9	14.17	1554.3	28.3	3.1	11.06	18.02
16/Aug/	0	10:27:19	14.33	1508.4	24.6	3.3	10.43	18.69
16/Aug/	0	10:27:29	14.50	1467.4	21.8	3.5	9.85	19.08
16/Aug/	0	10:27:39	14.67	1445.0	19.5	3.2	9.42	19.28
16/Aug/	0	10:27:49	14.83	1441.2	18.5	3.2	9.11	19.37
16/Aug/	0	10:27:59	15.00	1480.5	17.6	3.7	9.03	19.20
16/Aug/	0	10:28: 9	15.17	1541.6	17.2	3.5	9.17	19.01
16/Aug/	0	10:28:19	15.33	1616.2	17.0	3.3	9.46	18.42
16/Aug/	0	10:28:29	15.50	1645.0	23.7	3.4	12.07	12.55
16/Aug/	0	10:28:39	15.67	1676.4	91.3	3.2	14.21	9.13
16/Aug/	0	10:28:49	15.83	1720.3	110.7	3.1	14.64	9.36
16/Aug/	0	10:28:59	16.00	1760.8	63.8	3.4	14.03	10.39
16/Aug/	0	10:29: 9	16.17	1790.3	36.5	2.9	13.51	10.98
16/Aug/	0	10:29:19	16.33	1797.3	26.3	3.2	12.99	11.85
16/Aug/	0	10:29:29	16.50	1839.6	23.3	3.5	12.61	12.31
16/Aug/	0	10:29:39	16.67	1883.9	22.9	3.4	12.73	12.46
16/Aug/	0	10:29:49	16.83	1810.1	21.8	3.9	12.22	13.28
16/Aug/	0	10:29:59	17.00	1739.5	20.6	4.2	11.45	13.92
16/Aug/	0	10:30: 9	17.17	1732.3	19.3	3.3	11.13	14.24

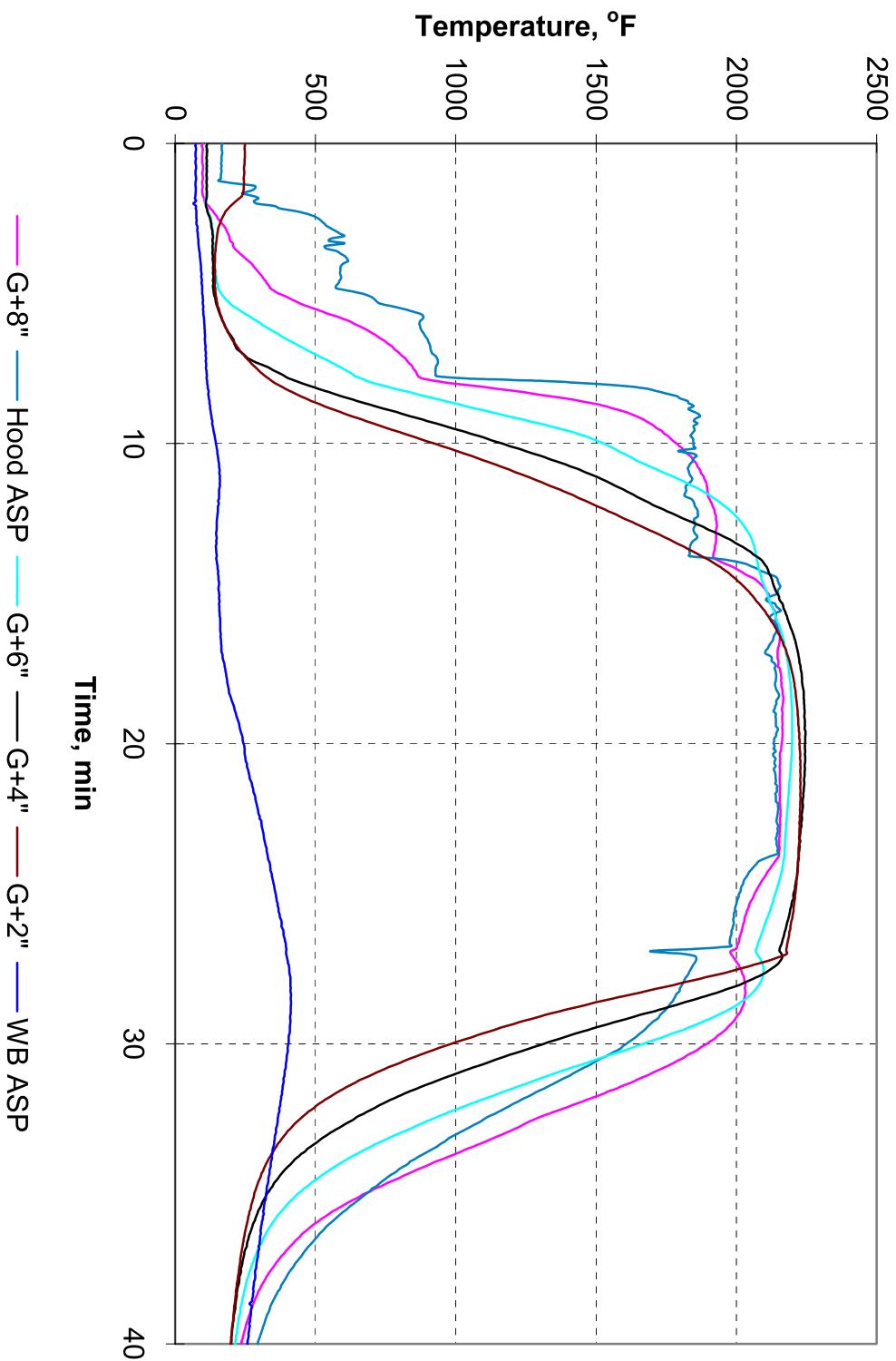
16/Aug/	0	10:30:19	17.33	1715.6	18.8	4.1	11.09	14.16
16/Aug/	0	10:30:29	17.50	1708.7	18.0	4.1	11.04	14.06
16/Aug/	0	10:30:39	17.67	1721.7	17.8	3.7	11.08	14.02
16/Aug/	0	10:30:49	17.83	1734.9	16.9	3.3	11.10	14.02
16/Aug/	0	10:30:59	18.00	1751.1	16.5	4.3	11.13	14.05
16/Aug/	0	10:31: 9	18.17	1767.1	16.3	4.3	11.12	14.08
16/Aug/	0	10:31:19	18.33	1785.8	15.6	3.2	11.14	14.08
16/Aug/	0	10:31:29	18.50	1751.1	15.3	3.0	11.06	14.25
16/Aug/	0	10:31:39	18.67	1673.9	14.6	3.8	10.61	14.87
16/Aug/	0	10:31:49	18.83	1607.2	14.4	3.0	10.13	15.39
16/Aug/	0	10:31:59	19.00	1622.6	14.2	3.6	9.99	15.46
16/Aug/	0	10:32: 9	19.17	1648.5	13.7	3.4	10.16	15.28
16/Aug/	0	10:32:19	19.33	1665.1	13.4	3.9	10.24	15.23
16/Aug/	0	10:32:29	19.50	1677.9	13.4	3.9	10.28	15.20
16/Aug/	0	10:32:39	19.67	1687.3	13.3	3.7	10.30	15.15
16/Aug/	0	10:32:49	19.83	1701.3	13.2	3.7	10.33	15.10
16/Aug/	0	10:32:59	20.00	1717.2	13.0	3.4	10.38	15.01
16/Aug/	0	10:33: 9	20.17	1736.8	12.9	3.4	10.45	14.93
16/Aug/	0	10:33:19	20.33	1736.3	13.0	3.4	10.47	14.89
16/Aug/	0	10:33:29	20.50	1733.9	12.6	2.9	10.40	14.95
16/Aug/	0	10:33:39	20.67	1753.6	12.6	3.2	10.42	14.91
16/Aug/	0	10:33:49	20.83	1765.6	12.3	3.6	10.49	14.93
16/Aug/	0	10:33:59	21.00	1732.4	12.1	3.6	10.35	15.20
16/Aug/	0	10:34: 9	21.17	1692.7	12.0	4.1	10.03	15.69
16/Aug/	0	10:34:19	21.33	1665.5	11.8	3.2	9.82	15.90
16/Aug/	0	10:34:29	21.50	1649.7	11.8	3.4	9.72	15.98
16/Aug/	0	10:34:39	21.67	1637.0	11.4	3.2	9.68	16.01
16/Aug/	0	10:34:49	21.83	1625.7	11.4	3.3	9.65	16.04
16/Aug/	0	10:34:59	22.00	1613.7	11.3	3.6	9.61	16.07
16/Aug/	0	10:35: 9	22.17	1606.4	11.4	2.9	9.57	16.10
16/Aug/	0	10:35:19	22.33	1603.2	11.2	3.0	9.56	16.12
16/Aug/	0	10:35:29	22.50	1602.4	10.9	3.8	9.54	16.12
16/Aug/	0	10:35:39	22.67	1602.8	11.1	3.4	9.53	16.14
16/Aug/	0	10:35:49	22.83	1599.8	10.9	3.3	9.53	16.14
16/Aug/	0	10:35:59	23.00	1595.0	10.8	2.9	9.52	16.17
16/Aug/	0	10:36: 9	23.17	1592.9	10.4	3.2	9.50	16.18
16/Aug/	0	10:36:19	23.33	1591.9	10.3	2.9	9.50	16.22
16/Aug/	0	10:36:29	23.50	1583.4	10.5	3.2	9.46	16.30
16/Aug/	0	10:36:39	23.67	1582.3	10.4	2.9	9.42	16.35
16/Aug/	0	10:36:49	23.83	1579.8	10.3	2.6	9.42	16.37
16/Aug/	0	10:36:59	24.00	1559.0	10.2	3.2	9.32	16.55
16/Aug/	0	10:37: 9	24.17	1533.4	9.9	2.8	9.15	16.80
16/Aug/	0	10:37:19	24.33	1514.0	9.6	2.9	9.02	16.95
16/Aug/	0	10:37:29	24.50	1496.4	9.5	3.3	8.94	17.04
16/Aug/	0	10:37:39	24.67	1483.6	9.6	3.3	8.88	17.09
16/Aug/	0	10:37:49	24.83	1474.7	9.4	3.5	8.84	17.14
16/Aug/	0	10:37:59	25.00	1471.3	9.2	4.2	8.84	17.18
16/Aug/	0	10:38: 9	25.17	1468.1	9.2	4.1	8.83	17.18
16/Aug/	0	10:38:19	25.33	1429.4	9.0	2.8	8.80	17.36
16/Aug/	0	10:38:29	25.50	1301.2	8.8	3.3	8.17	18.68
16/Aug/	0	10:38:39	25.67	1212.7	8.5	2.5	7.59	19.45
16/Aug/	0	10:38:49	25.83	1160.3	8.3	2.9	7.33	19.63
16/Aug/	0	10:38:59	26.00	1130.7	7.9	2.9	7.24	19.66
16/Aug/	0	10:39: 9	26.17	1115.1	7.8	1.9	7.23	19.69

16/Aug/	0	10:39:19	26.33	1107.8	7.8	2.6	7.21	19.71
16/Aug/	0	10:39:29	26.50	1091.1	7.9	2.3	7.17	19.80
16/Aug/	0	10:39:39	26.67	1060.8	7.6	2.4	7.01	20.09
16/Aug/	0	10:39:49	26.83	1033.4	7.2	1.8	6.83	20.25
16/Aug/	0	10:39:59	27.00	1014.4	7.2	1.8	6.72	20.33
16/Aug/	0	10:40: 9	27.17	1014.6	6.8	1.6	6.70	20.29
16/Aug/	0	10:40:19	27.33	1033.2	7.1	1.9	6.90	19.85
16/Aug/	0	10:40:29	27.50	1050.0	7.0	1.9	7.11	19.58
16/Aug/	0	10:40:39	27.67	1056.8	6.8	2.1	7.20	19.47
16/Aug/	0	10:40:49	27.83	1059.5	6.8	1.6	7.23	19.47
16/Aug/	0	10:40:59	28.00	1057.2	6.3	2.4	7.22	19.45
16/Aug/	0	10:41: 9	28.17	1055.6	6.4	2.6	7.21	19.46
16/Aug/	0	10:41:19	28.33	871.9	6.3	2.2	7.25	17.88
16/Aug/	0	10:41:29	28.50	519.3	6.2	0.8	5.58	16.87
16/Aug/	0	10:41:39	28.67	297.0	5.6	0.9	2.72	19.95
16/Aug/	0	10:41:49	28.83	172.0	5.1	0.1	1.23	20.86
16/Aug/	0	10:41:59	29.00	109.0	4.4	0.3	0.66	21.01
16/Aug/	0	10:42: 9	29.17	75.3	4.4	-0.3	0.49	21.01
16/Aug/	0	10:42:19	29.33	58.0	4.2	-0.2	0.44	21.02
16/Aug/	0	10:42:29	29.50	48.3	4.1	-0.4	0.41	21.01
16/Aug/	0	10:42:39	29.67	42.1	4.0	-0.0	0.40	21.00
16/Aug/	0	10:42:49	29.83	38.2	4.0	0.2	0.40	21.01
16/Aug/	0	10:42:59	30.00	35.1	3.8	-0.7	0.39	21.01
16/Aug/	0	10:43: 9	30.17	32.8	3.8	0.1	0.39	21.01
16/Aug/	0	10:43:19	30.33	30.8	3.8	0.1	0.38	21.01
16/Aug/	0	10:43:29	30.50	29.2	3.4	0.1	0.37	21.02
16/Aug/	0	10:43:39	30.67	27.7	3.5	0.2	0.38	21.01
16/Aug/	0	10:43:49	30.83	26.3	3.3	-0.0	0.37	21.02
16/Aug/	0	10:43:59	31.00	25.2	3.1	0.3	0.37	21.02
16/Aug/	0	10:44: 9	31.17	24.1	3.2	0.0	0.37	21.03
16/Aug/	0	10:44:19	31.33	23.2	2.9	0.3	0.36	21.02
16/Aug/	0	10:44:29	31.50	22.5	2.7	-0.2	0.36	21.04
16/Aug/	0	10:44:39	31.67	21.8	2.9	-0.7	0.36	21.02
16/Aug/	0	10:44:49	31.83	21.0	2.8	-0.4	0.36	21.03
16/Aug/	0	10:44:59	32.00	20.4	2.4	-0.3	0.36	21.02
16/Aug/	0	10:45: 9	32.17	19.9	2.5	0.5	0.36	21.03
16/Aug/	0	10:45:19	32.33	19.4	2.5	-0.0	0.36	21.03
16/Aug/	0	10:45:29	32.50	18.9	2.3	0.2	0.35	21.03
16/Aug/	0	10:45:39	32.67	18.5	2.2	-0.2	0.35	21.03
16/Aug/	0	10:45:49	32.83	18.0	2.0	0.0	0.35	21.03
16/Aug/	0	10:45:59	33.00	17.7	2.2	-0.6	0.35	21.03
16/Aug/	0	10:46: 9	33.17	17.4	1.8	-0.4	0.34	21.03
16/Aug/	0	10:46:19	33.33	16.8	1.9	-0.4	0.35	21.04
16/Aug/	0	10:46:29	33.50	16.1	1.9	-0.1	0.34	21.03
16/Aug/	0	10:46:39	33.67	15.5	1.6	-0.0	0.34	21.03
16/Aug/	0	10:46:49	33.83	15.2	1.5	0.1	0.34	21.03
16/Aug/	0	10:46:59	34.00	15.1	1.4	0.5	0.34	21.05
16/Aug/	0	10:47: 9	34.17	15.3	1.4	0.2	0.34	21.03
16/Aug/	0	10:47:19	34.33	14.9	1.0	-0.2	0.33	21.04
16/Aug/	0	10:47:29	34.50	15.1	1.1	0.6	0.34	21.03
16/Aug/	0	10:47:39	34.67	14.8	1.0	-0.1	0.34	21.04
16/Aug/	0	10:47:49	34.83	14.6	1.1	-0.1	0.34	21.03
16/Aug/	0	10:47:59	35.00	14.3	0.5	-0.3	0.33	21.04
16/Aug/	0	10:48: 9	35.17	14.1	0.9	-0.6	0.33	21.03

Test 4 Pot-Grate NOx With 0.6% Coal 2150F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2164	2148	2199	2244	2228	412
0	98	168	111	113	248	74
1	97	163	111	111	246	72
2	108	289	107	109	207	66
3	188	586	135	132	150	81
4	271	600	140	135	141	91
5	370	667	164	138	144	96
6	637	870	305	173	174	103
7	799	915	494	240	240	109
8	995	1486	713	455	359	114
9	1621	1862	1147	805	603	127
10	1787	1847	1527	1165	923	145
11	1875	1832	1750	1475	1227	158
12	1913	1850	1947	1695	1484	155
13	1928	1853	2045	1933	1718	146
14	1960	2032	2076	2100	1923	149
15	2114	2148	2110	2147	2050	157
16	2145	2141	2150	2189	2131	160
17	2147	2105	2178	2220	2180	168
18	2162	2138	2193	2236	2207	187
19	2164	2141	2199	2243	2219	216
20	2161	2133	2199	2244	2225	244
21	2155	2139	2192	2244	2228	263
22	2155	2148	2184	2236	2228	290
23	2153	2145	2175	2228	2224	314
24	2133	2073	2166	2220	2219	337
25	2065	2009	2139	2204	2210	358
26	2025	1991	2103	2181	2195	379
27	1981	1810	2073	2161	2180	395
28	2032	1808	2083	2021	1794	411
29	2010	1734	1945	1673	1336	412
30	1895	1608	1669	1314	984	404
31	1696	1416	1349	1001	709	390
32	1431	1207	1056	740	513	375
33	1171	1004	796	548	394	358
34	912	830	586	413	324	340

**Pot Grade NO_x Test -0.6% Coal 2150F
Test #00-4, Temperature Profile**



Test 4 Pot-Grate Gas Analysis

<u>Date / Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
17/Aug/ 0	10:42: 5	0.00	1.5	0.6	0.03
17/Aug/ 0	10:42:15	0.17	1.4	0.6	0.03
17/Aug/ 0	10:42:25	0.33	1.5	0.2	0.02
17/Aug/ 0	10:42:35	0.50	1.4	0.2	0.03
17/Aug/ 0	10:42:45	0.67	1.4	0.7	0.03
17/Aug/ 0	10:42:55	0.83	1.5	-0.0	0.02
17/Aug/ 0	10:43: 5	1.00	1.4	-0.0	0.02
17/Aug/ 0	10:43:15	1.17	1.3	-0.2	0.02
17/Aug/ 0	10:43:25	1.33	1.3	0.5	0.02
17/Aug/ 0	10:43:35	1.50	1.4	0.3	0.02
17/Aug/ 0	10:43:45	1.67	1.5	1.7	0.02
17/Aug/ 0	10:43:55	1.83	1.5	0.9	0.02
17/Aug/ 0	10:44: 5	2.00	1.5	-0.1	0.03
17/Aug/ 0	10:44:15	2.17	2.1	0.7	0.05
17/Aug/ 0	10:44:25	2.33	2.5	-0.3	0.37
17/Aug/ 0	10:44:35	2.50	3.5	0.2	0.63
17/Aug/ 0	10:44:45	2.67	4.8	-0.2	1.01
17/Aug/ 0	10:44:55	2.83	5.7	-0.2	1.44
17/Aug/ 0	10:45: 5	3.00	6.3	-0.1	1.78
17/Aug/ 0	10:45:15	3.17	6.8	-0.4	1.93
17/Aug/ 0	10:45:25	3.33	7.5	-0.4	2.00
17/Aug/ 0	10:45:35	3.50	7.5	-0.1	2.10
17/Aug/ 0	10:45:45	3.67	7.6	-0.6	2.11
17/Aug/ 0	10:45:55	3.83	7.3	-1.1	2.03
17/Aug/ 0	10:46: 5	4.00	7.5	0.1	1.85
17/Aug/ 0	10:46:15	4.17	7.8	0.2	1.91
17/Aug/ 0	10:46:25	4.33	8.1	-0.2	2.04
17/Aug/ 0	10:46:35	4.50	8.2	-0.1	2.08
17/Aug/ 0	10:46:45	4.67	8.2	-0.2	1.98
17/Aug/ 0	10:46:55	4.83	8.3	-0.6	1.91
17/Aug/ 0	10:47: 5	5.00	8.2	-0.2	1.89
17/Aug/ 0	10:47:15	5.17	8.3	0.1	1.84
17/Aug/ 0	10:47:25	5.33	9.0	0.5	1.79
17/Aug/ 0	10:47:35	5.50	10.2	-0.1	2.02
17/Aug/ 0	10:47:45	5.67	11.5	0.5	2.30
17/Aug/ 0	10:47:55	5.83	13.7	0.1	2.46
17/Aug/ 0	10:48: 5	6.00	16.1	0.4	2.70
17/Aug/ 0	10:48:15	6.17	17.9	0.7	2.98
17/Aug/ 0	10:48:25	6.33	18.5	0.5	3.17
17/Aug/ 0	10:48:35	6.50	19.0	-0.2	3.14
17/Aug/ 0	10:48:45	6.67	19.6	0.5	3.06
17/Aug/ 0	10:48:55	6.83	20.2	0.4	3.04
17/Aug/ 0	10:49: 5	7.00	20.7	-0.0	3.05
17/Aug/ 0	10:49:15	7.17	21.3	0.3	3.07
17/Aug/ 0	10:49:25	7.33	21.7	0.8	3.07
17/Aug/ 0	10:49:35	7.50	22.3	-0.2	3.07
17/Aug/ 0	10:49:45	7.67	22.2	0.2	3.12
17/Aug/ 0	10:49:55	7.83	22.0	0.5	3.14
17/Aug/ 0	10:50: 5	8.00	23.4	0.4	3.11
17/Aug/ 0	10:50:15	8.17	182.3	0.7	3.08

17/Aug/ 0	10:50:25	8.33	547.9	1.2	3.30	16.82
17/Aug/ 0	10:50:35	8.50	903.2	1.6	6.06	15.40
17/Aug/ 0	10:50:45	8.67	1166.5	2.5	9.83	13.15
17/Aug/ 0	10:50:55	8.83	1324.4	2.5	11.89	12.45
17/Aug/ 0	10:51: 5	9.00	1405.4	2.6	12.84	12.23
17/Aug/ 0	10:51:15	9.17	1410.6	2.7	13.31	12.59
17/Aug/ 0	10:51:25	9.33	1428.1	2.9	13.28	13.32
17/Aug/ 0	10:51:35	9.50	1409.7	2.9	13.26	13.78
17/Aug/ 0	10:51:45	9.67	1398.5	3.1	13.33	14.31
17/Aug/ 0	10:51:55	9.83	1377.7	2.5	13.27	14.81
17/Aug/ 0	10:52: 5	10.00	1371.5	3.0	13.19	15.24
17/Aug/ 0	10:52:15	10.17	1368.9	2.9	13.10	15.59
17/Aug/ 0	10:52:25	10.33	1388.1	3.4	13.08	15.85
17/Aug/ 0	10:52:35	10.50	1402.2	3.2	13.07	15.98
17/Aug/ 0	10:52:45	10.67	1418.5	2.9	13.12	16.08
17/Aug/ 0	10:52:55	10.83	1419.6	2.9	13.08	16.22
17/Aug/ 0	10:53: 5	11.00	1391.5	2.8	13.06	16.45
17/Aug/ 0	10:53:15	11.17	1363.6	2.9	12.80	16.92
17/Aug/ 0	10:53:25	11.33	1366.1	2.5	12.55	17.15
17/Aug/ 0	10:53:35	11.50	1375.5	3.3	12.43	17.25
17/Aug/ 0	10:53:45	11.67	1353.1	2.4	12.44	17.28
17/Aug/ 0	10:53:55	11.83	1324.4	3.5	12.33	17.54
17/Aug/ 0	10:54: 5	12.00	1309.4	2.9	12.00	17.96
17/Aug/ 0	10:54:15	12.17	1350.2	2.6	11.71	18.12
17/Aug/ 0	10:54:25	12.33	1382.6	3.2	11.71	17.95
17/Aug/ 0	10:54:35	12.50	1405.6	3.2	11.81	17.73
17/Aug/ 0	10:54:45	12.67	1409.7	3.1	11.72	17.73
17/Aug/ 0	10:54:55	12.83	1390.0	3.6	11.53	17.83
17/Aug/ 0	10:55: 5	13.00	1374.1	3.0	11.16	18.12
17/Aug/ 0	10:55:15	13.17	1364.1	2.5	10.72	18.44
17/Aug/ 0	10:55:25	13.33	1368.8	2.4	10.36	18.60
17/Aug/ 0	10:55:35	13.50	1370.2	3.2	10.06	18.70
17/Aug/ 0	10:55:45	13.67	1349.2	2.4	9.87	18.85
17/Aug/ 0	10:55:55	13.83	1331.1	3.0	9.47	19.32
17/Aug/ 0	10:56: 5	14.00	1318.6	2.7	9.04	19.58
17/Aug/ 0	10:56:15	14.17	1370.7	3.5	8.77	19.72
17/Aug/ 0	10:56:25	14.33	1443.7	3.1	9.38	16.77
17/Aug/ 0	10:56:35	14.50	1510.5	3.2	11.87	12.54
17/Aug/ 0	10:56:45	14.67	1642.2	3.0	13.05	11.30
17/Aug/ 0	10:56:55	14.83	1687.2	3.5	13.46	11.46
17/Aug/ 0	10:57: 5	15.00	1687.5	3.2	13.57	11.38
17/Aug/ 0	10:57:15	15.17	1676.0	3.3	13.39	11.52
17/Aug/ 0	10:57:25	15.33	1638.9	3.6	13.01	12.18
17/Aug/ 0	10:57:35	15.50	1570.4	3.9	12.51	12.94
17/Aug/ 0	10:57:45	15.67	1608.1	3.3	11.69	14.07
17/Aug/ 0	10:57:55	15.83	1701.6	2.9	11.48	13.83
17/Aug/ 0	10:58: 5	16.00	1671.8	3.0	12.05	13.33
17/Aug/ 0	10:58:15	16.17	1619.8	3.3	12.17	13.82
17/Aug/ 0	10:58:25	16.33	1633.4	2.6	11.40	14.40
17/Aug/ 0	10:58:35	16.50	1632.5	3.1	11.42	13.90
17/Aug/ 0	10:58:45	16.67	1598.9	3.8	11.55	13.77
17/Aug/ 0	10:58:55	16.83	1559.0	3.1	11.33	14.22
17/Aug/ 0	10:59: 5	17.00	1511.2	2.7	10.97	14.55
17/Aug/ 0	10:59:15	17.17	1479.8	3.7	10.70	14.80

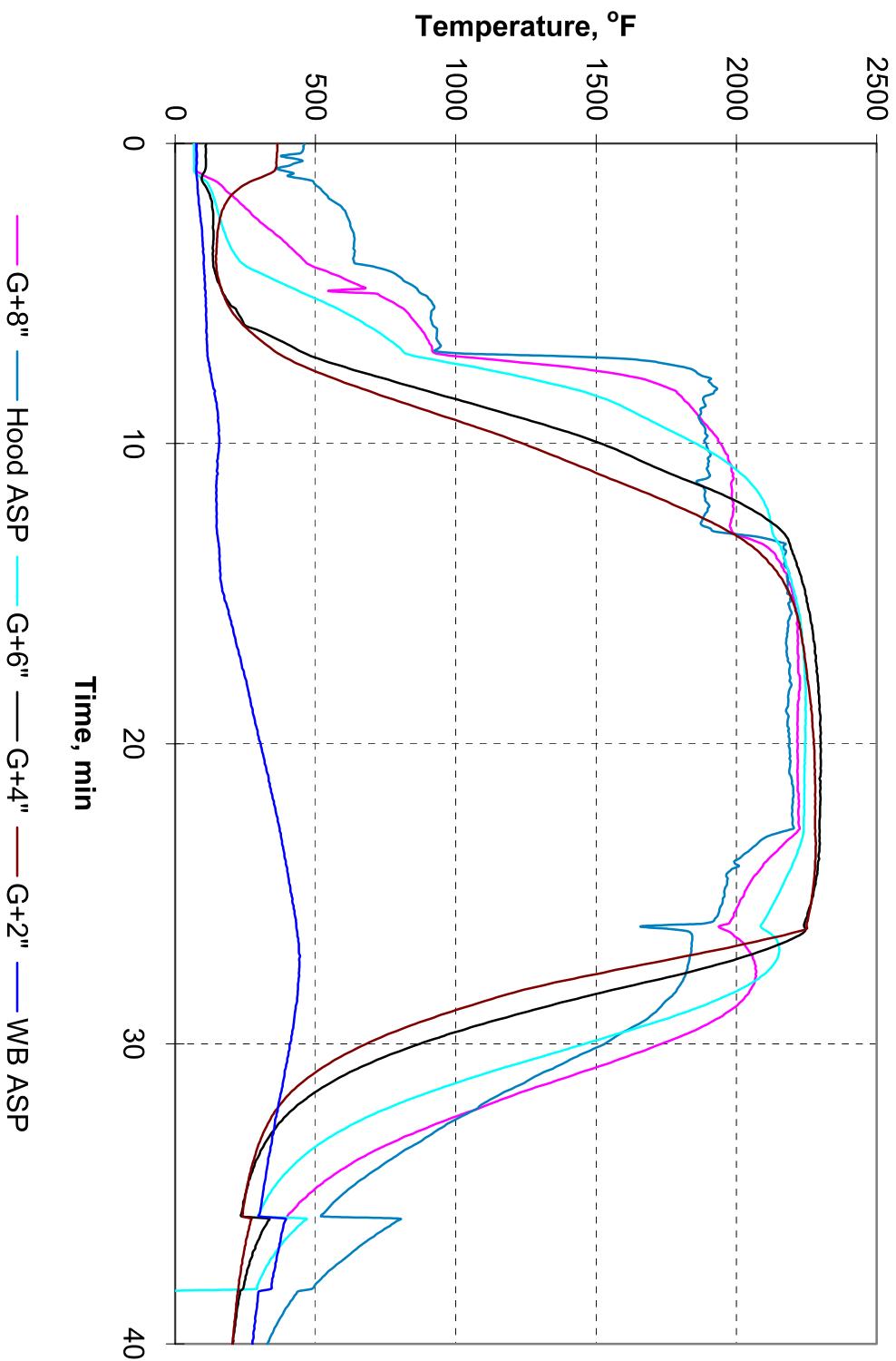
17/Aug/ 0	10:59:25	17.33	1496.9	4.0	10.38	15.34
17/Aug/ 0	10:59:35	17.50	1542.8	4.0	10.21	15.42
17/Aug/ 0	10:59:45	17.67	1589.6	3.0	10.50	15.02
17/Aug/ 0	10:59:55	17.83	1596.2	2.9	10.73	14.87
17/Aug/ 0	11: 0: 5	18.00	1581.1	3.4	10.86	14.83
17/Aug/ 0	11: 0:15	18.17	1561.0	3.0	10.70	14.95
17/Aug/ 0	11: 0:25	18.33	1536.9	3.2	10.56	15.04
17/Aug/ 0	11: 0:35	18.50	1536.1	2.6	10.43	15.11
17/Aug/ 0	11: 0:45	18.67	1541.9	2.9	10.37	15.15
17/Aug/ 0	11: 0:55	18.83	1531.0	3.3	10.40	15.16
17/Aug/ 0	11: 1: 5	19.00	1514.3	3.1	10.33	15.37
17/Aug/ 0	11: 1:15	19.17	1503.3	2.9	10.14	15.61
17/Aug/ 0	11: 1:25	19.33	1509.8	3.2	10.01	15.73
17/Aug/ 0	11: 1:35	19.50	1516.1	2.5	9.95	15.88
17/Aug/ 0	11: 1:45	19.67	1525.7	3.0	9.94	15.95
17/Aug/ 0	11: 1:55	19.83	1538.0	2.5	9.93	15.98
17/Aug/ 0	11: 2: 5	20.00	1531.7	2.5	9.97	16.00
17/Aug/ 0	11: 2:15	20.17	1515.8	2.6	9.93	16.12
17/Aug/ 0	11: 2:25	20.33	1500.5	2.4	9.78	16.33
17/Aug/ 0	11: 2:35	20.50	1486.7	2.7	9.67	16.43
17/Aug/ 0	11: 2:45	20.67	1476.3	2.8	9.58	16.50
17/Aug/ 0	11: 2:55	20.83	1479.2	3.3	9.51	16.54
17/Aug/ 0	11: 3: 5	21.00	1478.9	3.1	9.51	16.58
17/Aug/ 0	11: 3:15	21.17	1478.5	3.0	9.50	16.62
17/Aug/ 0	11: 3:25	21.33	1491.7	3.2	9.47	16.67
17/Aug/ 0	11: 3:35	21.50	1501.9	2.6	9.50	16.69
17/Aug/ 0	11: 3:45	21.67	1507.2	3.5	9.53	16.74
17/Aug/ 0	11: 3:55	21.83	1504.9	2.7	9.52	16.77
17/Aug/ 0	11: 4: 5	22.00	1500.5	3.0	9.51	16.80
17/Aug/ 0	11: 4:15	22.17	1495.2	2.4	9.50	16.75
17/Aug/ 0	11: 4:25	22.33	1492.8	3.3	9.47	16.76
17/Aug/ 0	11: 4:35	22.50	1488.7	2.9	9.46	16.76
17/Aug/ 0	11: 4:45	22.67	1478.6	2.4	9.46	16.78
17/Aug/ 0	11: 4:55	22.83	1469.5	3.5	9.41	16.86
17/Aug/ 0	11: 5: 5	23.00	1457.2	3.2	9.33	16.96
17/Aug/ 0	11: 5:15	23.17	1449.4	3.4	9.29	16.96
17/Aug/ 0	11: 5:25	23.33	1444.3	2.9	9.26	16.98
17/Aug/ 0	11: 5:35	23.50	1435.0	3.4	9.24	16.98
17/Aug/ 0	11: 5:45	23.67	1428.9	3.5	9.22	16.99
17/Aug/ 0	11: 5:55	23.83	1424.7	2.6	9.20	17.01
17/Aug/ 0	11: 6: 5	24.00	1396.3	3.3	9.17	17.02
17/Aug/ 0	11: 6:15	24.17	1294.9	2.8	9.15	17.13
17/Aug/ 0	11: 6:25	24.33	1219.4	2.7	8.50	18.37
17/Aug/ 0	11: 6:35	24.50	1170.3	2.7	7.93	19.06
17/Aug/ 0	11: 6:45	24.67	1129.4	2.7	7.67	19.27
17/Aug/ 0	11: 6:55	24.83	1103.0	1.8	7.55	19.35
17/Aug/ 0	11: 7: 5	25.00	1088.2	2.3	7.47	19.37
17/Aug/ 0	11: 7:15	25.17	1079.4	2.1	7.43	19.40
17/Aug/ 0	11: 7:25	25.33	1075.7	2.4	7.43	19.41
17/Aug/ 0	11: 7:35	25.50	1070.3	3.5	7.43	19.43
17/Aug/ 0	11: 7:45	25.67	1067.1	3.1	7.43	19.42
17/Aug/ 0	11: 7:55	25.83	1061.6	2.6	7.43	19.44
17/Aug/ 0	11: 8: 5	26.00	1059.7	2.0	7.41	19.44
17/Aug/ 0	11: 8:15	26.17	1055.5	2.1	7.41	19.46

17/Aug/ 0	11: 8:25	26.33	1054.8	2.3	7.41	19.45
17/Aug/ 0	11: 8:35	26.50	1050.8	2.0	7.40	19.47
17/Aug/ 0	11: 8:45	26.67	1044.1	2.0	7.39	19.47
17/Aug/ 0	11: 8:55	26.83	1032.6	1.8	7.37	19.49
17/Aug/ 0	11: 9: 5	27.00	985.0	1.8	7.33	19.48
17/Aug/ 0	11: 9:15	27.17	696.7	1.7	7.28	19.37
17/Aug/ 0	11: 9:25	27.33	446.9	0.9	6.65	16.86
17/Aug/ 0	11: 9:35	27.50	278.3	0.0	3.48	19.63
17/Aug/ 0	11: 9:45	27.67	181.2	0.3	1.47	20.83
17/Aug/ 0	11: 9:55	27.83	130.2	0.2	0.64	21.00
17/Aug/ 0	11:10: 5	28.00	100.6	-0.4	0.43	21.02
17/Aug/ 0	11:10:15	28.17	81.7	0.2	0.37	21.00
17/Aug/ 0	11:10:25	28.33	69.1	-0.0	0.35	21.01
17/Aug/ 0	11:10:35	28.50	60.1	-0.3	0.34	21.00
17/Aug/ 0	11:10:45	28.67	53.8	0.0	0.33	21.00
17/Aug/ 0	11:10:55	28.83	48.8	0.4	0.32	21.01
17/Aug/ 0	11:11: 5	29.00	44.9	-0.1	0.32	21.00
17/Aug/ 0	11:11:15	29.17	41.6	-0.0	0.31	21.00
17/Aug/ 0	11:11:25	29.33	38.7	-0.2	0.31	21.01
17/Aug/ 0	11:11:35	29.50	36.4	-0.1	0.31	21.02
17/Aug/ 0	11:11:45	29.67	34.3	-0.1	0.31	21.00
17/Aug/ 0	11:11:55	29.83	32.1	0.1	0.30	21.02
17/Aug/ 0	11:12: 5	30.00	30.5	-0.1	0.30	21.01
17/Aug/ 0	11:12:15	30.17	29.1	-0.1	0.30	21.02
17/Aug/ 0	11:12:25	30.33	27.4	-0.3	0.30	21.01
17/Aug/ 0	11:12:35	30.50	26.6	0.3	0.30	21.02
17/Aug/ 0	11:12:45	30.67	25.3	-0.0	0.29	21.01
17/Aug/ 0	11:12:55	30.83	24.4	-0.1	0.29	21.03
17/Aug/ 0	11:13: 5	31.00	23.4	0.2	0.29	21.01
17/Aug/ 0	11:13:15	31.17	22.7	-0.1	0.29	21.03
17/Aug/ 0	11:13:25	31.33	21.8	-0.1	0.29	21.01
17/Aug/ 0	11:13:35	31.50	21.1	0.0	0.29	21.02
17/Aug/ 0	11:13:45	31.67	20.3	0.0	0.29	21.01
17/Aug/ 0	11:13:55	31.83	19.9	-0.1	0.29	21.02
17/Aug/ 0	11:14: 5	32.00	19.0	-0.2	0.28	21.01
17/Aug/ 0	11:14:15	32.17	18.7	-0.3	0.28	21.03
17/Aug/ 0	11:14:25	32.33	18.2	0.4	0.28	21.01
17/Aug/ 0	11:14:35	32.50	17.6	-0.2	0.28	21.02
17/Aug/ 0	11:14:45	32.67	17.1	-0.7	0.28	21.01
17/Aug/ 0	11:14:55	32.83	16.7	0.7	0.28	21.03
17/Aug/ 0	11:15: 5	33.00	16.3	0.2	0.28	21.01
17/Aug/ 0	11:15:15	33.17	15.8	-0.0	0.28	21.02
17/Aug/ 0	11:15:25	33.33	15.5	0.2	0.28	21.01
17/Aug/ 0	11:15:35	33.50	15.0	0.3	0.28	21.03
17/Aug/ 0	11:15:45	33.67	14.8	0.6	0.28	21.01
17/Aug/ 0	11:15:55	33.83	14.3	0.2	0.28	21.02
17/Aug/ 0	11:16: 5	34.00	14.0	0.1	0.28	21.02
17/Aug/ 0	11:16:15	34.17	13.9	-0.5	0.27	21.03
17/Aug/ 0	11:16:25	34.33	13.5	0.3	0.27	21.02
17/Aug/ 0	11:16:35	34.50	13.2	0.4	0.27	21.02
17/Aug/ 0	11:16:45	34.67	13.1	0.3	0.27	21.02
17/Aug/ 0	11:16:55	34.83	12.9	-0.5	0.27	21.02
17/Aug/ 0	11:17: 5	35.00	12.4	0.4	0.27	21.02

Test 5 Pot-Grate NOx With 1.0% Coal 2200F

Time Max	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
0	70	461	66	110	365	76
1	90	422	74	100	339	76
2	233	577	144	131	180	84
3	354	637	178	136	150	97
4	469	640	239	136	146	101
5	716	877	460	171	170	109
6	860	916	674	244	237	112
7	928	1019	821	464	367	115
8	1718	1910	1339	804	613	134
9	1858	1874	1644	1179	927	152
10	1943	1893	1856	1517	1238	156
11	1989	1903	2015	1764	1506	152
12	1990	1899	2101	2017	1767	148
13	1992	1976	2130	2171	1987	149
14	2159	2170	2176	2215	2120	160
15	2201	2182	2207	2246	2189	172
16	2216	2185	2230	2267	2225	200
17	2218	2180	2240	2281	2243	227
18	2227	2195	2246	2292	2256	255
19	2218	2181	2248	2298	2269	277
20	2219	2189	2245	2301	2276	304
21	2218	2190	2242	2301	2280	330
22	2222	2200	2243	2299	2282	352
23	2211	2142	2238	2296	2281	376
24	2098	1996	2201	2291	2281	394
25	2028	1958	2151	2274	2271	414
26	1972	1883	2092	2243	2251	432
27	2052	1838	2151	2061	1864	441
28	2064	1802	2049	1655	1335	438
29	1959	1705	1803	1227	961	426
30	1733	1531	1461	872	682	409
31	1431	1303	1102	612	493	390
32	1125	1097	795	443	376	369
33	845	916	570	342	312	350
34	627	744	427	284	276	330

**Pot Grade NO_x Test -1.0% Coal 2200F
Test #00-5, Temperature Profile**



Test 5 Pot-Grate Gas Analysis

<u>Date / Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
21/Aug/ 0	10:14: 3	0.00	2.9	-0.4	4.74	0.10
21/Aug/ 0	10:14:13	0.17	3.0	-0.4	4.97	0.10
21/Aug/ 0	10:14:23	0.33	2.9	-0.1	3.22	0.10
21/Aug/ 0	10:14:33	0.50	3.0	-0.1	5.24	0.10
21/Aug/ 0	10:14:43	0.67	3.0	-0.3	3.50	0.10
21/Aug/ 0	10:14:53	0.83	2.9	-0.4	4.25	0.10
21/Aug/ 0	10:15: 3	1.00	3.0	-0.3	3.54	0.10
21/Aug/ 0	10:15:13	1.17	2.9	-0.1	3.37	0.11
21/Aug/ 0	10:15:23	1.33	3.0	-0.1	2.52	0.11
21/Aug/ 0	10:15:33	1.50	3.0	4.5	4.09	0.11
21/Aug/ 0	10:15:43	1.67	3.1	12.3	4.05	0.22
21/Aug/ 0	10:15:53	1.83	3.1	17.6	4.60	0.81
21/Aug/ 0	10:16: 3	2.00	3.1	18.8	3.53	1.64
21/Aug/ 0	10:16:13	2.17	3.1	19.0	3.94	1.81
21/Aug/ 0	10:16:23	2.33	3.1	18.7	4.19	1.88
21/Aug/ 0	10:16:33	2.50	3.1	18.9	4.68	1.92
21/Aug/ 0	10:16:43	2.67	3.0	18.6	4.33	1.96
21/Aug/ 0	10:16:53	2.83	3.1	18.3	4.29	1.98
21/Aug/ 0	10:17: 3	3.00	3.2	18.2	3.13	1.95
21/Aug/ 0	10:17:13	3.17	3.1	18.2	4.61	1.84
21/Aug/ 0	10:17:23	3.33	3.2	18.1	3.89	1.63
21/Aug/ 0	10:17:33	3.50	3.2	18.2	2.97	1.58
21/Aug/ 0	10:17:43	3.67	3.3	18.5	4.16	1.69
21/Aug/ 0	10:17:53	3.83	3.2	18.7	4.72	1.75
21/Aug/ 0	10:18: 3	4.00	3.3	18.3	5.40	1.77
21/Aug/ 0	10:18:13	4.17	3.3	17.9	5.08	1.78
21/Aug/ 0	10:18:23	4.33	3.2	18.0	5.44	1.77
21/Aug/ 0	10:18:33	4.50	3.4	18.9	5.40	1.75
21/Aug/ 0	10:18:43	4.67	3.5	19.4	5.44	1.75
21/Aug/ 0	10:18:53	4.83	5.0	28.2	4.92	1.75
21/Aug/ 0	10:19: 3	5.00	11.7	516.3	3.90	1.77
21/Aug/ 0	10:19:13	5.17	16.3	798.9	4.74	2.68
21/Aug/ 0	10:19:23	5.33	19.6	793.0	5.09	3.03
21/Aug/ 0	10:19:33	5.50	21.4	782.1	4.33	3.12
21/Aug/ 0	10:19:43	5.67	22.3	792.3	3.61	3.13
21/Aug/ 0	10:19:53	5.83	22.8	843.4	4.37	3.06
21/Aug/ 0	10:20: 3	6.00	23.1	866.4	4.36	3.02
21/Aug/ 0	10:20:13	6.17	23.3	879.9	2.97	3.02
21/Aug/ 0	10:20:23	6.33	23.7	858.9	4.50	3.08
21/Aug/ 0	10:20:33	6.50	23.6	882.0	2.90	3.10
21/Aug/ 0	10:20:43	6.67	23.5	916.4	3.57	3.08
21/Aug/ 0	10:20:53	6.83	23.7	899.9	2.60	3.12
21/Aug/ 0	10:21: 3	7.00	24.2	922.7	3.21	3.10
21/Aug/ 0	10:21:13	7.17	189.3	780.3	3.99	4.04
21/Aug/ 0	10:21:23	7.33	610.8	769.6	4.58	8.60
21/Aug/ 0	10:21:33	7.50	969.7	1128.6	5.26	12.57
21/Aug/ 0	10:21:43	7.67	1200.1	1239.7	6.19	14.14
21/Aug/ 0	10:21:53	7.83	1332.8	1262.7	6.42	14.69
21/Aug/ 0	10:22: 3	8.00	1399.1	1216.3	6.18	15.23
						10.99

21/Aug/ 0	10:22:13	8.17	1417.7	1210.0	6.86	15.10	12.00
21/Aug/ 0	10:22:23	8.33	1439.0	1144.3	7.09	15.31	12.42
21/Aug/ 0	10:22:33	8.50	1390.6	1115.8	6.41	15.02	13.38
21/Aug/ 0	10:22:43	8.67	1347.4	1062.2	6.38	14.50	14.28
21/Aug/ 0	10:22:53	8.83	1325.2	973.7	5.98	14.44	14.50
21/Aug/ 0	10:23: 3	9.00	1316.5	890.2	6.50	14.34	14.94
21/Aug/ 0	10:23:13	9.17	1314.1	807.2	5.51	14.25	15.21
21/Aug/ 0	10:23:23	9.33	1302.2	696.2	5.49	14.12	15.34
21/Aug/ 0	10:23:33	9.50	1310.8	600.8	5.93	14.09	15.39
21/Aug/ 0	10:23:43	9.67	1325.2	498.3	5.34	14.18	15.39
21/Aug/ 0	10:23:53	9.83	1338.3	403.9	4.98	14.20	15.45
21/Aug/ 0	10:24: 3	10.00	1336.3	331.0	6.13	14.13	15.69
21/Aug/ 0	10:24:13	10.17	1331.4	249.5	7.06	13.96	15.90
21/Aug/ 0	10:24:23	10.33	1328.2	183.7	7.02	13.84	15.99
21/Aug/ 0	10:24:33	10.50	1331.5	139.6	6.51	13.76	16.06
21/Aug/ 0	10:24:43	10.67	1325.4	99.6	5.10	13.54	16.33
21/Aug/ 0	10:24:53	10.83	1330.8	71.2	5.66	13.33	16.52
21/Aug/ 0	10:25: 3	11.00	1333.5	49.7	5.37	13.02	16.87
21/Aug/ 0	10:25:13	11.17	1401.4	36.7	5.50	12.88	17.34
21/Aug/ 0	10:25:23	11.33	1342.7	26.6	4.49	12.44	17.83
21/Aug/ 0	10:25:33	11.50	1298.2	19.0	5.28	11.56	18.05
21/Aug/ 0	10:25:43	11.67	1290.4	14.2	3.97	11.38	17.84
21/Aug/ 0	10:25:53	11.83	1286.2	10.9	4.98	11.17	17.82
21/Aug/ 0	10:26: 3	12.00	1301.2	-34.5	5.09	10.90	17.85
21/Aug/ 0	10:26:13	12.17	1322.3	6.5	4.70	10.77	17.85
21/Aug/ 0	10:26:23	12.33	1301.4	5.1	4.41	10.47	17.90
21/Aug/ 0	10:26:33	12.50	1276.4	3.6	4.47	10.03	18.18
21/Aug/ 0	10:26:43	12.67	1267.8	3.3	4.43	9.61	18.71
21/Aug/ 0	10:26:53	12.83	1277.3	2.6	5.18	9.28	19.04
21/Aug/ 0	10:27: 3	13.00	1339.6	2.6	5.02	9.55	18.55
21/Aug/ 0	10:27:13	13.17	1418.0	3.8	5.27	11.03	15.41
21/Aug/ 0	10:27:23	13.33	1479.4	15.5	6.25	13.90	10.71
21/Aug/ 0	10:27:33	13.50	1530.3	42.0	5.33	15.32	9.30
21/Aug/ 0	10:27:43	13.67	1537.4	38.2	5.49	14.35	10.65
21/Aug/ 0	10:27:53	13.83	1530.1	21.9	4.97	13.31	11.64
21/Aug/ 0	10:28: 3	14.00	1511.3	12.7	5.57	12.70	12.22
21/Aug/ 0	10:28:13	14.17	1494.9	10.2	4.22	12.37	12.51
21/Aug/ 0	10:28:23	14.33	1508.9	9.2	5.25	12.32	12.52
21/Aug/ 0	10:28:33	14.50	1511.5	8.4	6.17	12.28	12.67
21/Aug/ 0	10:28:43	14.67	1512.2	8.3	5.29	12.08	12.97
21/Aug/ 0	10:28:53	14.83	1506.9	7.8	5.25	11.92	13.13
21/Aug/ 0	10:29: 3	15.00	1497.4	7.2	5.18	11.79	13.25
21/Aug/ 0	10:29:13	15.17	1490.3	7.1	5.41	11.66	13.34
21/Aug/ 0	10:29:23	15.33	1470.5	6.7	5.50	11.53	13.43
21/Aug/ 0	10:29:33	15.50	1468.4	6.2	5.07	11.38	13.61
21/Aug/ 0	10:29:43	15.67	1486.8	6.1	4.22	11.41	13.72
21/Aug/ 0	10:29:53	15.83	1493.5	6.0	4.93	11.39	13.81
21/Aug/ 0	10:30: 3	16.00	1473.7	5.6	4.99	11.13	14.22
21/Aug/ 0	10:30:13	16.17	1456.9	5.3	4.95	10.87	14.47
21/Aug/ 0	10:30:23	16.33	1447.1	5.3	4.94	10.79	14.57
21/Aug/ 0	10:30:33	16.50	1435.1	5.0	4.97	10.71	14.66
21/Aug/ 0	10:30:43	16.67	1419.8	4.9	5.06	10.63	14.72
21/Aug/ 0	10:30:53	16.83	1404.6	4.8	4.81	10.54	14.78
21/Aug/ 0	10:31: 3	17.00	1399.2	4.9	4.91	10.46	14.84

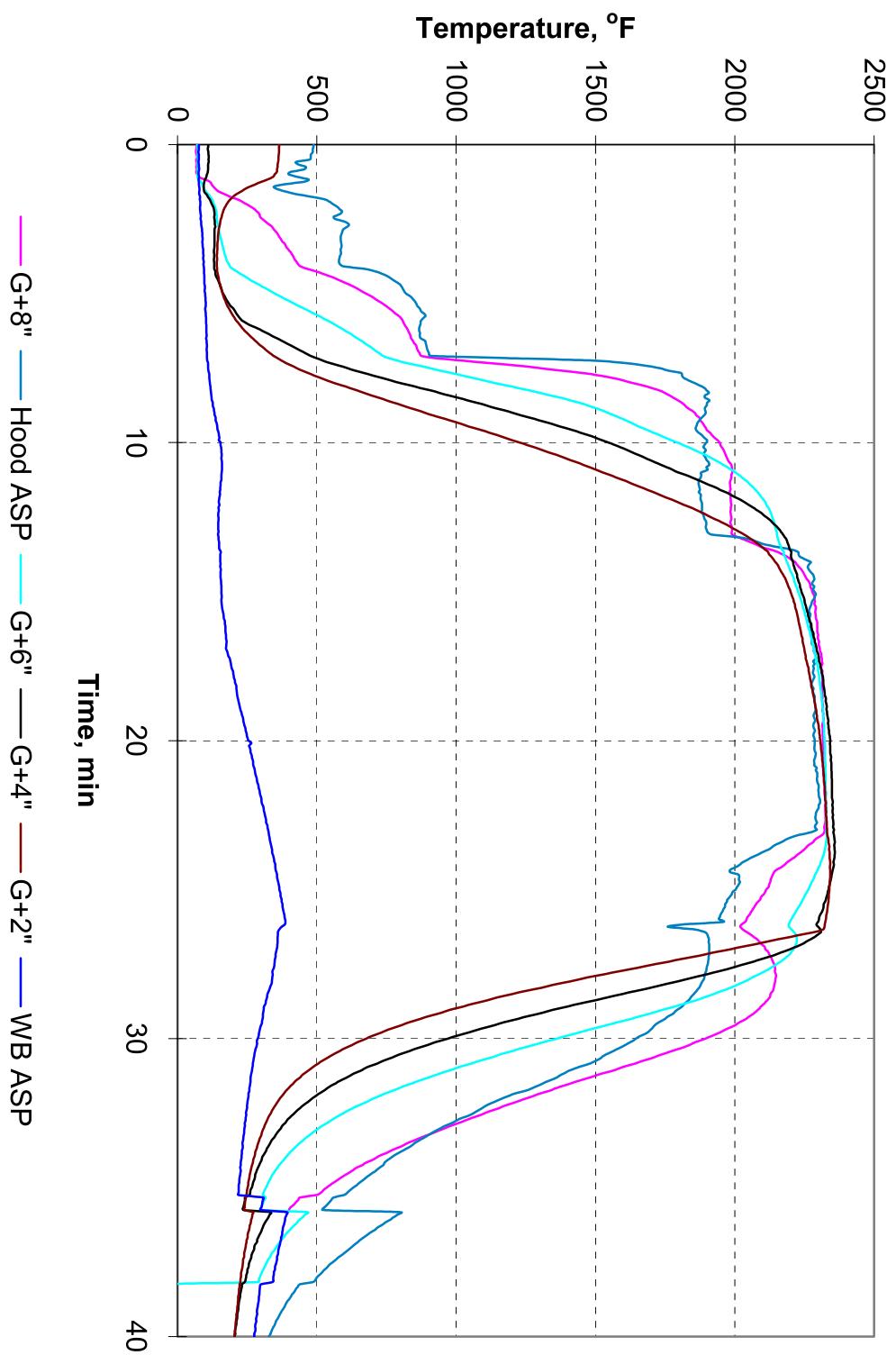
21/Aug/	0	10:31:13	17.17	1404.1	4.4	5.74	10.47	14.86
21/Aug/	0	10:31:23	17.33	1418.1	4.6	4.01	10.48	14.96
21/Aug/	0	10:31:33	17.50	1424.8	4.6	4.43	10.48	15.01
21/Aug/	0	10:31:43	17.67	1433.0	4.5	4.86	10.45	15.03
21/Aug/	0	10:31:53	17.83	1437.1	4.2	3.90	10.44	15.06
21/Aug/	0	10:32: 3	18.00	1441.3	4.3	4.50	10.43	15.09
21/Aug/	0	10:32:13	18.17	1439.4	4.4	5.77	10.39	15.13
21/Aug/	0	10:32:23	18.33	1421.2	4.0	4.57	10.23	15.37
21/Aug/	0	10:32:33	18.50	1404.4	4.3	4.22	10.05	15.57
21/Aug/	0	10:32:43	18.67	1389.3	4.2	5.02	9.95	15.67
21/Aug/	0	10:32:53	18.83	1379.2	4.1	4.49	9.90	15.72
21/Aug/	0	10:33: 3	19.00	1373.9	4.1	4.02	9.84	15.76
21/Aug/	0	10:33:13	19.17	1373.5	3.9	4.09	9.85	15.77
21/Aug/	0	10:33:23	19.33	1377.1	4.0	4.46	9.87	15.79
21/Aug/	0	10:33:33	19.50	1378.8	3.9	5.09	9.86	15.81
21/Aug/	0	10:33:43	19.67	1381.3	3.9	3.66	9.85	15.83
21/Aug/	0	10:33:53	19.83	1381.8	4.1	3.78	9.83	15.88
21/Aug/	0	10:34: 3	20.00	1382.7	3.7	4.50	9.81	15.89
21/Aug/	0	10:34:13	20.17	1384.4	3.9	3.75	9.80	15.92
21/Aug/	0	10:34:23	20.33	1381.8	3.9	3.73	9.79	15.96
21/Aug/	0	10:34:33	20.50	1378.8	3.9	3.69	9.77	15.98
21/Aug/	0	10:34:43	20.67	1373.1	3.8	4.26	9.71	16.04
21/Aug/	0	10:34:53	20.83	1361.1	4.0	4.58	9.63	16.09
21/Aug/	0	10:35: 3	21.00	1343.7	3.9	5.22	9.54	16.16
21/Aug/	0	10:35:13	21.17	1360.9	3.6	5.29	9.59	16.17
21/Aug/	0	10:35:23	21.33	1385.9	3.8	4.35	9.70	16.16
21/Aug/	0	10:35:33	21.50	1396.3	3.7	3.58	9.73	16.17
21/Aug/	0	10:35:43	21.67	1399.5	3.8	3.97	9.75	16.15
21/Aug/	0	10:35:53	21.83	1392.2	3.6	3.91	9.73	16.08
21/Aug/	0	10:36: 3	22.00	1380.8	3.8	4.54	9.68	16.15
21/Aug/	0	10:36:13	22.17	1360.7	3.7	4.01	9.58	16.24
21/Aug/	0	10:36:23	22.33	1347.9	3.7	3.50	9.50	16.29
21/Aug/	0	10:36:33	22.50	1338.4	3.5	4.15	9.45	16.32
21/Aug/	0	10:36:43	22.67	1332.7	3.7	3.29	9.42	16.34
21/Aug/	0	10:36:53	22.83	1347.4	3.8	3.34	9.47	16.32
21/Aug/	0	10:37: 3	23.00	1326.9	3.8	2.67	9.38	16.67
21/Aug/	0	10:37:13	23.17	1211.7	3.4	2.53	8.41	18.51
21/Aug/	0	10:37:23	23.33	1095.2	3.3	2.92	7.59	19.29
21/Aug/	0	10:37:33	23.50	1023.0	3.2	1.82	7.24	19.43
21/Aug/	0	10:37:43	23.67	971.6	3.1	2.27	7.16	19.50
21/Aug/	0	10:37:53	23.83	930.2	2.8	3.50	6.99	19.69
21/Aug/	0	10:38: 3	24.00	890.9	2.7	2.86	6.77	20.00
21/Aug/	0	10:38:13	24.17	890.2	2.9	1.94	6.83	19.92
21/Aug/	0	10:38:23	24.33	877.7	3.0	1.90	6.85	20.00
21/Aug/	0	10:38:33	24.50	856.5	2.8	2.86	6.63	20.23
21/Aug/	0	10:38:43	24.67	851.8	2.7	1.91	6.69	19.99
21/Aug/	0	10:38:53	24.83	851.7	2.8	1.30	6.78	19.88
21/Aug/	0	10:39: 3	25.00	856.7	2.8	1.14	6.82	19.86
21/Aug/	0	10:39:13	25.17	861.7	2.9	1.82	6.88	19.85
21/Aug/	0	10:39:23	25.33	852.1	2.5	2.06	6.82	19.86
21/Aug/	0	10:39:33	25.50	841.8	2.6	1.86	6.76	19.87
21/Aug/	0	10:39:43	25.67	834.0	2.6	1.82	6.74	19.87
21/Aug/	0	10:39:53	25.83	820.8	2.6	2.75	6.70	19.86
21/Aug/	0	10:40: 3	26.00	765.4	2.5	2.01	6.52	19.84

21/Aug/	0	10:40:13	26.17	549.6	2.3	1.22	5.37	18.20
21/Aug/	0	10:40:23	26.33	342.1	2.0	0.96	2.34	20.04
21/Aug/	0	10:40:33	26.50	200.6	1.5	0.39	0.83	20.88
21/Aug/	0	10:40:43	26.67	132.4	1.3	-0.98	0.41	21.00
21/Aug/	0	10:40:53	26.83	92.8	0.8	-0.16	0.31	21.00
21/Aug/	0	10:41: 3	27.00	72.3	0.9	-0.05	0.28	20.98
21/Aug/	0	10:41:13	27.17	59.8	0.8	-0.57	0.27	20.98
21/Aug/	0	10:41:23	27.33	51.4	0.8	-0.17	0.26	20.98
21/Aug/	0	10:41:33	27.50	46.0	0.5	-0.97	0.25	20.98
21/Aug/	0	10:41:43	27.67	41.9	0.5	-0.79	0.25	20.98
21/Aug/	0	10:41:53	27.83	38.5	0.7	-0.99	0.25	20.98
21/Aug/	0	10:42: 3	28.00	35.9	0.5	-0.60	0.25	20.98
21/Aug/	0	10:42:13	28.17	33.6	0.4	-0.51	0.24	20.99
21/Aug/	0	10:42:23	28.33	31.7	0.4	-1.19	0.24	20.99
21/Aug/	0	10:42:33	28.50	30.2	0.6	-0.38	0.24	20.98
21/Aug/	0	10:42:43	28.67	28.8	0.4	-0.87	0.24	21.00
21/Aug/	0	10:42:53	28.83	27.7	0.4	-0.51	0.24	20.99
21/Aug/	0	10:43: 3	29.00	26.8	0.3	0.89	0.24	20.99
21/Aug/	0	10:43:13	29.17	25.8	0.2	1.21	0.24	20.99
21/Aug/	0	10:43:23	29.33	24.7	0.4	0.21	0.24	21.00
21/Aug/	0	10:43:33	29.50	24.2	0.3	0.61	0.24	20.98
21/Aug/	0	10:43:43	29.67	23.3	0.3	1.61	0.23	21.00
21/Aug/	0	10:43:53	29.83	22.4	0.1	0.29	0.23	21.00
21/Aug/	0	10:44: 3	30.00	21.6	0.2	0.45	0.23	20.99
21/Aug/	0	10:44:13	30.17	20.9	0.2	-0.03	0.23	21.00
21/Aug/	0	10:44:23	30.33	20.2	0.2	0.05	0.23	20.99
21/Aug/	0	10:44:33	30.50	19.9	0.4	1.18	0.23	20.99
21/Aug/	0	10:44:43	30.67	19.1	0.3	0.82	0.23	21.00
21/Aug/	0	10:44:53	30.83	18.5	0.2	0.49	0.23	20.99
21/Aug/	0	10:45: 3	31.00	18.3	0.1	0.46	0.23	21.00
21/Aug/	0	10:45:13	31.17	17.6	0.1	0.47	0.23	21.00
21/Aug/	0	10:45:23	31.33	17.5	0.2	0.21	0.23	20.99
21/Aug/	0	10:45:33	31.50	17.2	-0.0	0.73	0.23	21.00
21/Aug/	0	10:45:43	31.67	16.8	0.1	0.82	0.23	21.00
21/Aug/	0	10:45:53	31.83	16.5	0.1	0.37	0.23	21.00
21/Aug/	0	10:46: 3	32.00	15.8	0.1	0.31	0.23	21.00
21/Aug/	0	10:46:13	32.17	15.6	0.1	0.65	0.23	21.00
21/Aug/	0	10:46:23	32.33	15.3	-0.0	-0.17	0.22	20.99
21/Aug/	0	10:46:33	32.50	15.1	0.1	0.23	0.22	21.00
21/Aug/	0	10:46:43	32.67	14.8	-0.1	-0.68	0.22	21.01
21/Aug/	0	10:46:53	32.83	14.7	0.0	0.35	0.22	21.00
21/Aug/	0	10:47: 3	33.00	14.3	-0.0	-0.09	0.22	21.01
21/Aug/	0	10:47:13	33.17	14.0	-0.1	0.82	0.22	21.00
21/Aug/	0	10:47:23	33.33	13.8	-0.2	-0.71	0.22	21.00

Test 6 Pot-Grate NOx With 1.0% Coal 2300 F

Time Max	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
0	69	488	72	111	365	77
1	70	398	72	106	349	75
2	249	559	131	123	176	82
3	359	589	151	133	145	89
4	432	581	183	131	141	94
5	678	821	350	164	162	99
6	812	872	558	248	219	102
7	869	902	724	459	332	106
8	1635	1857	1139	800	563	116
9	1857	1896	1544	1202	888	133
10	1945	1898	1793	1546	1228	155
11	1990	1879	2002	1798	1526	158
12	1986	1881	2109	2035	1796	148
13	1989	1902	2150	2166	2017	147
14	2216	2273	2187	2209	2145	153
15	2278	2286	2227	2240	2200	157
16	2295	2267	2259	2270	2229	170
17	2307	2284	2286	2295	2251	178
18	2315	2279	2305	2317	2272	206
19	2315	2290	2317	2331	2293	227
20	2317	2286	2322	2342	2307	253
21	2319	2291	2325	2347	2318	277
22	2327	2306	2326	2351	2324	301
23	2323	2294	2330	2356	2332	325
24	2201	2046	2313	2356	2342	346
25	2113	2004	2264	2337	2340	365
26	2042	1944	2203	2303	2327	386
27	2110	1908	2211	2198	1985	356
28	2146	1889	2054	1831	1449	339
29	2088	1801	1756	1366	995	310
30	1895	1645	1362	971	678	288
31	1585	1427	998	673	480	268
32	1256	1169	707	485	368	254
33	961	946	508	371	309	240
34	713	766	387	303	274	230

**Pot Grate NOx Test -1.0% Coal 2300F
Test #00-6, Temperature Profile**



Test 6 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
22/Aug/ 0	10:14:23	0.00	4.1	2.3	1.3	0.11
22/Aug/ 0	10:14:33	0.17	4.0	1.9	1.4	0.11
22/Aug/ 0	10:14:43	0.33	4.0	1.1	0.8	0.11
22/Aug/ 0	10:14:53	0.50	4.0	0.8	1.3	0.11
22/Aug/ 0	10:15: 3	0.67	4.2	0.4	1.5	0.11
22/Aug/ 0	10:15:13	0.83	4.1	0.1	1.0	0.11
22/Aug/ 0	10:15:23	1.00	4.8	-0.1	1.4	0.10
22/Aug/ 0	10:15:33	1.17	4.2	0.6	1.6	0.11
22/Aug/ 0	10:15:43	1.33	4.2	4.9	0.7	0.11
22/Aug/ 0	10:15:53	1.50	5.3	168.7	2.0	0.13
22/Aug/ 0	10:16: 3	1.67	6.1	421.2	1.5	0.24
22/Aug/ 0	10:16:13	1.83	6.0	363.0	1.0	0.33
22/Aug/ 0	10:16:23	2.00	6.6	776.7	0.3	0.41
22/Aug/ 0	10:16:33	2.17	7.5	1076.3	1.2	0.53
22/Aug/ 0	10:16:43	2.33	8.6	1114.0	0.8	0.75
22/Aug/ 0	10:16:53	2.50	9.4	1108.2	0.6	0.99
22/Aug/ 0	10:17: 3	2.67	9.9	1080.4	0.7	1.21
22/Aug/ 0	10:17:13	2.83	9.7	1019.2	0.5	1.37
22/Aug/ 0	10:17:23	3.00	9.9	1042.1	0.3	1.48
22/Aug/ 0	10:17:33	3.17	10.1	1051.9	1.2	1.60
22/Aug/ 0	10:17:43	3.33	10.2	1030.8	1.2	1.68
22/Aug/ 0	10:17:53	3.50	10.4	1045.4	1.4	1.71
22/Aug/ 0	10:18: 3	3.67	10.4	1042.8	0.3	1.72
22/Aug/ 0	10:18:13	3.83	10.4	1035.9	0.9	1.73
22/Aug/ 0	10:18:23	4.00	10.4	1031.7	-0.4	1.73
22/Aug/ 0	10:18:33	4.17	10.5	1039.9	1.1	1.72
22/Aug/ 0	10:18:43	4.33	10.6	1054.9	0.6	1.72
22/Aug/ 0	10:18:53	4.50	12.1	1071.0	0.0	1.73
22/Aug/ 0	10:19: 3	4.67	14.8	1133.6	1.3	1.87
22/Aug/ 0	10:19:13	4.83	17.5	1102.0	1.2	2.07
22/Aug/ 0	10:19:23	5.00	19.9	1049.4	0.7	2.27
22/Aug/ 0	10:19:33	5.17	21.6	1036.3	0.7	2.44
22/Aug/ 0	10:19:43	5.33	22.6	1018.0	1.5	2.56
22/Aug/ 0	10:19:53	5.50	23.6	944.9	0.6	2.65
22/Aug/ 0	10:20: 3	5.67	24.8	897.0	0.8	2.72
22/Aug/ 0	10:20:13	5.83	25.4	882.0	0.3	2.79
22/Aug/ 0	10:20:23	6.00	26.0	880.0	0.3	2.85
22/Aug/ 0	10:20:33	6.17	26.2	872.8	1.0	2.89
22/Aug/ 0	10:20:43	6.33	26.3	902.5	0.8	2.91
22/Aug/ 0	10:20:53	6.50	25.8	924.1	0.4	2.88
22/Aug/ 0	10:21: 3	6.67	25.7	947.5	0.8	2.86
22/Aug/ 0	10:21:13	6.83	25.7	954.3	0.1	2.84
22/Aug/ 0	10:21:23	7.00	26.4	914.0	1.0	2.84
22/Aug/ 0	10:21:33	7.17	26.5	919.1	0.7	2.89
22/Aug/ 0	10:21:43	7.33	26.9	940.3	0.6	2.91
22/Aug/ 0	10:21:53	7.50	162.7	807.8	0.0	3.05
22/Aug/ 0	10:22: 3	7.67	546.6	740.2	1.3	4.60
22/Aug/ 0	10:22:13	7.83	876.1	1148.1	2.2	8.27
22/Aug/ 0	10:22:23	8.00	1117.7	1327.4	2.3	11.21
22/Aug/ 0	10:22:33	8.17	1218.7	1382.1	2.7	12.89
						11.75

22/Aug/	0	10:22:43	8.33	1256.3	1341.4	2.9	13.33	12.23
22/Aug/	0	10:22:53	8.50	1284.2	1250.1	2.7	13.63	12.28
22/Aug/	0	10:23: 3	8.67	1326.9	1212.3	4.0	14.10	12.67
22/Aug/	0	10:23:13	8.83	1338.2	1197.5	4.1	14.50	13.32
22/Aug/	0	10:23:23	9.00	1337.3	1138.7	2.8	14.65	13.65
22/Aug/	0	10:23:33	9.17	1322.3	1071.8	2.8	14.62	14.10
22/Aug/	0	10:23:43	9.33	1318.7	990.0	2.8	14.57	14.35
22/Aug/	0	10:23:53	9.50	1288.6	909.3	3.4	14.47	14.82
22/Aug/	0	10:24: 3	9.67	1249.1	806.3	2.6	14.13	15.24
22/Aug/	0	10:24:13	9.83	1225.9	694.0	2.4	13.88	15.54
22/Aug/	0	10:24:23	10.00	1228.9	584.2	2.7	13.79	15.56
22/Aug/	0	10:24:33	10.17	1259.0	462.1	2.5	13.88	15.33
22/Aug/	0	10:24:43	10.33	1280.1	373.3	2.8	14.12	15.27
22/Aug/	0	10:24:53	10.50	1270.7	300.2	3.1	14.03	15.63
22/Aug/	0	10:25: 3	10.67	1262.8	227.0	2.3	13.82	15.82
22/Aug/	0	10:25:13	10.83	1267.7	179.6	2.9	13.67	16.02
22/Aug/	0	10:25:23	11.00	1306.0	141.6	2.6	13.61	16.19
22/Aug/	0	10:25:33	11.17	1343.6	106.7	2.8	13.58	16.53
22/Aug/	0	10:25:43	11.33	1301.9	79.3	3.4	13.34	16.94
22/Aug/	0	10:25:53	11.50	1228.8	53.1	3.2	12.65	17.21
22/Aug/	0	10:26: 3	11.67	1184.5	36.8	3.4	12.07	17.37
22/Aug/	0	10:26:13	11.83	1164.9	24.9	2.7	11.62	17.49
22/Aug/	0	10:26:23	12.00	1167.7	18.3	2.8	11.34	17.58
22/Aug/	0	10:26:33	12.17	1178.5	13.2	2.0	11.11	17.65
22/Aug/	0	10:26:43	12.33	1180.2	9.6	2.9	10.86	17.75
22/Aug/	0	10:26:53	12.50	1180.2	7.1	3.5	10.58	17.84
22/Aug/	0	10:27: 3	12.67	1176.5	5.1	3.2	10.32	17.94
22/Aug/	0	10:27:13	12.83	1178.8	3.7	3.4	10.08	18.04
22/Aug/	0	10:27:23	13.00	1191.1	2.5	2.6	9.88	18.13
22/Aug/	0	10:27:33	13.17	1204.3	2.3	2.4	9.76	18.22
22/Aug/	0	10:27:43	13.33	1218.8	2.0	3.0	9.64	18.30
22/Aug/	0	10:27:53	13.50	1305.1	1.8	3.6	9.90	16.43
22/Aug/	0	10:28: 3	13.67	1400.0	4.7	3.4	11.64	12.29
22/Aug/	0	10:28:13	13.83	1468.9	7.3	3.6	13.04	10.57
22/Aug/	0	10:28:23	14.00	1542.9	27.9	4.3	14.14	9.19
22/Aug/	0	10:28:33	14.17	1585.5	73.9	3.5	14.70	9.25
22/Aug/	0	10:28:43	14.33	1636.5	56.2	3.1	14.72	9.50
22/Aug/	0	10:28:53	14.50	1659.5	26.7	3.4	14.40	10.24
22/Aug/	0	10:29: 3	14.67	1676.5	21.4	3.8	13.93	10.71
22/Aug/	0	10:29:13	14.83	1679.8	15.1	4.3	13.64	10.92
22/Aug/	0	10:29:23	15.00	1670.4	13.4	4.1	13.47	11.07
22/Aug/	0	10:29:33	15.17	1666.9	12.5	4.5	13.23	11.44
22/Aug/	0	10:29:43	15.33	1665.1	11.8	3.7	13.03	11.61
22/Aug/	0	10:29:53	15.50	1663.9	11.0	3.7	12.93	11.75
22/Aug/	0	10:30: 3	15.67	1637.0	10.8	3.7	12.67	12.34
22/Aug/	0	10:30:13	15.83	1618.4	10.2	4.0	12.30	12.71
22/Aug/	0	10:30:23	16.00	1600.8	9.8	4.0	12.10	12.87
22/Aug/	0	10:30:33	16.17	1592.5	9.3	3.8	11.97	12.99
22/Aug/	0	10:30:43	16.33	1579.6	9.2	4.0	11.87	13.07
22/Aug/	0	10:30:53	16.50	1577.6	8.9	4.8	11.78	13.16
22/Aug/	0	10:31: 3	16.67	1578.4	8.7	3.3	11.70	13.20
22/Aug/	0	10:31:13	16.83	1587.3	8.4	3.3	11.68	13.29
22/Aug/	0	10:31:23	17.00	1603.6	8.5	3.6	11.67	13.36
22/Aug/	0	10:31:33	17.17	1611.1	8.3	3.0	11.66	13.37

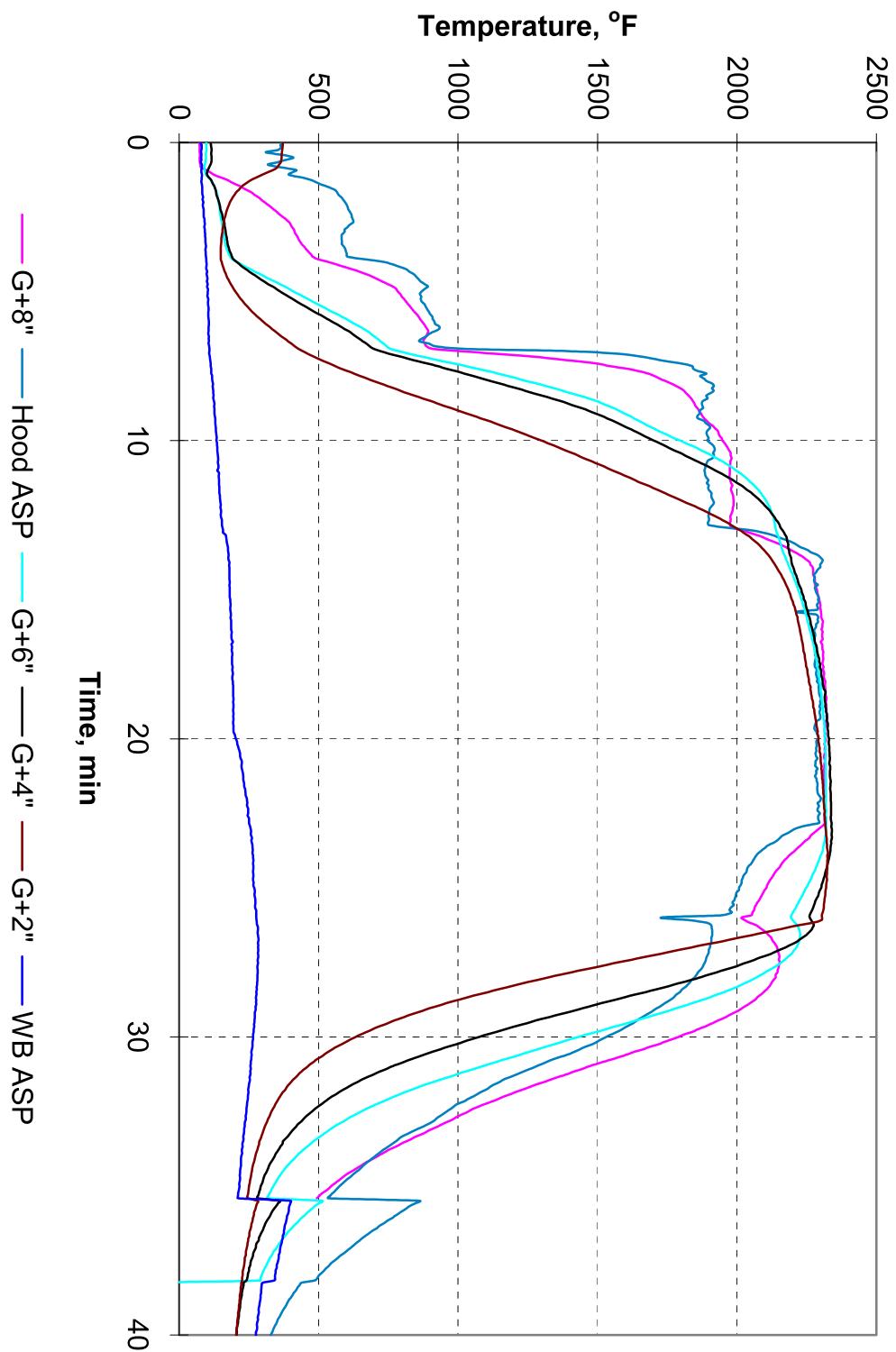
22/Aug/	0	10:31:43	17.33	1619.9	8.3	4.2	11.65	13.38
22/Aug/	0	10:31:53	17.50	1628.7	7.8	3.9	11.62	13.42
22/Aug/	0	10:32: 3	17.67	1623.0	8.0	3.4	11.57	13.60
22/Aug/	0	10:32:13	17.83	1604.8	7.9	4.0	11.39	13.87
22/Aug/	0	10:32:23	18.00	1595.4	7.7	3.2	11.24	13.99
22/Aug/	0	10:32:33	18.17	1586.8	7.6	3.8	11.13	14.07
22/Aug/	0	10:32:43	18.33	1569.6	7.4	3.6	11.05	14.29
22/Aug/	0	10:32:53	18.50	1558.9	7.4	3.2	10.97	14.10
22/Aug/	0	10:33: 3	18.67	1563.8	7.2	2.8	10.92	14.23
22/Aug/	0	10:33:13	18.83	1586.6	7.3	3.0	10.95	14.30
22/Aug/	0	10:33:23	19.00	1600.3	7.2	3.8	10.97	14.33
22/Aug/	0	10:33:33	19.17	1611.5	7.3	2.9	10.97	14.36
22/Aug/	0	10:33:43	19.33	1614.1	7.1	3.6	10.96	14.38
22/Aug/	0	10:33:53	19.50	1607.9	7.2	2.7	10.89	14.51
22/Aug/	0	10:34: 3	19.67	1597.8	6.9	3.4	10.77	14.68
22/Aug/	0	10:34:13	19.83	1591.1	6.9	1.9	10.68	14.74
22/Aug/	0	10:34:23	20.00	1590.6	6.9	2.8	10.65	14.77
22/Aug/	0	10:34:33	20.17	1586.2	6.9	3.1	10.62	14.80
22/Aug/	0	10:34:43	20.33	1588.4	7.0	4.1	10.59	14.82
22/Aug/	0	10:34:53	20.50	1577.4	6.6	3.2	10.55	14.83
22/Aug/	0	10:35: 3	20.67	1582.8	6.8	4.5	10.53	14.86
22/Aug/	0	10:35:13	20.83	1572.9	6.7	3.8	10.49	14.88
22/Aug/	0	10:35:23	21.00	1549.7	6.8	3.2	10.42	14.92
22/Aug/	0	10:35:33	21.17	1545.3	6.4	3.0	10.33	14.95
22/Aug/	0	10:35:43	21.33	1561.2	6.7	3.4	10.38	14.92
22/Aug/	0	10:35:53	21.50	1573.6	6.6	3.5	10.46	14.88
22/Aug/	0	10:36: 3	21.67	1581.8	6.8	3.3	10.49	14.90
22/Aug/	0	10:36:13	21.83	1591.9	6.9	3.5	10.49	14.90
22/Aug/	0	10:36:23	22.00	1589.8	6.7	3.3	10.49	14.91
22/Aug/	0	10:36:33	22.17	1591.8	6.6	3.1	10.48	14.93
22/Aug/	0	10:36:43	22.33	1591.7	6.6	3.1	10.46	14.95
22/Aug/	0	10:36:53	22.50	1583.2	6.7	3.0	10.43	14.99
22/Aug/	0	10:37: 3	22.67	1565.9	6.5	3.0	10.33	15.19
22/Aug/	0	10:37:13	22.83	1545.4	6.3	2.2	10.18	15.34
22/Aug/	0	10:37:23	23.00	1538.3	6.7	3.2	10.09	15.45
22/Aug/	0	10:37:33	23.17	1530.7	6.5	4.1	10.04	15.50
22/Aug/	0	10:37:43	23.33	1517.1	6.4	3.3	10.00	15.54
22/Aug/	0	10:37:53	23.50	1401.0	6.5	2.8	9.53	16.67
22/Aug/	0	10:38: 3	23.67	1263.6	6.1	3.3	8.49	18.22
22/Aug/	0	10:38:13	23.83	1164.8	6.0	2.6	7.77	18.87
22/Aug/	0	10:38:23	24.00	1104.7	5.6	2.5	7.43	19.36
22/Aug/	0	10:38:33	24.17	1038.5	5.3	2.5	7.15	19.69
22/Aug/	0	10:38:43	24.33	979.0	5.3	2.2	6.77	20.03
22/Aug/	0	10:38:53	24.50	931.2	5.3	2.5	6.50	20.36
22/Aug/	0	10:39: 3	24.67	897.0	5.0	2.3	6.27	20.66
22/Aug/	0	10:39:13	24.83	915.5	4.8	1.3	6.28	20.14
22/Aug/	0	10:39:23	25.00	944.9	5.0	1.4	6.71	19.48
22/Aug/	0	10:39:33	25.17	961.3	4.6	1.6	6.99	19.31
22/Aug/	0	10:39:43	25.33	956.6	4.7	2.0	7.01	19.52
22/Aug/	0	10:39:53	25.50	935.4	5.0	2.4	6.87	19.74
22/Aug/	0	10:40: 3	25.67	914.9	4.7	2.5	6.68	19.90
22/Aug/	0	10:40:13	25.83	898.5	4.7	1.5	6.56	19.94
22/Aug/	0	10:40:23	26.00	886.1	4.4	2.0	6.52	19.94
22/Aug/	0	10:40:33	26.17	876.7	4.5	1.9	6.47	19.94

22/Aug/	0	10:40:43	26.33	857.5	4.5	1.6	6.47	19.92
22/Aug/	0	10:40:53	26.50	684.5	4.6	1.9	6.38	17.14
22/Aug/	0	10:41: 3	26.67	475.5	4.2	1.3	4.32	19.12
22/Aug/	0	10:41:13	26.83	316.3	3.7	1.0	2.37	20.57
22/Aug/	0	10:41:23	27.00	226.9	3.3	0.8	1.37	20.91
22/Aug/	0	10:41:33	27.17	174.9	2.7	0.9	0.91	20.97
22/Aug/	0	10:41:43	27.33	144.7	2.6	0.5	0.67	20.99
22/Aug/	0	10:41:53	27.50	124.0	2.3	0.5	0.54	20.99
22/Aug/	0	10:42: 3	27.67	111.7	2.4	0.3	0.47	20.99
22/Aug/	0	10:42:13	27.83	102.9	2.2	0.3	0.42	20.99
22/Aug/	0	10:42:23	28.00	95.8	1.8	0.4	0.38	21.00
22/Aug/	0	10:42:33	28.17	90.2	2.0	0.6	0.36	21.00
22/Aug/	0	10:42:43	28.33	85.8	2.0	0.5	0.34	21.01
22/Aug/	0	10:42:53	28.50	81.4	1.9	0.3	0.32	21.00
22/Aug/	0	10:43: 3	28.67	77.9	2.2	0.5	0.31	21.01
22/Aug/	0	10:43:13	28.83	75.4	1.8	-0.1	0.30	21.00
22/Aug/	0	10:43:23	29.00	72.7	1.6	-0.2	0.29	21.02
22/Aug/	0	10:43:33	29.17	70.3	1.7	-0.0	0.29	21.01
22/Aug/	0	10:43:43	29.33	68.3	1.7	0.4	0.28	21.01
22/Aug/	0	10:43:53	29.50	66.3	1.8	0.2	0.28	21.02
22/Aug/	0	10:44: 3	29.67	64.4	1.3	-0.5	0.27	21.01
22/Aug/	0	10:44:13	29.83	63.3	1.7	0.6	0.27	21.01
22/Aug/	0	10:44:23	30.00	61.7	1.6	-0.2	0.27	21.01
22/Aug/	0	10:44:33	30.17	60.1	1.3	0.8	0.26	21.02
22/Aug/	0	10:44:43	30.33	58.7	1.0	-0.3	0.26	21.01
22/Aug/	0	10:44:53	30.50	57.7	1.3	0.1	0.26	21.02
22/Aug/	0	10:45: 3	30.67	56.3	1.1	-0.1	0.26	21.01
22/Aug/	0	10:45:13	30.83	55.6	0.9	-0.4	0.25	21.02
22/Aug/	0	10:45:23	31.00	54.1	1.2	0.4	0.25	21.01
22/Aug/	0	10:45:33	31.17	53.5	1.2	-0.3	0.25	21.02
22/Aug/	0	10:45:43	31.33	52.5	1.1	0.3	0.25	21.02
22/Aug/	0	10:45:53	31.50	51.8	1.0	0.0	0.25	21.02
22/Aug/	0	10:46: 3	31.67	51.3	1.1	-0.2	0.25	21.02
22/Aug/	0	10:46:13	31.83	50.2	1.1	0.3	0.25	21.02
22/Aug/	0	10:46:23	32.00	49.4	0.9	0.6	0.25	21.03
22/Aug/	0	10:46:33	32.17	48.6	0.9	0.3	0.25	21.02
22/Aug/	0	10:46:43	32.33	48.5	1.1	-0.2	0.25	21.03
22/Aug/	0	10:46:53	32.50	47.9	1.1	-0.1	0.25	21.02
22/Aug/	0	10:47: 3	32.67	47.4	1.0	-0.8	0.25	21.03
22/Aug/	0	10:47:13	32.83	46.9	1.0	-1.4	0.24	21.03
22/Aug/	0	10:47:23	33.00	46.5	0.9	-0.2	0.25	21.02
22/Aug/	0	10:47:33	33.17	45.9	1.2	-0.8	0.25	21.03
22/Aug/	0	10:47:43	33.33	45.4	0.6	0.4	0.24	21.03
22/Aug/	0	10:47:53	33.50	44.9	0.8	-0.4	0.24	21.03
22/Aug/	0	10:48: 3	33.67	44.4	0.7	-0.2	0.24	21.02
22/Aug/	0	10:48:13	33.83	43.8	0.6	-0.4	0.24	21.04
22/Aug/	0	10:48:23	34.00	43.3	0.6	-0.1	0.24	21.03
22/Aug/	0	10:48:33	34.17	43.0	0.4	-0.6	0.24	21.02
22/Aug/	0	10:48:43	34.33	42.5	0.6	-0.1	0.24	21.03
22/Aug/	0	10:48:53	34.50	42.2	0.4	-0.7	0.24	21.04
22/Aug/	0	10:49: 3	34.67	41.6	0.3	0.1	0.24	21.03
22/Aug/	0	10:49:13	34.83	41.8	0.1	-0.1	0.23	21.04
22/Aug/	0	10:49:23	35.00	41.0	0.3	-0.0	0.24	21.03
22/Aug/	0	10:49:33	35.17	40.7	0.1	-0.4	0.23	21.03

Test 7 Pot Grate NOx With 0.6% Coal – 2300

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2320	2308	2320	2339	2325	387
0	74	369	97	113	372	77
1	111	406	93	101	317	79
2	306	595	140	142	182	86
3	414	593	157	166	155	92
4	530	728	205	205	152	98
5	785	868	411	363	201	102
6	870	915	614	547	300	107
7	1007	1391	786	721	443	108
8	1745	1891	1246	1118	698	119
9	1865	1864	1578	1468	1003	127
10	1948	1894	1796	1702	1298	134
11	1974	1883	1998	1923	1554	137
12	1988	1915	2104	2082	1799	147
13	2015	2044	2140	2162	2010	157
14	2251	2308	2177	2194	2126	177
15	2287	2282	2220	2231	2184	181
16	2306	2289	2252	2262	2217	185
17	2307	2279	2279	2287	2238	189
18	2313	2289	2296	2307	2257	190
19	2320	2299	2309	2320	2277	193
20	2318	2291	2315	2330	2293	203
21	2313	2288	2318	2334	2303	225
22	2316	2301	2319	2336	2311	242
23	2297	2216	2320	2339	2318	256
24	2179	2063	2298	2330	2325	265
25	2106	2008	2249	2302	2320	269
26	2017	1728	2194	2261	2305	276
27	2144	1903	2213	2174	1836	283
28	2139	1849	2072	1871	1327	280
29	2025	1721	1799	1465	914	273
30	1791	1531	1432	1076	634	265
31	1466	1278	1083	761	460	256
32	1166	1055	773	548	362	246
33	929	877	558	420	308	235
34	712	703	421	343	274	223

**Pot Grate NO_x Test -0.6% Coal 2300F
Test #00-7, Temperature Profile**



Test 7 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
23/Aug/ 0	10:19: 1	0.00	4.2	2.0	0.1	0.03
23/Aug/ 0	10:19:11	0.17	4.4	1.7	0.1	0.03
23/Aug/ 0	10:19:21	0.33	4.5	1.1	-0.2	0.02
23/Aug/ 0	10:19:31	0.50	4.4	2.4	-0.3	0.03
23/Aug/ 0	10:19:41	0.67	4.0	2.7	-0.1	0.03
23/Aug/ 0	10:19:51	0.83	4.3	3.0	-0.3	0.04
23/Aug/ 0	10:20: 1	1.00	4.2	3.3	0.4	0.06
23/Aug/ 0	10:20:11	1.17	4.7	39.8	0.4	0.16
23/Aug/ 0	10:20:21	1.33	5.9	353.9	-0.5	0.61
23/Aug/ 0	10:20:31	1.50	7.0	728.0	-0.7	0.92
23/Aug/ 0	10:20:41	1.67	8.2	1050.5	-0.2	1.27
23/Aug/ 0	10:20:51	1.83	9.0	1084.8	0.4	1.53
23/Aug/ 0	10:21: 1	2.00	10.1	1074.0	0.4	1.75
23/Aug/ 0	10:21:11	2.17	10.9	1043.2	-0.7	1.87
23/Aug/ 0	10:21:21	2.33	11.4	1027.6	-0.5	1.93
23/Aug/ 0	10:21:31	2.50	11.5	1014.4	0.2	1.97
23/Aug/ 0	10:21:41	2.67	11.6	995.2	-0.1	1.99
23/Aug/ 0	10:21:51	2.83	12.0	998.5	-0.6	2.00
23/Aug/ 0	10:22: 1	3.00	12.1	996.1	0.1	2.02
23/Aug/ 0	10:22:11	3.17	12.1	1001.7	0.3	1.94
23/Aug/ 0	10:22:21	3.33	12.1	992.0	0.4	1.82
23/Aug/ 0	10:22:31	3.50	11.6	1003.5	0.5	1.74
23/Aug/ 0	10:22:41	3.67	11.8	1017.3	-0.7	1.70
23/Aug/ 0	10:22:51	3.83	11.9	1026.2	-0.1	1.71
23/Aug/ 0	10:23: 1	4.00	12.3	1031.4	0.2	1.75
23/Aug/ 0	10:23:11	4.17	12.8	1036.0	0.6	1.79
23/Aug/ 0	10:23:21	4.33	15.2	1031.6	0.5	2.15
23/Aug/ 0	10:23:31	4.50	18.0	1011.3	1.1	2.55
23/Aug/ 0	10:23:41	4.67	20.5	957.5	0.1	2.78
23/Aug/ 0	10:23:51	4.83	22.1	920.5	0.1	2.91
23/Aug/ 0	10:24: 1	5.00	23.5	915.3	0.7	2.99
23/Aug/ 0	10:24:11	5.17	24.6	855.6	0.7	3.06
23/Aug/ 0	10:24:21	5.33	24.2	882.9	0.6	3.00
23/Aug/ 0	10:24:31	5.50	24.1	923.2	0.0	2.91
23/Aug/ 0	10:24:41	5.67	24.5	915.8	-0.2	2.87
23/Aug/ 0	10:24:51	5.83	24.8	902.8	-0.0	2.90
23/Aug/ 0	10:25: 1	6.00	25.4	886.0	-0.2	2.92
23/Aug/ 0	10:25:11	6.17	25.7	840.0	0.5	2.97
23/Aug/ 0	10:25:21	6.33	26.2	820.1	0.0	2.99
23/Aug/ 0	10:25:31	6.50	26.9	782.9	-0.1	3.03
23/Aug/ 0	10:25:41	6.67	26.6	797.0	0.3	3.04
23/Aug/ 0	10:25:51	6.83	25.8	870.3	0.3	2.87
23/Aug/ 0	10:26: 1	7.00	25.0	913.7	0.7	2.74
23/Aug/ 0	10:26:11	7.17	50.0	843.1	0.8	2.88
23/Aug/ 0	10:26:21	7.33	417.5	514.1	0.9	4.85
23/Aug/ 0	10:26:31	7.50	842.5	589.7	1.6	9.75
23/Aug/ 0	10:26:41	7.67	1185.6	784.7	1.7	12.18
23/Aug/ 0	10:26:51	7.83	1401.8	840.7	2.8	13.56
23/Aug/ 0	10:27: 1	8.00	1522.4	832.3	3.7	14.24
						11.38

23/Aug/	0	10:27:11	8.17	1529.5	824.0	3.4	14.08	12.37
23/Aug/	0	10:27:21	8.33	1550.7	793.1	2.7	13.97	12.98
23/Aug/	0	10:27:31	8.50	1588.5	730.0	2.6	14.47	13.09
23/Aug/	0	10:27:41	8.67	1576.3	701.3	3.1	14.54	13.70
23/Aug/	0	10:27:51	8.83	1534.8	672.1	2.8	14.14	14.41
23/Aug/	0	10:28: 1	9.00	1491.6	624.6	3.1	13.84	14.97
23/Aug/	0	10:28:11	9.17	1470.9	570.6	3.5	13.66	15.39
23/Aug/	0	10:28:21	9.33	1451.2	503.3	3.6	13.51	15.67
23/Aug/	0	10:28:31	9.50	1436.6	441.4	3.3	13.33	15.92
23/Aug/	0	10:28:41	9.67	1449.3	366.1	3.6	13.29	15.83
23/Aug/	0	10:28:51	9.83	1495.0	289.5	3.3	13.53	15.50
23/Aug/	0	10:29: 1	10.00	1510.3	228.2	2.8	13.56	15.68
23/Aug/	0	10:29:11	10.17	1502.6	186.3	3.0	13.38	15.92
23/Aug/	0	10:29:21	10.33	1505.1	140.9	3.3	13.25	15.99
23/Aug/	0	10:29:31	10.50	1541.0	105.3	3.3	13.38	15.98
23/Aug/	0	10:29:41	10.67	1550.5	76.7	3.4	13.32	16.16
23/Aug/	0	10:29:51	10.83	1540.4	55.3	3.4	13.05	16.44
23/Aug/	0	10:30: 1	11.00	1493.8	39.7	2.3	12.60	16.92
23/Aug/	0	10:30:11	11.17	1463.5	28.3	3.6	12.13	17.32
23/Aug/	0	10:30:21	11.33	1438.8	20.1	3.3	11.79	17.48
23/Aug/	0	10:30:31	11.50	1438.0	14.7	2.7	11.47	17.57
23/Aug/	0	10:30:41	11.67	1458.3	11.4	2.9	11.27	17.64
23/Aug/	0	10:30:51	11.83	1473.0	8.9	2.7	11.02	17.70
23/Aug/	0	10:31: 1	12.00	1507.2	7.6	2.6	10.81	17.76
23/Aug/	0	10:31:11	12.17	1538.9	6.6	3.1	10.62	17.83
23/Aug/	0	10:31:21	12.33	1553.4	5.8	3.1	10.36	17.97
23/Aug/	0	10:31:31	12.50	1542.4	5.0	3.6	10.02	18.21
23/Aug/	0	10:31:41	12.67	1526.5	4.7	3.5	9.62	18.55
23/Aug/	0	10:31:51	12.83	1506.2	4.4	3.3	9.33	18.74
23/Aug/	0	10:32: 1	13.00	1501.1	4.5	3.3	9.13	18.86
23/Aug/	0	10:32:11	13.17	1546.8	4.2	3.3	9.04	18.83
23/Aug/	0	10:32:21	13.33	1658.9	5.6	2.5	11.28	14.56
23/Aug/	0	10:32:31	13.50	1741.0	10.0	3.4	13.50	10.87
23/Aug/	0	10:32:41	13.67	1802.1	16.4	3.4	14.28	10.03
23/Aug/	0	10:32:51	13.83	1865.1	17.3	3.3	14.57	9.83
23/Aug/	0	10:33: 1	14.00	1911.6	22.0	4.4	14.90	9.47
23/Aug/	0	10:33:11	14.17	1945.1	27.3	3.7	15.03	9.37
23/Aug/	0	10:33:21	14.33	1963.5	35.7	4.1	15.00	9.37
23/Aug/	0	10:33:31	14.50	1967.6	36.2	5.0	14.35	10.22
23/Aug/	0	10:33:41	14.67	1956.5	21.0	4.0	13.65	11.10
23/Aug/	0	10:33:51	14.83	1945.9	11.2	5.2	13.12	11.78
23/Aug/	0	10:34: 1	15.00	1938.1	8.4	3.6	12.86	12.00
23/Aug/	0	10:34:11	15.17	1926.4	7.4	3.9	12.72	12.12
23/Aug/	0	10:34:21	15.33	1930.9	7.0	3.7	12.61	12.20
23/Aug/	0	10:34:31	15.50	1949.6	6.8	4.4	12.65	12.23
23/Aug/	0	10:34:41	15.67	1980.2	6.5	3.8	12.63	12.39
23/Aug/	0	10:34:51	15.83	1979.8	6.0	3.8	12.43	12.74
23/Aug/	0	10:35: 1	16.00	1974.6	5.5	3.4	12.22	12.99
23/Aug/	0	10:35:11	16.17	1970.6	5.3	2.9	12.13	13.11
23/Aug/	0	10:35:21	16.33	1965.8	5.2	4.1	12.08	13.18
23/Aug/	0	10:35:31	16.50	1946.5	4.9	3.9	11.91	13.40
23/Aug/	0	10:35:41	16.67	1908.0	4.6	3.7	11.63	13.71
23/Aug/	0	10:35:51	16.83	1889.6	4.1	3.9	11.49	13.83
23/Aug/	0	10:36: 1	17.00	1879.9	4.3	4.0	11.46	13.89

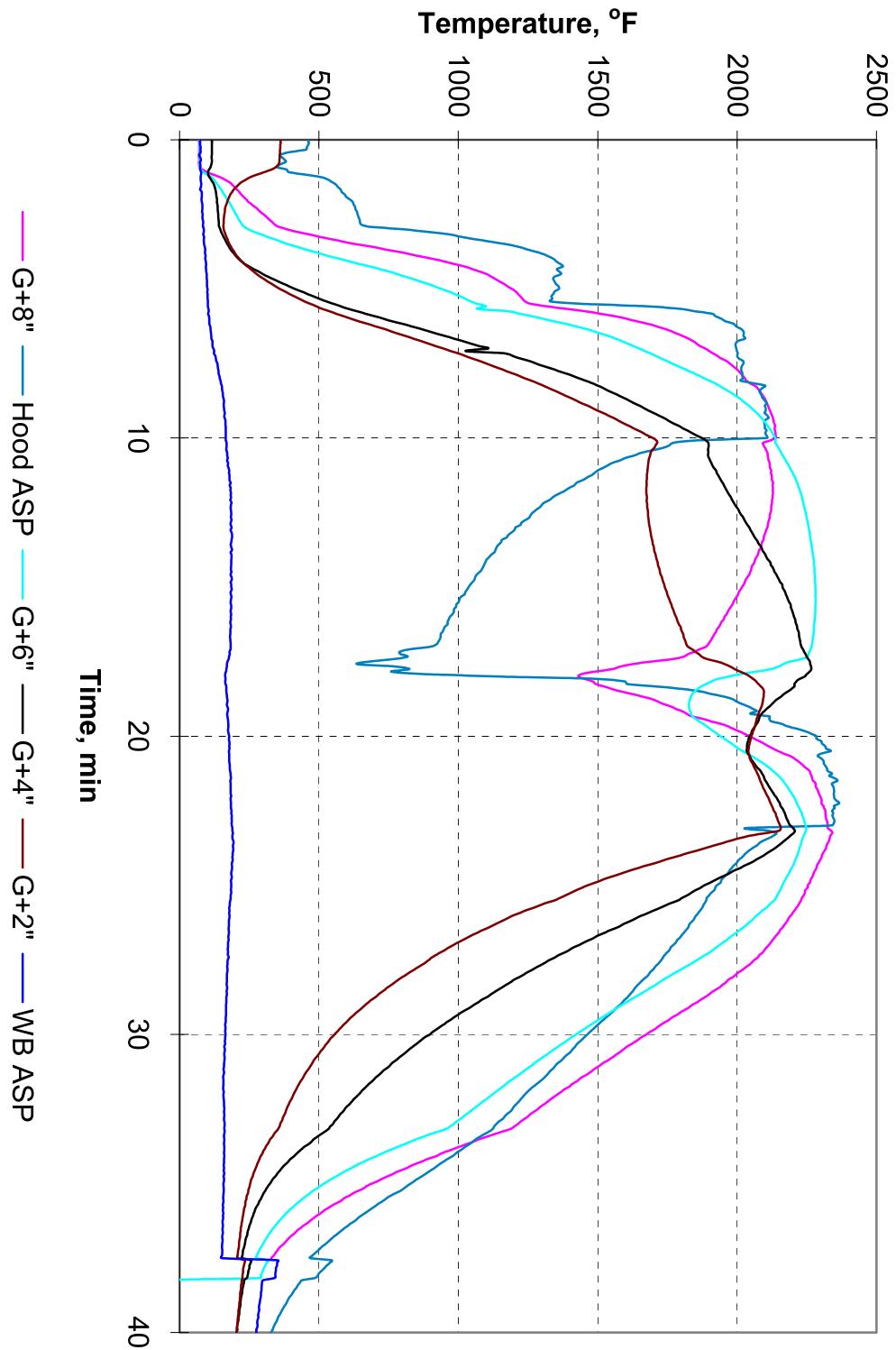
23/Aug/	0	10:36:11	17.17	1876.4	4.1	4.4	11.42	13.94
23/Aug/	0	10:36:21	17.33	1875.4	4.2	4.3	11.39	13.97
23/Aug/	0	10:36:31	17.50	1855.6	3.8	4.0	11.32	14.03
23/Aug/	0	10:36:41	17.67	1832.8	3.8	3.5	11.19	14.10
23/Aug/	0	10:36:51	17.83	1829.1	3.8	3.7	11.14	14.14
23/Aug/	0	10:37: 1	18.00	1845.3	3.9	3.7	11.16	14.21
23/Aug/	0	10:37:11	18.17	1856.6	3.7	3.4	11.15	14.25
23/Aug/	0	10:37:21	18.33	1859.0	3.4	3.8	11.14	14.27
23/Aug/	0	10:37:31	18.50	1867.8	3.6	3.7	11.12	14.30
23/Aug/	0	10:37:41	18.67	1870.1	3.5	3.8	11.10	14.30
23/Aug/	0	10:37:51	18.83	1873.4	3.6	3.8	11.08	14.35
23/Aug/	0	10:38: 1	19.00	1869.8	3.4	4.2	11.05	14.39
23/Aug/	0	10:38:11	19.17	1861.2	3.6	3.7	10.97	14.50
23/Aug/	0	10:38:21	19.33	1855.4	3.7	3.9	10.91	14.55
23/Aug/	0	10:38:31	19.50	1843.0	3.5	3.6	10.84	14.60
23/Aug/	0	10:38:41	19.67	1819.5	3.7	3.7	10.76	14.73
23/Aug/	0	10:38:51	19.83	1776.7	3.7	3.5	10.44	15.20
23/Aug/	0	10:39: 1	20.00	1785.9	3.6	4.0	10.35	15.32
23/Aug/	0	10:39:11	20.17	1854.7	3.6	3.9	10.63	15.18
23/Aug/	0	10:39:21	20.33	1873.4	3.8	4.1	10.86	15.09
23/Aug/	0	10:39:31	20.50	1829.2	3.8	3.8	10.55	15.24
23/Aug/	0	10:39:41	20.67	1800.6	3.7	3.9	10.39	15.31
23/Aug/	0	10:39:51	20.83	1791.1	4.1	4.3	10.40	15.30
23/Aug/	0	10:40: 1	21.00	1776.0	3.7	3.9	10.38	15.32
23/Aug/	0	10:40:11	21.17	1762.7	3.9	3.6	10.34	15.34
23/Aug/	0	10:40:21	21.33	1751.3	3.7	4.0	10.29	15.35
23/Aug/	0	10:40:31	21.50	1743.9	3.8	4.7	10.27	15.37
23/Aug/	0	10:40:41	21.67	1738.0	3.9	3.4	10.26	15.38
23/Aug/	0	10:40:51	21.83	1736.3	3.9	3.3	10.26	15.38
23/Aug/	0	10:41: 1	22.00	1740.0	4.1	4.2	10.30	15.37
23/Aug/	0	10:41:11	22.17	1768.0	3.9	3.5	10.38	15.33
23/Aug/	0	10:41:21	22.33	1775.8	4.1	4.0	10.48	15.29
23/Aug/	0	10:41:31	22.50	1737.2	3.9	4.2	10.22	15.47
23/Aug/	0	10:41:41	22.67	1715.7	3.8	3.9	10.05	15.62
23/Aug/	0	10:41:51	22.83	1705.7	3.9	4.3	10.05	15.63
23/Aug/	0	10:42: 1	23.00	1708.8	3.8	3.7	10.07	15.64
23/Aug/	0	10:42:11	23.17	1634.7	3.9	3.6	9.90	15.80
23/Aug/	0	10:42:21	23.33	1457.6	3.7	3.6	8.58	17.66
23/Aug/	0	10:42:31	23.50	1317.2	3.1	3.4	7.78	18.61
23/Aug/	0	10:42:41	23.67	1231.4	3.1	2.7	7.52	18.86
23/Aug/	0	10:42:51	23.83	1167.5	3.1	2.7	7.37	19.03
23/Aug/	0	10:43: 1	24.00	1115.3	3.0	2.4	7.13	19.36
23/Aug/	0	10:43:11	24.17	1070.7	3.0	3.1	6.94	19.50
23/Aug/	0	10:43:21	24.33	1045.3	2.8	2.2	6.84	19.55
23/Aug/	0	10:43:31	24.50	1030.6	3.0	2.4	6.84	19.57
23/Aug/	0	10:43:41	24.67	1022.7	3.0	1.9	6.84	19.58
23/Aug/	0	10:43:51	24.83	1014.5	2.7	2.3	6.83	19.59
23/Aug/	0	10:44: 1	25.00	1005.4	3.0	2.6	6.82	19.61
23/Aug/	0	10:44:11	25.17	995.1	2.8	2.3	6.81	19.62
23/Aug/	0	10:44:21	25.33	989.8	2.7	3.2	6.79	19.63
23/Aug/	0	10:44:31	25.50	983.3	2.8	1.9	6.78	19.63
23/Aug/	0	10:44:41	25.67	976.3	2.8	3.0	6.75	19.63
23/Aug/	0	10:44:51	25.83	964.8	2.8	2.4	6.72	19.65
23/Aug/	0	10:45: 1	26.00	946.3	2.8	2.3	6.65	19.64

23/Aug/	0	10:45:11	26.17	795.9	2.6	1.9	6.66	17.86
23/Aug/	0	10:45:21	26.33	502.9	2.7	2.0	4.29	17.36
23/Aug/	0	10:45:31	26.50	299.6	1.8	0.9	1.68	20.26
23/Aug/	0	10:45:41	26.67	179.0	1.2	-0.0	0.60	20.89
23/Aug/	0	10:45:51	26.83	118.4	1.2	0.4	0.33	20.95
23/Aug/	0	10:46: 1	27.00	85.7	1.1	1.6	0.24	20.97
23/Aug/	0	10:46:11	27.17	67.4	1.0	-0.0	0.20	20.96
23/Aug/	0	10:46:21	27.33	56.6	0.8	-0.4	0.19	20.98
23/Aug/	0	10:46:31	27.50	49.3	1.1	-0.6	0.18	20.96
23/Aug/	0	10:46:41	27.67	44.2	0.8	0.5	0.17	20.98
23/Aug/	0	10:46:51	27.83	40.4	1.0	0.3	0.17	20.98
23/Aug/	0	10:47: 1	28.00	37.0	0.9	0.5	0.16	20.98
23/Aug/	0	10:47:11	28.17	34.6	0.6	1.1	0.16	20.98
23/Aug/	0	10:47:21	28.33	32.3	0.8	0.7	0.16	20.98
23/Aug/	0	10:47:31	28.50	30.5	1.0	1.3	0.16	20.98
23/Aug/	0	10:47:41	28.67	29.0	0.6	-0.2	0.15	20.98
23/Aug/	0	10:47:51	28.83	27.4	0.9	0.4	0.15	20.98
23/Aug/	0	10:48: 1	29.00	25.9	0.9	0.1	0.15	20.98
23/Aug/	0	10:48:11	29.17	24.7	0.8	0.0	0.15	21.00
23/Aug/	0	10:48:21	29.33	23.7	1.0	0.3	0.15	20.98
23/Aug/	0	10:48:31	29.50	22.8	1.0	0.8	0.15	21.00
23/Aug/	0	10:48:41	29.67	22.1	0.7	0.3	0.15	20.99
23/Aug/	0	10:48:51	29.83	21.1	1.0	-0.4	0.15	20.98
23/Aug/	0	10:49: 1	30.00	20.2	0.8	0.3	0.15	20.99
23/Aug/	0	10:49:11	30.17	20.1	0.9	0.2	0.15	20.99
23/Aug/	0	10:49:21	30.33	19.4	0.7	0.4	0.14	21.00
23/Aug/	0	10:49:31	30.50	18.7	1.0	0.5	0.15	20.99
23/Aug/	0	10:49:41	30.67	18.3	0.9	0.2	0.15	20.99
23/Aug/	0	10:49:51	30.83	17.3	0.7	0.5	0.14	20.99
23/Aug/	0	10:50: 1	31.00	16.8	0.9	0.5	0.15	21.00
23/Aug/	0	10:50:11	31.17	16.5	0.8	-0.3	0.14	20.99
23/Aug/	0	10:50:21	31.33	16.0	0.6	0.0	0.14	20.99
23/Aug/	0	10:50:31	31.50	15.3	0.7	-0.6	0.14	20.99
23/Aug/	0	10:50:41	31.67	15.1	1.0	0.2	0.14	20.99
23/Aug/	0	10:50:51	31.83	14.7	0.8	0.5	0.14	20.99
23/Aug/	0	10:51: 1	32.00	14.3	0.7	0.3	0.14	20.98

Test 8 Pot-Grate NOx – Stoichiometric Air – 2350

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2325	2348	2281	2242	2154	343
0	70	459	72	116	363	73
1	82	384	76	106	330	74
2	240	611	171	134	174	79
3	385	802	246	146	159	87
4	910	1342	577	212	216	92
5	1193	1361	940	414	360	101
6	1603	1944	1302	731	615	107
7	1885	1997	1649	1107	946	121
8	2028	2020	1883	1434	1240	144
9	2114	2103	2052	1666	1481	159
10	2139	2108	2136	1872	1697	166
11	2118	1519	2189	1917	1679	176
12	2127	1337	2233	1979	1676	184
13	2109	1205	2257	2044	1687	187
14	2068	1109	2273	2106	1709	187
15	2018	1037	2281	2163	1741	185
16	1955	970	2279	2204	1781	184
17	1887	898	2267	2230	1824	184
18	1430	1155	1970	2242	2045	163
19	1760	2038	1828	2118	2088	171
20	2043	2284	1940	2045	2051	177
21	2239	2317	2106	2068	2059	180
22	2297	2348	2201	2136	2108	185
23	2325	2339	2246	2191	2154	187
24	2304	2024	2216	2096	1796	190
25	2254	1927	2163	1883	1465	185
26	2195	1856	2073	1664	1202	179
27	2114	1772	1938	1434	983	174
28	1995	1683	1767	1235	813	170
29	1842	1582	1589	1058	669	167
30	1676	1464	1423	898	556	165
31	1514	1353	1270	758	474	159
32	1359	1240	1125	644	410	158
33	1215	1138	984	550	362	161
34	938	991	726	420	297	159

Pot Grade NOx Test Stoichiometric Air 2350F
Test #00-8, Temperature Profile



Test 8 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
24/Aug/ 0	12:56:55	0.00	9.3	2.0	0.0	20.98
24/Aug/ 0	12:57: 5	0.17	9.3	1.5	0.8	20.99
24/Aug/ 0	12:57:15	0.33	9.0	1.0	0.4	20.95
24/Aug/ 0	12:57:25	0.50	8.9	0.8	0.5	20.99
24/Aug/ 0	12:57:35	0.67	8.7	0.4	1.1	0.03
24/Aug/ 0	12:57:45	0.83	8.8	0.4	0.3	0.02
24/Aug/ 0	12:57:55	1.00	8.8	0.6	0.6	0.03
24/Aug/ 0	12:58: 5	1.17	8.8	0.3	0.9	0.02
24/Aug/ 0	12:58:15	1.33	8.9	0.6	0.3	0.02
24/Aug/ 0	12:58:25	1.50	8.7	0.6	0.3	0.03
24/Aug/ 0	12:58:35	1.67	9.0	0.5	-0.1	0.03
24/Aug/ 0	12:58:45	1.83	8.9	6.6	-0.2	0.07
24/Aug/ 0	12:58:55	2.00	10.0	237.5	0.3	0.55
24/Aug/ 0	12:59: 5	2.17	11.7	766.7	0.1	1.23
24/Aug/ 0	12:59:15	2.33	12.9	1036.8	0.6	1.68
24/Aug/ 0	12:59:25	2.50	14.0	1045.5	0.4	1.83
24/Aug/ 0	12:59:35	2.67	14.7	1040.9	0.2	1.88
24/Aug/ 0	12:59:45	2.83	15.2	1037.6	0.3	1.93
24/Aug/ 0	12:59:55	3.00	15.5	1036.9	0.1	1.98
24/Aug/ 0	13: 0: 5	3.17	15.8	1032.7	-0.1	2.01
24/Aug/ 0	13: 0:15	3.33	15.9	1024.0	1.2	2.01
24/Aug/ 0	13: 0:25	3.50	16.1	1022.1	0.8	2.01
24/Aug/ 0	13: 0:35	3.67	16.4	1018.2	0.6	2.01
24/Aug/ 0	13: 0:45	3.83	17.0	1006.7	0.7	2.08
24/Aug/ 0	13: 0:55	4.00	20.6	744.4	0.7	2.90
24/Aug/ 0	13: 1: 5	4.17	26.1	430.8	0.1	3.75
24/Aug/ 0	13: 1:15	4.33	33.5	232.1	1.0	4.46
24/Aug/ 0	13: 1:25	4.50	40.5	85.4	0.8	5.32
24/Aug/ 0	13: 1:35	4.67	45.3	32.4	1.1	5.85
24/Aug/ 0	13: 1:45	4.83	48.7	18.4	0.6	6.20
24/Aug/ 0	13: 1:55	5.00	50.8	16.1	0.2	6.40
24/Aug/ 0	13: 2: 5	5.17	51.7	16.6	0.4	6.44
24/Aug/ 0	13: 2:15	5.33	51.5	21.3	0.7	6.19
24/Aug/ 0	13: 2:25	5.50	50.5	23.3	1.3	5.98
24/Aug/ 0	13: 2:35	5.67	49.8	31.8	0.2	5.66
24/Aug/ 0	13: 2:45	5.83	50.0	26.1	0.8	5.65
24/Aug/ 0	13: 2:55	6.00	49.3	25.9	0.7	5.58
24/Aug/ 0	13: 3: 5	6.17	48.3	36.5	1.0	5.36
24/Aug/ 0	13: 3:15	6.33	141.0	35.8	0.2	5.24
24/Aug/ 0	13: 3:25	6.50	570.4	20.3	1.8	7.71
24/Aug/ 0	13: 3:35	6.67	1138.8	21.4	2.6	12.78
24/Aug/ 0	13: 3:45	6.83	1375.8	24.1	3.8	15.12
24/Aug/ 0	13: 3:55	7.00	1524.3	23.4	3.7	15.56
24/Aug/ 0	13: 4: 5	7.17	1596.5	22.7	3.3	15.82
24/Aug/ 0	13: 4:15	7.33	1667.2	22.4	4.4	16.24
24/Aug/ 0	13: 4:25	7.50	1685.9	20.6	3.8	15.98
24/Aug/ 0	13: 4:35	7.67	1652.1	18.5	3.7	15.20
24/Aug/ 0	13: 4:45	7.83	1605.2	16.5	3.4	14.37
24/Aug/ 0	13: 4:55	8.00	1575.7	14.1	3.3	14.00
						14.41

24/Aug/ 0	13: 5: 5	8.17	1538.3	11.8	3.3	13.88	14.13
24/Aug/ 0	13: 5:15	8.33	1525.6	10.4	2.9	14.13	13.27
24/Aug/ 0	13: 5:25	8.50	1515.0	8.4	4.1	14.28	13.06
24/Aug/ 0	13: 5:35	8.67	1462.0	6.7	3.2	14.07	12.93
24/Aug/ 0	13: 5:45	8.83	1394.5	4.9	3.8	13.87	12.71
24/Aug/ 0	13: 5:55	9.00	1308.3	2.8	3.1	13.77	12.34
24/Aug/ 0	13: 6: 5	9.17	1057.8	11.1	3.2	14.95	8.49
24/Aug/ 0	13: 6:15	9.33	894.2	71.1	2.8	14.90	7.63
24/Aug/ 0	13: 6:25	9.50	807.1	66.6	2.5	14.33	7.95
24/Aug/ 0	13: 6:35	9.67	757.6	32.0	1.8	14.10	7.99
24/Aug/ 0	13: 6:45	9.83	736.3	21.3	2.5	13.90	8.16
24/Aug/ 0	13: 6:55	10.00	724.9	18.2	1.8	13.65	8.41
24/Aug/ 0	13: 7: 5	10.17	727.8	17.4	1.4	13.62	8.37
24/Aug/ 0	13: 7:15	10.33	728.6	16.9	2.2	13.54	8.46
24/Aug/ 0	13: 7:25	10.50	726.1	16.6	1.6	13.22	8.79
24/Aug/ 0	13: 7:35	10.67	725.3	16.5	1.9	12.97	8.93
24/Aug/ 0	13: 7:45	10.83	716.1	16.2	2.3	12.77	8.99
24/Aug/ 0	13: 7:55	11.00	526.5	19.9	1.9	10.79	10.22
24/Aug/ 0	13: 8: 5	11.17	321.7	30.2	1.5	7.53	11.95
24/Aug/ 0	13: 8:15	11.33	203.4	20.4	0.9	9.78	8.68
24/Aug/ 0	13: 8:25	11.50	137.2	17.8	0.4	8.56	8.65
24/Aug/ 0	13: 8:35	11.67	96.2	15.7	0.1	5.64	9.68
24/Aug/ 0	13: 8:45	11.83	73.5	14.6	0.3	3.86	10.07
24/Aug/ 0	13: 8:55	12.00	60.5	13.9	0.3	3.31	10.05
24/Aug/ 0	13: 9: 5	12.17	53.2	13.6	0.6	3.00	9.81
24/Aug/ 0	13: 9:15	12.33	49.1	13.3	1.2	2.76	9.66
24/Aug/ 0	13: 9:25	12.50	46.1	22.7	0.8	2.52	9.63
24/Aug/ 0	13: 9:35	12.67	43.6	37.2	0.1	2.26	9.72
24/Aug/ 0	13: 9:45	12.83	41.5	39.4	0.4	2.04	9.83
24/Aug/ 0	13: 9:55	13.00	39.0	37.5	-0.2	1.81	10.02
24/Aug/ 0	13:10: 5	13.17	37.5	35.5	-0.0	1.62	10.24
24/Aug/ 0	13:10:15	13.33	35.6	34.4	0.8	1.45	10.49
24/Aug/ 0	13:10:25	13.50	34.2	32.4	0.1	1.30	10.72
24/Aug/ 0	13:10:35	13.67	32.8	31.3	0.1	1.18	10.96
24/Aug/ 0	13:10:45	13.83	31.7	30.6	0.1	1.06	11.22
24/Aug/ 0	13:10:55	14.00	30.6	28.9	-0.7	0.97	11.47
24/Aug/ 0	13:11: 5	14.17	29.6	26.9	0.2	0.88	11.70
24/Aug/ 0	13:11:15	14.33	28.8	25.8	0.4	0.81	11.96
24/Aug/ 0	13:11:25	14.50	28.0	25.2	0.3	0.74	12.24
24/Aug/ 0	13:11:35	14.67	27.3	25.3	0.3	0.69	12.46
24/Aug/ 0	13:11:45	14.83	26.8	25.1	0.9	0.64	12.72
24/Aug/ 0	13:11:55	15.00	26.4	25.5	0.4	0.60	12.99
24/Aug/ 0	13:12: 5	15.17	25.9	25.7	0.6	0.57	13.22
24/Aug/ 0	13:12:15	15.33	25.5	25.5	0.7	0.54	13.42
24/Aug/ 0	13:12:25	15.50	25.1	25.3	0.6	0.51	13.57
24/Aug/ 0	13:12:35	15.67	24.7	24.1	-0.4	0.48	14.17
24/Aug/ 0	13:12:45	15.83	24.3	23.6	-0.6	0.44	14.49
24/Aug/ 0	13:12:55	16.00	23.8	22.1	-0.3	0.41	14.79
24/Aug/ 0	13:13: 5	16.17	23.7	18.4	-0.2	0.39	15.09
24/Aug/ 0	13:13:15	16.33	23.3	16.1	0.4	0.37	15.41
24/Aug/ 0	13:13:25	16.50	23.1	15.1	-0.3	0.35	15.69
24/Aug/ 0	13:13:35	16.67	22.7	14.5	0.3	0.34	16.05
24/Aug/ 0	13:13:45	16.83	22.5	13.8	0.4	0.32	16.30
24/Aug/ 0	13:13:55	17.00	22.3	13.7	0.5	0.31	16.60

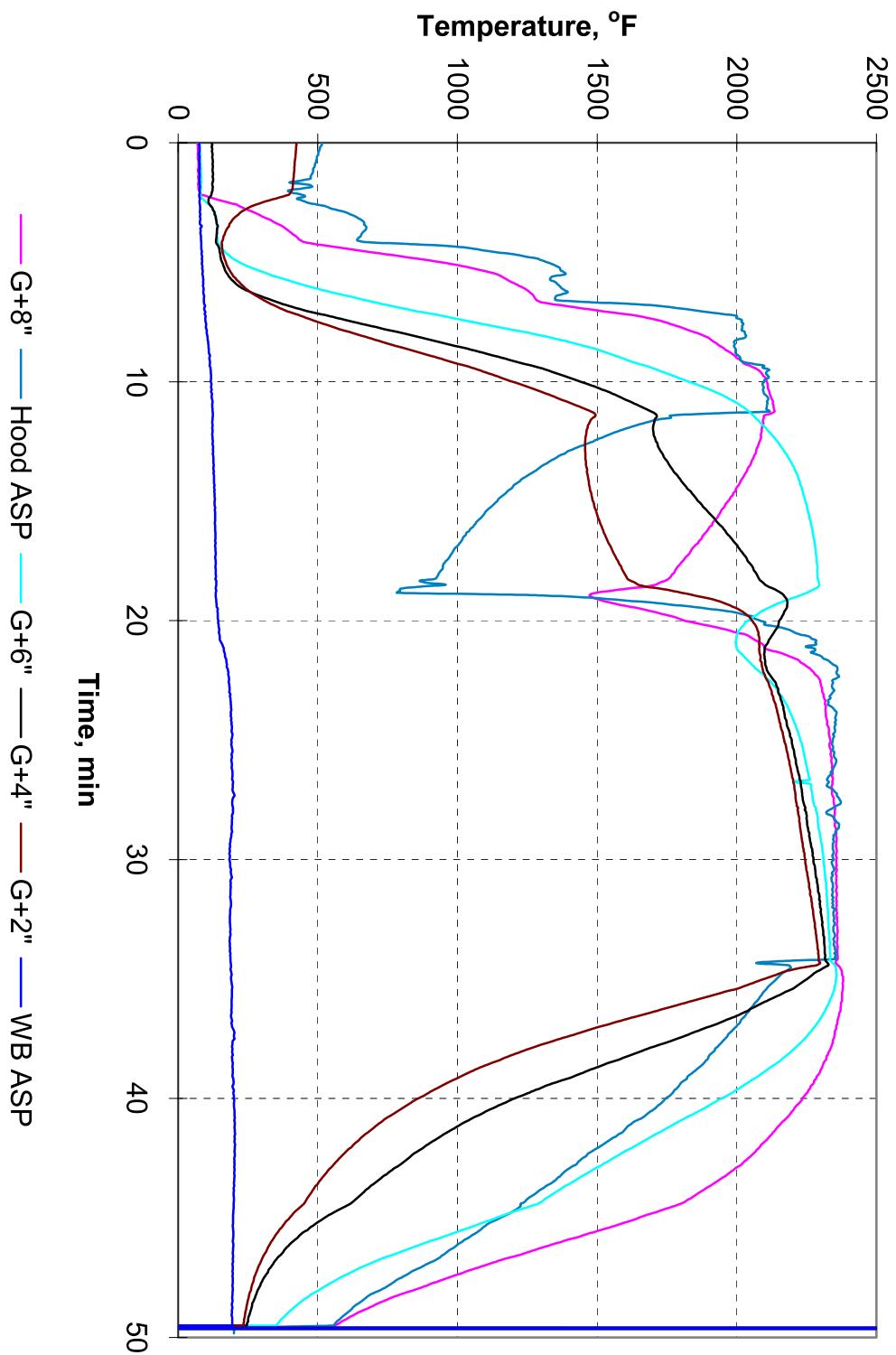
24/Aug/ 0	13:14: 5	17.17	22.0	13.4	0.5	0.30	16.87
24/Aug/ 0	13:14:15	17.33	21.6	13.0	1.0	0.29	17.10
24/Aug/ 0	13:14:25	17.50	21.4	12.6	0.7	0.27	17.34
24/Aug/ 0	13:14:35	17.67	21.1	12.6	-0.0	0.27	17.57
24/Aug/ 0	13:14:45	17.83	20.9	12.4	-0.2	0.26	17.77
24/Aug/ 0	13:14:55	18.00	20.5	14.4	0.8	0.24	21.20
24/Aug/ 0	13:15: 5	18.17	20.2	15.7	1.1	0.26	36.12
24/Aug/ 0	13:15:15	18.33	20.3	23.0	0.8	0.69	39.83
24/Aug/ 0	13:15:25	18.50	41.8	111.4	1.1	0.90	31.63
24/Aug/ 0	13:15:35	18.67	148.1	84.9	-0.1	1.76	28.51
24/Aug/ 0	13:15:45	18.83	187.9	44.3	0.4	2.01	24.93
24/Aug/ 0	13:15:55	19.00	310.0	65.1	0.9	6.29	17.28
24/Aug/ 0	13:16: 5	19.17	265.8	2119.0	1.4	10.69	7.65
24/Aug/ 0	13:16:15	19.33	200.4	2110.1	1.1	11.15	5.55
24/Aug/ 0	13:16:25	19.50	221.6	2111.7	0.9	12.79	4.56
24/Aug/ 0	13:16:35	19.67	236.3	2106.6	0.9	13.46	4.38
24/Aug/ 0	13:16:45	19.83	219.1	2106.6	0.7	13.32	4.18
24/Aug/ 0	13:16:55	20.00	196.6	2096.3	0.6	13.21	4.17
24/Aug/ 0	13:17: 5	20.17	178.5	2101.6	-0.1	13.19	4.08
24/Aug/ 0	13:17:15	20.33	215.2	2099.5	0.2	13.03	4.17
24/Aug/ 0	13:17:25	20.50	250.7	1729.1	0.7	12.91	4.22
24/Aug/ 0	13:17:35	20.67	264.2	1920.5	0.9	13.29	4.17
24/Aug/ 0	13:17:45	20.83	269.8	2098.4	1.0	13.43	4.10
24/Aug/ 0	13:17:55	21.00	274.3	2100.0	0.5	13.46	4.13
24/Aug/ 0	13:18: 5	21.17	277.4	2093.1	1.1	13.48	4.11
24/Aug/ 0	13:18:15	21.33	289.1	2097.4	1.1	13.49	4.13
24/Aug/ 0	13:18:25	21.50	352.6	1511.2	0.7	13.50	4.21
24/Aug/ 0	13:18:35	21.67	411.2	359.2	1.3	13.39	4.41
24/Aug/ 0	13:18:45	21.83	438.9	189.8	0.8	13.44	4.51
24/Aug/ 0	13:18:55	22.00	452.0	158.8	1.1	13.40	4.63
24/Aug/ 0	13:19: 5	22.17	430.0	154.9	1.6	13.35	4.70
24/Aug/ 0	13:19:15	22.33	355.0	285.0	1.3	13.34	4.38
24/Aug/ 0	13:19:25	22.50	316.7	324.4	0.8	12.95	4.43
24/Aug/ 0	13:19:35	22.67	299.9	181.0	1.1	12.57	4.68
24/Aug/ 0	13:19:45	22.83	293.8	133.1	0.7	12.42	4.87
24/Aug/ 0	13:19:55	23.00	290.8	123.0	0.9	12.35	5.04
24/Aug/ 0	13:20: 5	23.17	291.0	117.3	0.5	12.40	5.10
24/Aug/ 0	13:20:15	23.33	293.5	115.2	0.7	12.23	5.33
24/Aug/ 0	13:20:25	23.50	295.0	103.4	0.9	12.05	5.60
24/Aug/ 0	13:20:35	23.67	297.3	88.3	0.8	11.96	5.78
24/Aug/ 0	13:20:45	23.83	292.2	75.7	0.3	11.93	5.88
24/Aug/ 0	13:20:55	24.00	207.3	75.7	0.9	8.33	9.37
24/Aug/ 0	13:21: 5	24.17	121.4	52.0	0.5	2.02	17.79
24/Aug/ 0	13:21:15	24.33	68.9	16.8	0.3	0.52	20.36
24/Aug/ 0	13:21:25	24.50	42.4	10.6	-0.2	0.27	20.57
24/Aug/ 0	13:21:35	24.67	29.9	11.0	0.0	0.22	20.83
24/Aug/ 0	13:21:45	24.83	23.8	11.2	0.4	0.20	20.82
24/Aug/ 0	13:21:55	25.00	20.7	9.9	0.1	0.19	20.93
24/Aug/ 0	13:22: 5	25.17	19.3	10.2	0.4	0.18	20.90
24/Aug/ 0	13:22:15	25.33	18.1	8.9	0.1	0.17	20.95
24/Aug/ 0	13:22:25	25.50	17.6	8.3	-0.1	0.17	20.96
24/Aug/ 0	13:22:35	25.67	17.0	9.2	0.6	0.17	20.97
24/Aug/ 0	13:22:45	25.83	16.8	11.3	0.5	0.17	20.96
24/Aug/ 0	13:22:55	26.00	16.4	9.8	0.7	0.17	20.97

24/Aug/ 0	13:23: 5	26.17	16.2	8.7	0.2	0.16	21.00
24/Aug/ 0	13:23:15	26.33	16.2	8.1	-0.1	0.16	20.99
24/Aug/ 0	13:23:25	26.50	15.8	8.0	0.5	0.16	21.00
24/Aug/ 0	13:23:35	26.67	15.5	7.5	0.5	0.16	21.00
24/Aug/ 0	13:23:45	26.83	15.4	7.0	0.0	0.15	21.01
24/Aug/ 0	13:23:55	27.00	15.3	7.0	0.3	0.15	21.01
24/Aug/ 0	13:24: 5	27.17	15.3	7.6	-0.5	0.15	21.00
24/Aug/ 0	13:24:15	27.33	15.2	8.9	0.3	0.16	21.01
24/Aug/ 0	13:24:25	27.50	15.2	8.3	0.6	0.15	21.01
24/Aug/ 0	13:24:35	27.67	15.0	9.1	0.5	0.15	21.02
24/Aug/ 0	13:24:45	27.83	14.6	7.6	0.1	0.15	21.01
24/Aug/ 0	13:24:55	28.00	14.7	7.2	-0.1	0.15	21.02
24/Aug/ 0	13:25: 5	28.17	14.7	7.0	0.6	0.15	21.01
24/Aug/ 0	13:25:15	28.33	14.4	7.0	0.7	0.15	21.02
24/Aug/ 0	13:25:25	28.50	14.6	6.3	0.5	0.15	21.01
24/Aug/ 0	13:25:35	28.67	14.4	5.8	0.4	0.15	21.03
24/Aug/ 0	13:25:45	28.83	14.4	5.3	1.1	0.14	21.01
24/Aug/ 0	13:25:55	29.00	14.3	6.2	0.9	0.15	21.03
24/Aug/ 0	13:26: 5	29.17	14.3	6.3	-0.0	0.15	21.02
24/Aug/ 0	13:26:15	29.33	14.3	6.3	0.4	0.14	21.02
24/Aug/ 0	13:26:25	29.50	14.2	5.6	0.5	0.14	21.02
24/Aug/ 0	13:26:35	29.67	14.1	5.6	0.3	0.14	21.02
24/Aug/ 0	13:26:45	29.83	14.1	5.1	0.1	0.14	21.03
24/Aug/ 0	13:26:55	30.00	14.2	4.7	0.1	0.14	21.03
24/Aug/ 0	13:27: 5	30.17	14.0	4.7	-0.1	0.14	21.03
24/Aug/ 0	13:27:15	30.33	14.1	4.8	-0.2	0.14	21.03
24/Aug/ 0	13:27:25	30.50	14.2	4.6	0.1	0.14	21.04
24/Aug/ 0	13:27:35	30.67	14.0	4.6	0.1	0.14	21.04
24/Aug/ 0	13:27:45	30.83	14.2	4.6	0.6	0.14	21.04
24/Aug/ 0	13:27:55	31.00	14.0	4.6	0.0	0.14	21.03
24/Aug/ 0	13:28: 5	31.17	13.9	4.6	-0.2	0.13	21.04
24/Aug/ 0	13:28:15	31.33	13.9	4.2	-0.7	0.13	21.03
24/Aug/ 0	13:28:25	31.50	14.0	4.1	-1.1	0.13	21.03
24/Aug/ 0	13:28:35	31.67	14.1	4.0	-0.3	0.13	21.04
24/Aug/ 0	13:28:45	31.83	13.9	3.7	0.1	0.13	21.05

Test 9 Pot-Grate NOx - Stoichiometric Air – 2350

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2380	2361	2356	2317	2293	202
0	70	515	77	121	423	76
1	73	488	80	124	416	76
2	75	395	81	124	406	75
3	288	617	133	131	216	79
4	429	643	140	136	161	81
5	937	1320	219	157	171	86
6	1222	1366	464	218	233	89
7	1493	1845	834	449	380	94
8	1865	2029	1271	814	634	103
9	1999	2013	1586	1159	929	111
10	2107	2098	1830	1441	1198	117
11	2132	2108	2013	1649	1426	122
12	2089	1593	2108	1700	1463	123
13	2067	1385	2176	1733	1458	125
14	2023	1242	2220	1792	1467	128
15	1969	1142	2245	1862	1484	131
16	1911	1060	2266	1941	1514	133
17	1840	989	2282	2010	1552	133
18	1776	935	2288	2068	1597	135
19	1479	1423	2213	2172	1873	135
20	1812	2083	2040	2152	2055	144
21	2094	2283	1997	2107	2080	158
22	2262	2361	2068	2106	2092	177
23	2307	2344	2150	2149	2125	183
24	2319	2355	2197	2172	2149	189
25	2335	2343	2228	2196	2170	191
26	2341	2353	2248	2212	2189	193
27	2341	2335	2266	2231	2206	196
28	2351	2322	2286	2247	2219	196
29	2355	2346	2299	2259	2231	190
30	2356	2347	2311	2275	2245	184
31	2356	2343	2320	2288	2258	188
32	2357	2342	2325	2298	2270	189
33	2361	2346	2330	2310	2282	186
34	2361	2355	2335	2317	2293	186
35	2380	2142	2356	2251	2098	189
36	2372	2066	2331	2092	1815	191
37	2356	1998	2279	1900	1508	192
38	2333	1920	2198	1663	1238	194
39	2292	1833	2084	1431	1025	195
40	2235	1746	1945	1205	860	199
41	2162	1628	1787	1024	725	202
42	2084	1511	1633	884	622	202
43	1988	1391	1483	765	538	202
44	1858	1276	1341	657	472	199
45	1647	1152	1137	522	398	196
46	1373	1018	896	410	333	196

Pot Grade NOx Test Stoichiometric Air 2350F
Test #00-9, Temperature Profile



Test 9 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, pp m</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
28/Aug/ 0	10: 7:42	0.00	3.4	8.4	-0.0	0.07
28/Aug/ 0	10: 7:52	0.17	3.4	6.0	1.0	0.07
28/Aug/ 0	10: 8: 2	0.33	3.5	5.6	-0.4	0.07
28/Aug/ 0	10: 8:12	0.50	3.3	4.7	-0.1	0.07
28/Aug/ 0	10: 8:22	0.67	3.3	3.4	-0.4	0.06
28/Aug/ 0	10: 8:32	0.83	3.4	7.1	0.5	0.06
28/Aug/ 0	10: 8:42	1.00	3.4	7.4	0.6	0.07
28/Aug/ 0	10: 8:52	1.17	3.5	6.1	1.1	0.06
28/Aug/ 0	10: 9: 2	1.33	3.5	6.0	-0.2	0.06
28/Aug/ 0	10: 9:12	1.50	3.5	4.6	-0.2	0.05
28/Aug/ 0	10: 9:22	1.67	3.5	5.3	0.5	0.06
28/Aug/ 0	10: 9:32	1.83	3.5	5.1	-0.1	0.06
28/Aug/ 0	10: 9:42	2.00	3.5	3.8	-0.2	0.05
28/Aug/ 0	10: 9:52	2.17	3.6	3.8	0.5	0.05
28/Aug/ 0	10:10: 2	2.33	3.7	6.3	0.2	0.14
28/Aug/ 0	10:10:12	2.50	3.9	8.6	-0.2	0.18
28/Aug/ 0	10:10:22	2.67	4.6	152.2	0.1	0.53
28/Aug/ 0	10:10:32	2.83	5.6	512.3	0.1	1.02
28/Aug/ 0	10:10:42	3.00	6.5	936.3	0.4	1.22
28/Aug/ 0	10:10:52	3.17	7.6	1166.0	0.1	1.57
28/Aug/ 0	10:11: 2	3.33	8.7	1177.3	0.7	1.85
28/Aug/ 0	10:11:12	3.50	9.4	1146.4	0.4	2.07
28/Aug/ 0	10:11:22	3.67	10.1	1104.4	0.1	2.20
28/Aug/ 0	10:11:32	3.83	10.4	1076.4	-0.2	2.26
28/Aug/ 0	10:11:42	4.00	10.6	1091.2	-0.5	2.22
28/Aug/ 0	10:11:52	4.17	10.5	1090.3	0.1	2.18
28/Aug/ 0	10:12: 2	4.33	10.4	1081.9	0.4	2.06
28/Aug/ 0	10:12:12	4.50	10.3	1103.7	0.2	1.96
28/Aug/ 0	10:12:22	4.67	14.0	1037.5	-1.1	2.13
28/Aug/ 0	10:12:32	4.83	24.9	467.7	-0.7	3.72
28/Aug/ 0	10:12:42	5.00	34.8	199.3	0.3	4.69
28/Aug/ 0	10:12:52	5.17	43.4	76.7	0.4	5.59
28/Aug/ 0	10:13: 2	5.33	47.8	30.4	-0.1	6.18
28/Aug/ 0	10:13:12	5.50	50.0	21.7	0.4	6.41
28/Aug/ 0	10:13:22	5.67	51.3	20.1	0.6	6.54
28/Aug/ 0	10:13:32	5.83	51.9	20.2	0.1	6.53
28/Aug/ 0	10:13:42	6.00	50.6	22.9	0.3	6.46
28/Aug/ 0	10:13:52	6.17	48.2	35.7	-0.0	5.78
28/Aug/ 0	10:14: 2	6.33	47.8	29.5	0.1	5.70
28/Aug/ 0	10:14:12	6.50	47.9	23.6	-0.5	5.82
28/Aug/ 0	10:14:22	6.67	49.0	19.9	-0.6	5.97
28/Aug/ 0	10:14:32	6.83	47.8	22.2	0.4	5.84
28/Aug/ 0	10:14:42	7.00	51.0	30.6	-0.1	5.43
28/Aug/ 0	10:14:52	7.17	396.2	25.9	1.6	6.59
28/Aug/ 0	10:15: 2	7.33	876.7	22.5	1.7	10.99
28/Aug/ 0	10:15:12	7.50	1278.0	24.2	3.3	13.34
28/Aug/ 0	10:15:22	7.67	1538.8	27.4	3.2	15.86
28/Aug/ 0	10:15:32	7.83	1714.1	28.3	2.8	17.13
28/Aug/ 0	10:15:42	8.00	1802.1	27.1	3.0	17.12
						11.27

28/Aug/	0	10:15:52	8.17	1832.5	25.3	4.5	16.29	12.36
28/Aug/	0	10:16: 2	8.33	1853.5	23.2	3.8	15.74	13.09
28/Aug/	0	10:16:12	8.50	1883.6	21.6	3.3	15.49	13.53
28/Aug/	0	10:16:22	8.67	1858.9	19.4	3.7	15.01	14.19
28/Aug/	0	10:16:32	8.83	1826.5	17.5	4.1	13.96	15.25
28/Aug/	0	10:16:42	9.00	1828.6	15.7	4.2	13.76	15.46
28/Aug/	0	10:16:52	9.17	1865.5	14.1	3.7	13.69	15.47
28/Aug/	0	10:17: 2	9.33	1926.2	12.9	3.2	13.89	15.42
28/Aug/	0	10:17:12	9.50	1979.4	11.3	4.3	13.96	15.38
28/Aug/	0	10:17:22	9.67	2050.2	10.1	4.5	14.07	15.29
28/Aug/	0	10:17:32	9.83	2040.6	9.7	3.8	15.65	13.15
28/Aug/	0	10:17:42	10.00	1561.5	20.3	3.7	16.46	8.68
28/Aug/	0	10:17:52	10.17	1199.8	85.1	2.8	15.60	7.57
28/Aug/	0	10:18: 2	10.33	980.4	87.2	2.1	14.89	7.62
28/Aug/	0	10:18:12	10.50	864.9	52.0	1.9	14.06	8.30
28/Aug/	0	10:18:22	10.67	804.3	21.1	2.6	13.74	8.49
28/Aug/	0	10:18:32	10.83	770.5	9.3	1.9	13.54	8.62
28/Aug/	0	10:18:42	11.00	720.2	5.7	1.6	13.51	8.09
28/Aug/	0	10:18:52	11.17	694.0	7.7	1.8	13.87	7.45
28/Aug/	0	10:19: 2	11.33	680.0	15.8	1.4	13.76	7.61
28/Aug/	0	10:19:12	11.50	672.5	11.3	1.4	13.41	7.97
28/Aug/	0	10:19:22	11.67	610.5	6.2	1.2	13.23	7.89
28/Aug/	0	10:19:32	11.83	386.2	19.9	1.5	10.32	10.99
28/Aug/	0	10:19:42	12.00	226.8	32.1	0.3	6.88	12.01
28/Aug/	0	10:19:52	12.17	132.7	19.2	0.7	6.88	11.38
28/Aug/	0	10:20: 2	12.33	87.5	14.8	0.4	6.23	11.01
28/Aug/	0	10:20:12	12.50	64.6	11.7	0.5	5.67	10.78
28/Aug/	0	10:20:22	12.67	52.8	10.1	0.3	5.17	10.63
28/Aug/	0	10:20:32	12.83	46.4	9.4	0.0	4.83	10.37
28/Aug/	0	10:20:42	13.00	42.5	9.0	-0.3	4.49	10.23
28/Aug/	0	10:20:52	13.17	39.2	21.7	-0.0	4.04	10.26
28/Aug/	0	10:21: 2	13.33	36.4	29.6	-0.0	3.70	10.54
28/Aug/	0	10:21:12	13.50	34.0	29.6	0.2	3.47	10.50
28/Aug/	0	10:21:22	13.67	31.8	28.2	0.3	3.26	10.68
28/Aug/	0	10:21:32	13.83	29.7	27.4	0.8	3.02	10.93
28/Aug/	0	10:21:42	14.00	27.8	24.6	0.6	2.83	11.09
28/Aug/	0	10:21:52	14.17	26.0	22.1	0.7	2.64	11.31
28/Aug/	0	10:22: 2	14.33	24.6	20.2	0.8	2.46	11.53
28/Aug/	0	10:22:12	14.50	23.4	18.5	0.9	2.31	11.73
28/Aug/	0	10:22:22	14.67	22.2	17.2	0.3	2.18	11.95
28/Aug/	0	10:22:32	14.83	21.1	17.5	0.8	2.05	12.15
28/Aug/	0	10:22:42	15.00	20.2	17.6	0.2	1.93	12.36
28/Aug/	0	10:22:52	15.17	19.2	17.2	-0.5	1.82	12.59
28/Aug/	0	10:23: 2	15.33	18.6	16.5	0.5	1.72	12.79
28/Aug/	0	10:23:12	15.50	17.4	15.6	0.7	1.63	13.02
28/Aug/	0	10:23:22	15.67	17.0	15.1	0.4	1.55	13.24
28/Aug/	0	10:23:32	15.83	16.5	14.3	0.4	1.47	13.46
28/Aug/	0	10:23:42	16.00	15.6	13.7	-0.1	1.40	13.69
28/Aug/	0	10:23:52	16.17	15.4	12.8	-0.5	1.33	13.94
28/Aug/	0	10:24: 2	16.33	14.9	9.0	0.1	1.24	14.18
28/Aug/	0	10:24:12	16.50	14.5	6.8	-0.4	1.17	14.44
28/Aug/	0	10:24:22	16.67	14.0	5.4	0.0	1.12	14.66
28/Aug/	0	10:24:32	16.83	13.6	5.0	0.5	1.06	14.92
28/Aug/	0	10:24:42	17.00	13.4	4.4	-0.4	1.01	15.15

28/Aug/	0	10:24:52	17.17	12.9	3.8	-0.7	0.96	15.39
28/Aug/	0	10:25: 2	17.33	12.5	3.5	-0.5	0.91	15.64
28/Aug/	0	10:25:12	17.50	12.3	3.4	-0.3	0.86	15.89
28/Aug/	0	10:25:22	17.67	12.0	3.0	0.2	0.81	16.12
28/Aug/	0	10:25:32	17.83	11.6	2.7	-0.2	0.77	16.34
28/Aug/	0	10:25:42	18.00	11.1	2.6	-0.2	0.73	16.57
28/Aug/	0	10:25:52	18.17	11.0	2.1	0.1	0.69	16.78
28/Aug/	0	10:26: 2	18.33	10.8	2.0	-0.5	0.65	16.98
28/Aug/	0	10:26:12	18.50	10.8	1.9	0.3	0.61	17.19
28/Aug/	0	10:26:22	18.67	10.5	1.8	-0.0	0.58	17.41
28/Aug/	0	10:26:32	18.83	46.8	5.2	1.0	0.53	27.81
28/Aug/	0	10:26:42	19.00	272.8	11.9	0.9	2.16	37.63
28/Aug/	0	10:26:52	19.17	247.1	10.2	0.9	1.81	29.13
28/Aug/	0	10:27: 2	19.33	252.8	16.6	0.5	1.89	23.76
28/Aug/	0	10:27:12	19.50	324.7	4.6	0.7	7.38	13.62
28/Aug/	0	10:27:22	19.67	379.2	2.8	0.1	10.24	9.75
28/Aug/	0	10:27:32	19.83	411.4	50.5	0.1	12.39	7.21
28/Aug/	0	10:27:42	20.00	410.3	2069.6	1.1	13.73	5.32
28/Aug/	0	10:27:52	20.17	401.1	2081.2	2.1	14.14	4.79
28/Aug/	0	10:28: 2	20.33	384.3	2074.4	0.9	14.26	4.58
28/Aug/	0	10:28:12	20.50	398.8	2071.9	1.6	14.31	4.49
28/Aug/	0	10:28:22	20.67	430.8	1890.6	1.9	13.75	4.59
28/Aug/	0	10:28:32	20.83	448.9	699.2	0.5	13.99	4.54
28/Aug/	0	10:28:42	21.00	459.4	469.5	0.6	14.05	4.49
28/Aug/	0	10:28:52	21.17	457.6	2058.0	-7.6	14.29	4.47
28/Aug/	0	10:29: 2	21.33	445.9	2072.2	2.0	14.52	4.41
28/Aug/	0	10:29:12	21.50	406.7	2069.0	1.0	14.59	4.41
28/Aug/	0	10:29:22	21.67	430.3	2064.8	1.9	14.52	4.40
28/Aug/	0	10:29:32	21.83	495.0	1821.3	1.7	13.75	4.56
28/Aug/	0	10:29:42	22.00	536.8	433.5	1.6	13.81	4.63
28/Aug/	0	10:29:52	22.17	559.2	226.1	1.9	14.04	4.64
28/Aug/	0	10:30: 2	22.33	575.5	210.4	2.3	14.18	4.65
28/Aug/	0	10:30:12	22.50	589.8	197.0	2.0	14.18	4.73
28/Aug/	0	10:30:22	22.67	607.3	173.7	1.9	13.88	5.05
28/Aug/	0	10:30:32	22.83	625.1	145.2	1.8	13.59	5.46
28/Aug/	0	10:30:42	23.00	596.0	119.1	1.4	13.06	6.07
28/Aug/	0	10:30:52	23.17	558.3	88.6	1.6	12.85	6.10
28/Aug/	0	10:31: 2	23.33	536.0	80.4	1.4	12.79	6.21
28/Aug/	0	10:31:12	23.50	526.3	77.8	1.9	12.73	6.31
28/Aug/	0	10:31:22	23.67	523.0	73.2	2.1	12.49	6.66
28/Aug/	0	10:31:32	23.83	522.7	61.7	1.8	12.33	6.92
28/Aug/	0	10:31:42	24.00	498.0	50.2	0.8	12.26	6.96
28/Aug/	0	10:31:52	24.17	438.3	50.0	1.3	12.33	6.26
28/Aug/	0	10:32: 2	24.33	394.8	64.6	1.1	12.38	5.97
28/Aug/	0	10:32:12	24.50	371.2	77.6	0.7	12.22	6.06
28/Aug/	0	10:32:22	24.67	362.4	70.4	1.4	12.10	6.18
28/Aug/	0	10:32:32	24.83	358.8	61.4	1.4	12.03	6.24
28/Aug/	0	10:32:42	25.00	358.1	57.1	1.4	11.99	6.33
28/Aug/	0	10:32:52	25.17	358.0	50.6	0.8	11.82	6.55
28/Aug/	0	10:33: 2	25.33	358.9	39.8	2.2	11.67	6.72
28/Aug/	0	10:33:12	25.50	359.2	40.3	1.5	11.62	6.80
28/Aug/	0	10:33:22	25.67	359.7	36.8	1.7	11.60	6.83
28/Aug/	0	10:33:32	25.83	361.4	35.0	0.8	11.60	6.86
28/Aug/	0	10:33:42	26.00	364.5	34.3	0.8	11.59	6.89

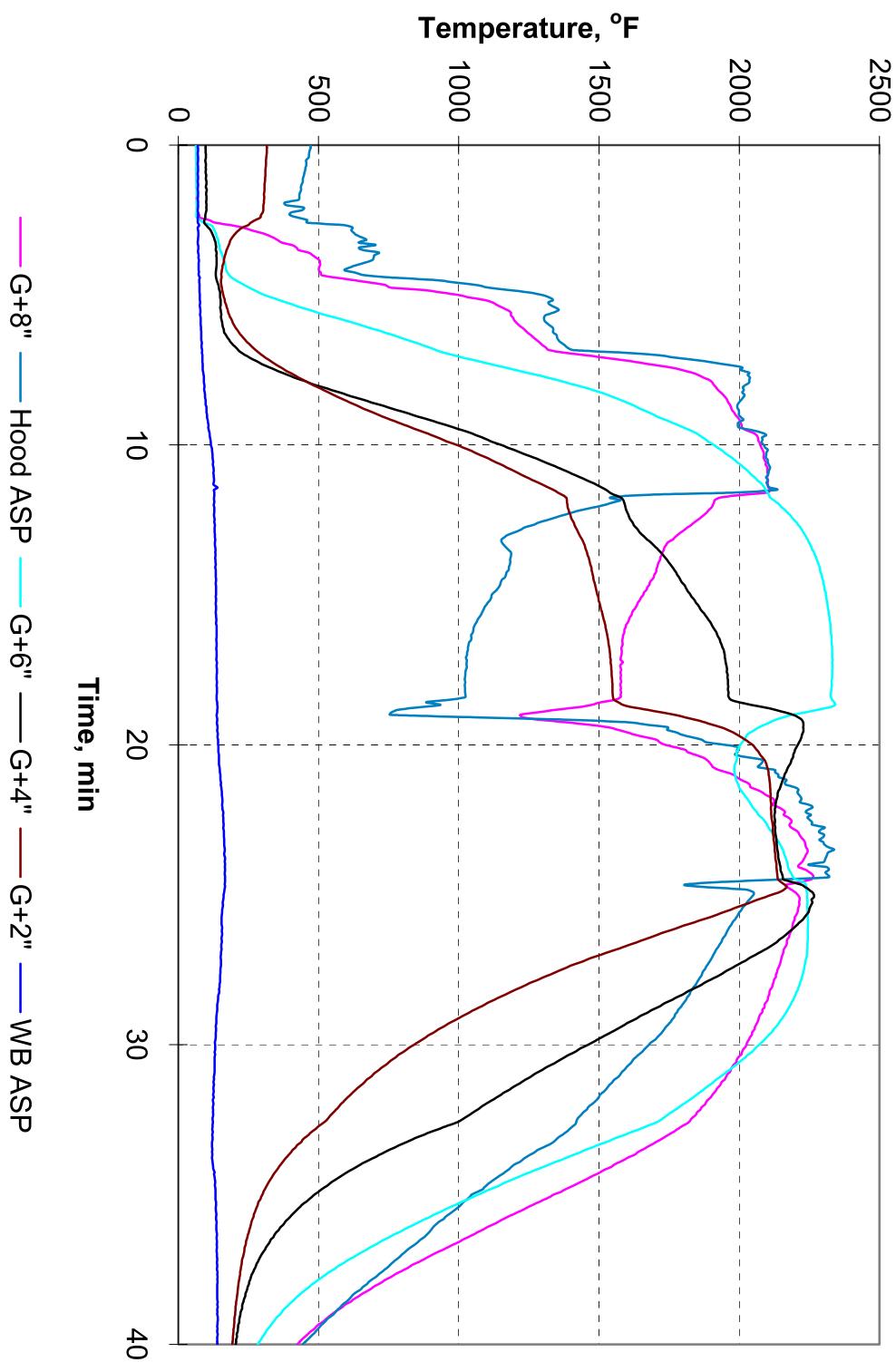
28/Aug/	0	10:33:52	26.17	365.7	33.0	1.4	11.58	6.89
28/Aug/	0	10:34: 2	26.33	366.3	33.4	0.6	11.61	6.89
28/Aug/	0	10:34:12	26.50	367.0	32.9	1.3	11.57	6.95
28/Aug/	0	10:34:22	26.67	367.0	30.4	2.1	11.37	7.20
28/Aug/	0	10:34:32	26.83	367.1	23.7	1.4	11.10	7.52
28/Aug/	0	10:34:42	27.00	369.5	17.0	1.2	10.97	7.66
28/Aug/	0	10:34:52	27.17	369.5	13.6	1.2	10.91	7.75
28/Aug/	0	10:35: 2	27.33	371.2	12.1	1.1	10.89	7.79
28/Aug/	0	10:35:12	27.50	374.3	12.1	0.7	11.15	7.49
28/Aug/	0	10:35:22	27.67	375.9	15.7	1.5	11.46	7.16
28/Aug/	0	10:35:32	27.83	377.1	21.5	1.2	11.52	7.08
28/Aug/	0	10:35:42	28.00	379.5	24.6	1.3	11.62	6.99
28/Aug/	0	10:35:52	28.17	379.2	28.3	1.8	11.49	7.13
28/Aug/	0	10:36: 2	28.33	376.4	23.6	2.0	10.82	7.88
28/Aug/	0	10:36:12	28.50	371.9	15.2	1.0	10.32	8.46
28/Aug/	0	10:36:22	28.67	374.4	11.9	1.5	10.67	8.04
28/Aug/	0	10:36:32	28.83	378.1	11.8	1.8	11.18	7.54
28/Aug/	0	10:36:42	29.00	380.2	14.7	1.4	11.34	7.38
28/Aug/	0	10:36:52	29.17	380.9	17.0	1.4	11.22	7.50
28/Aug/	0	10:37: 2	29.33	381.8	15.0	1.4	10.88	7.86
28/Aug/	0	10:37:12	29.50	380.7	11.4	1.1	10.73	8.04
28/Aug/	0	10:37:22	29.67	380.6	10.1	1.8	10.69	8.11
28/Aug/	0	10:37:32	29.83	380.8	9.3	1.8	10.64	8.18
28/Aug/	0	10:37:42	30.00	381.6	8.9	0.9	10.64	8.20
28/Aug/	0	10:37:52	30.17	381.6	9.0	1.8	10.63	8.22
28/Aug/	0	10:38: 2	30.33	381.8	8.9	1.9	10.62	8.23
28/Aug/	0	10:38:12	30.50	381.0	8.9	1.1	10.60	8.28
28/Aug/	0	10:38:22	30.67	381.2	8.7	1.2	10.55	8.29
28/Aug/	0	10:38:32	30.83	380.4	8.8	2.0	10.53	8.35
28/Aug/	0	10:38:42	31.00	380.7	8.5	1.8	10.48	8.42
28/Aug/	0	10:38:52	31.17	380.8	8.4	1.8	10.42	8.46
28/Aug/	0	10:39: 2	31.33	377.1	8.4	0.5	10.36	8.54
28/Aug/	0	10:39:12	31.50	377.3	8.3	1.0	10.32	8.58
28/Aug/	0	10:39:22	31.67	375.9	8.0	1.1	10.31	8.60
28/Aug/	0	10:39:32	31.83	377.2	8.1	0.5	10.30	8.61
28/Aug/	0	10:39:42	32.00	378.0	7.9	1.0	10.31	8.61
28/Aug/	0	10:39:52	32.17	378.4	8.1	2.2	10.33	8.61
28/Aug/	0	10:40: 2	32.33	378.9	8.0	1.7	10.31	8.63
28/Aug/	0	10:40:12	32.50	380.5	7.7	1.7	10.31	8.64
28/Aug/	0	10:40:22	32.67	380.5	7.8	1.1	10.32	8.63
28/Aug/	0	10:40:32	32.83	380.7	7.5	0.8	10.29	8.67
28/Aug/	0	10:40:42	33.00	380.1	7.3	1.3	10.26	8.70
28/Aug/	0	10:40:52	33.17	379.0	7.4	1.0	10.22	8.75
28/Aug/	0	10:41: 2	33.33	377.1	7.2	1.1	10.17	8.80
28/Aug/	0	10:41:12	33.50	376.3	7.2	1.1	10.11	8.84
28/Aug/	0	10:41:22	33.67	376.4	7.3	1.4	10.13	8.83
28/Aug/	0	10:41:32	33.83	376.7	7.0	1.0	10.14	8.84
28/Aug/	0	10:41:42	34.00	377.8	7.0	1.3	10.13	8.85
28/Aug/	0	10:41:52	34.17	377.4	7.0	0.9	10.13	8.86
28/Aug/	0	10:42: 2	34.33	378.5	6.9	0.4	10.13	8.87
28/Aug/	0	10:42:12	34.50	376.9	6.8	1.2	10.12	8.86
28/Aug/	0	10:42:22	34.67	282.7	6.9	1.2	9.76	8.98
28/Aug/	0	10:42:32	34.83	163.9	7.7	0.5	4.09	16.13
28/Aug/	0	10:42:42	35.00	86.6	6.4	0.5	1.16	19.87

28/Aug/	0	10:42:52	35.17	47.1	5.8	0.4	0.52	20.66
28/Aug/	0	10:43: 2	35.33	26.6	5.6	0.9	0.43	20.71
28/Aug/	0	10:43:12	35.50	18.3	4.8	0.3	0.40	20.87
28/Aug/	0	10:43:22	35.67	14.1	4.7	-0.4	0.39	20.84
28/Aug/	0	10:43:32	35.83	12.1	4.3	-0.6	0.38	20.91
28/Aug/	0	10:43:42	36.00	10.9	4.2	0.2	0.38	20.90
28/Aug/	0	10:43:52	36.17	10.2	3.8	-0.0	0.37	20.93
28/Aug/	0	10:44: 2	36.33	9.8	3.7	-0.4	0.37	20.94
28/Aug/	0	10:44:12	36.50	9.4	3.6	0.3	0.36	20.95
28/Aug/	0	10:44:22	36.67	9.4	3.7	0.4	0.36	20.96
28/Aug/	0	10:44:32	36.83	8.9	3.6	0.8	0.36	20.95
28/Aug/	0	10:44:42	37.00	8.9	3.3	0.3	0.36	20.96
28/Aug/	0	10:44:52	37.17	8.7	3.2	0.5	0.36	20.95
28/Aug/	0	10:45: 2	37.33	8.4	3.0	0.6	0.36	20.97
28/Aug/	0	10:45:12	37.50	8.4	2.5	-0.3	0.35	20.97
28/Aug/	0	10:45:22	37.67	8.3	2.9	0.4	0.35	20.98
28/Aug/	0	10:45:32	37.83	8.2	3.0	0.6	0.35	20.97
28/Aug/	0	10:45:42	38.00	8.0	2.7	0.4	0.35	20.98
28/Aug/	0	10:45:52	38.17	7.9	2.8	0.3	0.35	20.99
28/Aug/	0	10:46: 2	38.33	7.9	2.3	-0.3	0.35	20.98
28/Aug/	0	10:46:12	38.50	7.8	2.6	-0.0	0.35	20.98
28/Aug/	0	10:46:22	38.67	7.9	2.6	0.0	0.35	20.98
28/Aug/	0	10:46:32	38.83	7.7	2.4	-0.5	0.34	20.99
28/Aug/	0	10:46:42	39.00	7.6	2.3	-0.3	0.34	20.99
28/Aug/	0	10:46:52	39.17	7.7	2.4	0.3	0.34	20.99
28/Aug/	0	10:47: 2	39.33	7.6	2.3	0.9	0.34	20.99
28/Aug/	0	10:47:12	39.50	7.6	2.3	0.7	0.34	20.99
28/Aug/	0	10:47:22	39.67	7.5	2.1	-0.4	0.34	20.99
28/Aug/	0	10:47:32	39.83	7.4	1.7	-0.0	0.34	20.99
28/Aug/	0	10:47:42	40.00	7.6	2.2	0.6	0.34	20.99
28/Aug/	0	10:47:52	40.17	7.4	2.0	-0.2	0.34	21.00
28/Aug/	0	10:48: 2	40.33	7.4	1.7	0.3	0.33	20.99
28/Aug/	0	10:48:12	40.50	7.5	2.2	0.6	0.33	21.00
28/Aug/	0	10:48:22	40.67	7.3	2.0	-0.2	0.33	20.99
28/Aug/	0	10:48:32	40.83	7.4	1.8	0.2	0.33	21.00
28/Aug/	0	10:48:42	41.00	7.4	2.1	-0.2	0.33	20.99
28/Aug/	0	10:48:52	41.17	7.4	1.8	-0.6	0.33	21.01
28/Aug/	0	10:49: 2	41.33	7.3	1.7	-0.0	0.33	20.99
28/Aug/	0	10:49:12	41.50	7.5	1.7	-0.3	0.33	21.01
28/Aug/	0	10:49:22	41.67	7.3	1.5	1.0	0.33	21.00
28/Aug/	0	10:49:32	41.83	7.2	1.6	-0.1	0.33	21.00
28/Aug/	0	10:49:42	42.00	7.5	1.2	0.5	0.32	21.00
28/Aug/	0	10:49:52	42.17	7.5	1.4	0.5	0.33	21.01
28/Aug/	0	10:50: 2	42.33	7.5	1.5	0.5	0.32	20.99
28/Aug/	0	10:50:12	42.50	7.5	1.1	0.4	0.32	21.01
28/Aug/	0	10:50:22	42.67	7.4	1.5	-0.0	0.32	21.00
28/Aug/	0	10:50:32	42.83	7.3	1.3	0.3	0.32	21.01
28/Aug/	0	10:50:42	43.00	7.4	1.2	0.3	0.32	21.01

Test 10 Pot-Grate NOx - 1% Coal Stoichiometric Air – 2350

Time Max	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
0	67	472	63	97	316	69
1	66	448	65	100	310	69
2	68	385	65	100	303	70
3	319	636	136	123	198	72
4	506	638	167	136	159	73
5	1002	1299	308	150	160	76
6	1214	1322	650	157	199	80
7	1443	1701	978	237	297	85
8	1910	2022	1417	489	480	93
9	1987	1999	1697	836	715	102
10	2075	2087	1909	1150	992	116
11	2101	2103	2045	1415	1225	126
12	1906	1520	2144	1593	1387	127
13	1781	1176	2234	1654	1430	131
14	1710	1182	2283	1756	1469	133
15	1658	1117	2309	1827	1494	135
16	1596	1057	2325	1902	1522	135
17	1580	1029	2332	1949	1540	136
18	1576	1021	2330	1960	1548	136
19	1220	755	2191	2191	1768	137
20	1733	1943	2004	2210	2047	141
21	1980	2140	1985	2162	2105	150
22	2120	2248	2042	2129	2114	156
23	2214	2302	2121	2129	2121	162
24	2213	2247	2173	2145	2132	166
25	2208	2051	2242	2266	2117	162
26	2191	1972	2245	2208	1815	154
27	2155	1908	2241	2059	1508	152
28	2120	1845	2215	1866	1243	147
29	2075	1771	2163	1659	1024	136
30	2027	1678	2072	1462	841	132
31	1957	1576	1943	1268	695	128
32	1878	1474	1798	1094	578	125
33	1748	1371	1595	877	466	121
34	1556	1199	1323	650	366	123
35	1340	1047	1071	486	300	132
36	1122	918	842	375	258	135
37	908	798	641	297	233	138
38	713	672	477	251	214	139
39	546	552	362	221	203	139
40	425	444	283	204	192	140

**Pot Grate NO_x Test Stoichiometric Air 2350F
Test #00-10, Coal Temperature Profile**



Test 10 Pot-Grate Gas Analysis

<u>Date/Clock</u>		<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, ppm</u>
29/Aug/ 0	10: 8: 8	0.00	3.0	-0.6	-0.3	0.07	21.00
29/Aug/ 0	10: 8:18	0.17	3.0	-0.3	0.5	0.07	21.00
29/Aug/ 0	10: 8:28	0.33	3.1	-0.3	0.4	0.07	21.00
29/Aug/ 0	10: 8:38	0.50	3.0	-0.3	0.9	0.07	20.99
29/Aug/ 0	10: 8:48	0.67	3.2	-0.5	0.7	0.07	21.00
29/Aug/ 0	10: 8:58	0.83	3.0	-0.5	0.0	0.06	21.01
29/Aug/ 0	10: 9: 8	1.00	3.2	-0.7	0.5	0.06	21.00
29/Aug/ 0	10: 9:18	1.17	3.1	-1.0	0.7	0.06	21.02
29/Aug/ 0	10: 9:28	1.33	3.1	-1.0	-0.1	0.06	21.00
29/Aug/ 0	10: 9:38	1.50	3.2	-1.2	-0.1	0.06	21.01
29/Aug/ 0	10: 9:48	1.67	3.1	-0.9	0.1	0.06	21.00
29/Aug/ 0	10: 9:58	1.83	3.1	-1.0	0.2	0.06	21.02
29/Aug/ 0	10:10: 8	2.00	3.2	-1.1	0.1	0.05	21.00
29/Aug/ 0	10:10:18	2.17	3.2	-1.2	0.7	0.05	21.01
29/Aug/ 0	10:10:28	2.33	3.3	-1.3	0.6	0.05	21.00
29/Aug/ 0	10:10:38	2.50	3.4	-1.4	0.5	0.05	21.02
29/Aug/ 0	10:10:48	2.67	3.2	-1.1	1.1	0.05	21.00
29/Aug/ 0	10:10:58	2.83	3.5	0.5	0.1	0.05	20.95
29/Aug/ 0	10:11: 8	3.00	4.4	152.0	0.6	0.07	20.10
29/Aug/ 0	10:11:18	3.17	6.6	532.4	0.6	0.16	18.87
29/Aug/ 0	10:11:28	3.33	8.6	964.5	-0.2	0.43	18.09
29/Aug/ 0	10:11:38	3.50	9.3	1108.1	0.0	0.79	18.02
29/Aug/ 0	10:11:48	3.67	10.4	1078.4	0.4	1.10	17.81
29/Aug/ 0	10:11:58	3.83	10.9	1016.4	0.7	1.40	17.84
29/Aug/ 0	10:12: 8	4.00	11.0	963.0	0.4	1.61	18.13
29/Aug/ 0	10:12:18	4.17	11.4	959.2	0.1	1.77	17.61
29/Aug/ 0	10:12:28	4.33	11.5	985.1	0.6	1.93	17.81
29/Aug/ 0	10:12:38	4.50	11.1	975.2	0.2	2.02	18.22
29/Aug/ 0	10:12:48	4.67	10.2	965.6	-1.2	2.00	18.69
29/Aug/ 0	10:12:58	4.83	10.4	1005.8	-0.2	1.92	18.29
29/Aug/ 0	10:13: 8	5.00	16.7	862.3	0.2	1.96	16.48
29/Aug/ 0	10:13:18	5.17	27.8	373.3	-0.1	2.41	14.60
29/Aug/ 0	10:13:28	5.33	39.5	153.2	-0.0	3.16	13.31
29/Aug/ 0	10:13:38	5.50	49.5	83.8	0.6	3.97	11.77
29/Aug/ 0	10:13:48	5.67	54.4	110.8	0.6	5.16	11.12
29/Aug/ 0	10:13:58	5.83	54.1	161.6	0.5	5.95	11.55
29/Aug/ 0	10:14: 8	6.00	54.0	204.9	0.3	6.18	11.53
29/Aug/ 0	10:14:18	6.17	51.9	251.2	0.5	6.30	12.14
29/Aug/ 0	10:14:28	6.33	50.9	308.6	0.3	6.11	12.60
29/Aug/ 0	10:14:38	6.50	52.6	352.2	0.2	5.92	12.57
29/Aug/ 0	10:14:48	6.67	56.2	404.5	0.3	5.89	12.41
29/Aug/ 0	10:14:58	6.83	60.6	455.4	0.3	5.97	12.39
29/Aug/ 0	10:15: 8	7.00	66.2	491.4	0.1	6.03	12.28
29/Aug/ 0	10:15:18	7.17	72.3	523.1	0.3	6.14	12.04
29/Aug/ 0	10:15:28	7.33	106.1	540.1	0.9	6.30	11.75
29/Aug/ 0	10:15:38	7.50	523.2	632.5	1.4	7.12	11.58
29/Aug/ 0	10:15:48	7.67	996.5	857.1	2.4	10.44	11.78
29/Aug/ 0	10:15:58	7.83	1380.9	730.0	2.8	14.18	9.58
29/Aug/ 0	10:16: 8	8.00	1589.2	664.8	3.3	17.64	8.93

29/Aug/	0	10:16:18	8.17	1695.8	756.2	4.2	18.61	9.76
29/Aug/	0	10:16:28	8.33	1763.5	850.3	3.7	18.64	10.92
29/Aug/	0	10:16:38	8.50	1764.1	885.7	4.6	18.32	12.13
29/Aug/	0	10:16:48	8.67	1756.5	876.2	4.0	17.76	13.03
29/Aug/	0	10:16:58	8.83	1755.3	822.1	3.7	17.43	13.43
29/Aug/	0	10:17: 8	9.00	1732.6	768.7	3.9	17.28	13.93
29/Aug/	0	10:17:18	9.17	1660.4	696.9	3.0	16.95	13.63
29/Aug/	0	10:17:28	9.33	1597.0	616.6	2.5	16.73	13.21
29/Aug/	0	10:17:38	9.50	1577.7	567.4	3.0	16.59	13.09
29/Aug/	0	10:17:48	9.67	1572.1	526.7	3.1	16.63	13.02
29/Aug/	0	10:17:58	9.83	1553.1	497.5	2.6	16.52	13.33
29/Aug/	0	10:18: 8	10.00	1498.2	457.4	3.9	16.32	12.80
29/Aug/	0	10:18:18	10.17	1203.2	288.4	2.7	17.23	7.60
29/Aug/	0	10:18:28	10.33	970.9	352.7	2.7	17.54	6.72
29/Aug/	0	10:18:38	10.50	845.9	363.0	2.1	16.68	7.02
29/Aug/	0	10:18:48	10.67	789.0	322.2	1.9	16.20	6.94
29/Aug/	0	10:18:58	10.83	766.0	318.8	1.6	16.04	7.12
29/Aug/	0	10:19: 8	11.00	757.4	303.7	1.9	15.81	7.25
29/Aug/	0	10:19:18	11.17	757.5	276.0	2.5	15.76	7.19
29/Aug/	0	10:19:28	11.33	757.8	273.2	2.6	15.78	7.18
29/Aug/	0	10:19:38	11.50	757.2	276.5	2.2	15.58	7.64
29/Aug/	0	10:19:48	11.67	754.7	239.3	1.7	15.23	7.83
29/Aug/	0	10:19:58	11.83	744.8	215.0	2.2	15.06	7.89
29/Aug/	0	10:20: 8	12.00	568.5	507.4	1.3	14.97	6.56
29/Aug/	0	10:20:18	12.17	360.3	951.0	0.9	13.98	9.41
29/Aug/	0	10:20:28	12.33	218.0	440.4	0.6	9.78	13.27
29/Aug/	0	10:20:38	12.50	151.0	205.4	0.1	7.83	11.19
29/Aug/	0	10:20:48	12.67	117.4	151.7	0.2	8.28	10.65
29/Aug/	0	10:20:58	12.83	96.1	126.6	0.6	8.18	10.77
29/Aug/	0	10:21: 8	13.00	84.3	109.3	0.9	7.69	11.07
29/Aug/	0	10:21:18	13.17	75.5	92.0	0.5	7.05	11.36
29/Aug/	0	10:21:28	13.33	69.0	79.8	0.3	6.46	11.69
29/Aug/	0	10:21:38	13.50	63.3	69.2	0.7	5.99	11.99
29/Aug/	0	10:21:48	13.67	58.9	60.3	-0.2	5.54	12.33
29/Aug/	0	10:21:58	13.83	55.0	52.0	0.3	5.19	12.32
29/Aug/	0	10:22: 8	14.00	51.8	43.3	0.2	5.07	11.82
29/Aug/	0	10:22:18	14.17	50.0	38.4	0.3	5.22	11.38
29/Aug/	0	10:22:28	14.33	47.9	35.9	-0.2	5.35	11.10
29/Aug/	0	10:22:38	14.50	45.9	34.3	0.6	5.38	10.96
29/Aug/	0	10:22:48	14.67	43.9	34.2	-0.0	5.32	10.73
29/Aug/	0	10:22:58	14.83	42.2	35.5	0.4	5.28	10.59
29/Aug/	0	10:23: 8	15.00	41.1	38.3	0.5	5.15	10.58
29/Aug/	0	10:23:18	15.17	39.3	40.1	-0.2	4.92	10.63
29/Aug/	0	10:23:28	15.33	38.3	39.4	-0.4	4.65	10.70
29/Aug/	0	10:23:38	15.50	36.6	37.8	-0.1	4.38	10.85
29/Aug/	0	10:23:48	15.67	35.5	36.1	1.1	4.11	11.03
29/Aug/	0	10:23:58	15.83	34.1	33.9	-0.3	3.91	11.18
29/Aug/	0	10:24: 8	16.00	32.7	32.6	-0.5	3.76	11.33
29/Aug/	0	10:24:18	16.17	32.0	31.2	-0.5	3.63	11.45
29/Aug/	0	10:24:28	16.33	30.6	29.9	-0.3	3.51	11.61
29/Aug/	0	10:24:38	16.50	29.8	28.9	0.8	3.39	11.73
29/Aug/	0	10:24:48	16.67	29.0	29.0	0.6	3.30	11.78
29/Aug/	0	10:24:58	16.83	28.1	30.4	0.5	3.25	11.79
29/Aug/	0	10:25: 8	17.00	27.9	32.6	0.1	3.21	11.71

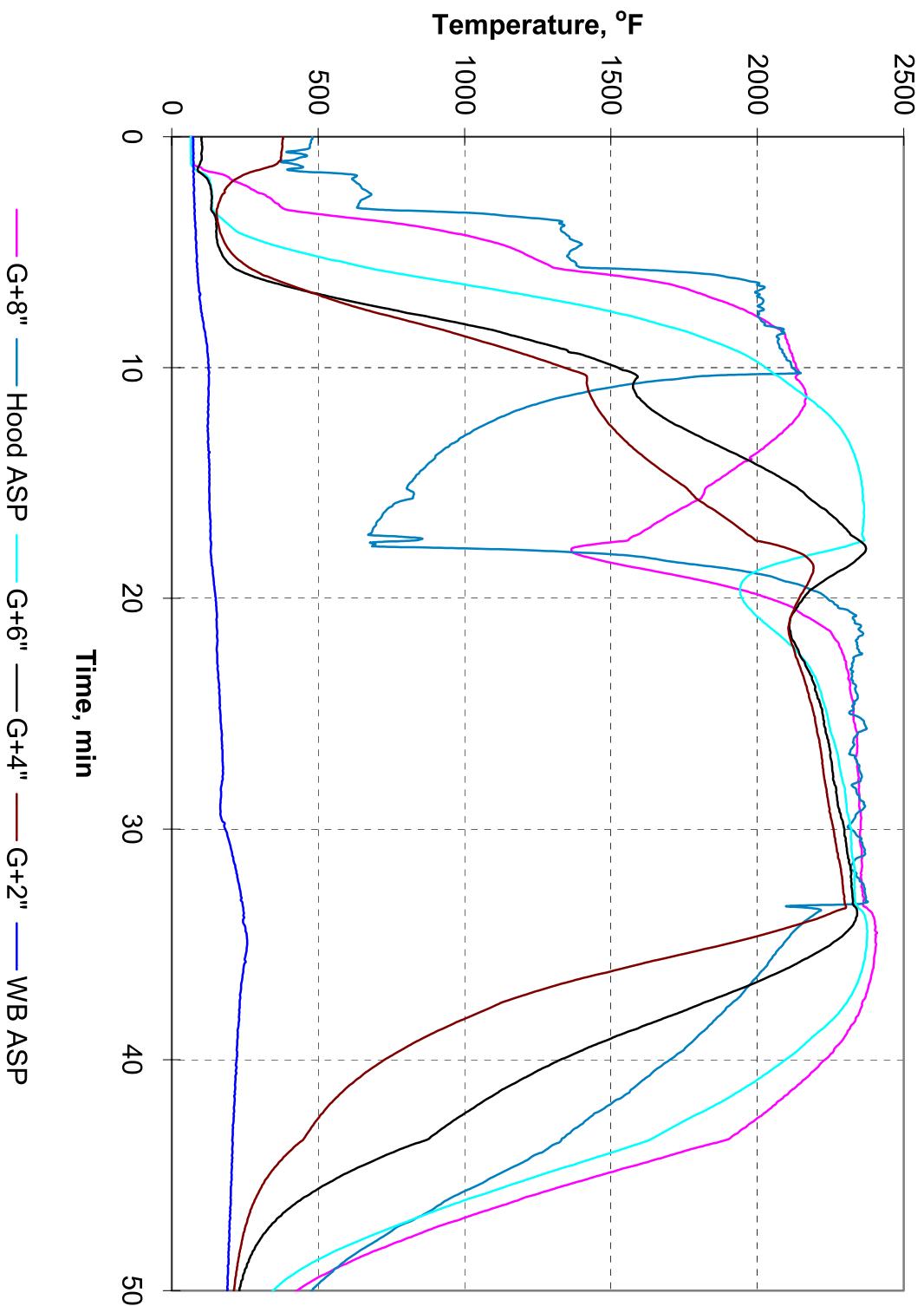
29/Aug/	0	10:25:18	17.17	27.5	37.2	0.5	3.21	11.69
29/Aug/	0	10:25:28	17.33	27.2	44.2	-0.1	3.24	11.64
29/Aug/	0	10:25:38	17.50	27.0	51.5	-0.4	3.28	11.68
29/Aug/	0	10:25:48	17.67	26.8	60.5	-0.2	3.32	11.70
29/Aug/	0	10:25:58	17.83	26.9	70.8	-0.5	3.37	11.75
29/Aug/	0	10:26: 8	18.00	26.9	81.2	-0.4	3.40	11.92
29/Aug/	0	10:26:18	18.17	26.8	90.7	0.3	3.44	12.10
29/Aug/	0	10:26:28	18.33	26.6	97.8	-0.1	3.44	12.34
29/Aug/	0	10:26:38	18.50	26.3	105.5	-0.2	3.43	12.72
29/Aug/	0	10:26:48	18.67	26.1	110.6	0.2	3.42	13.04
29/Aug/	0	10:26:58	18.83	25.6	113.4	0.3	3.39	13.49
29/Aug/	0	10:27: 8	19.00	26.6	125.1	-0.2	3.35	13.44
29/Aug/	0	10:27:18	19.17	91.6	76.3	-0.0	3.24	36.85
29/Aug/	0	10:27:28	19.33	115.4	24.4	0.7	3.21	39.75
29/Aug/	0	10:27:38	19.50	119.9	14.7	-0.8	2.85	33.40
29/Aug/	0	10:27:48	19.67	114.2	18.7	-0.5	2.68	19.69
29/Aug/	0	10:27:58	19.83	173.9	541.3	0.5	5.33	8.73
29/Aug/	0	10:28: 8	20.00	203.1	2110.1	0.4	10.00	5.55
29/Aug/	0	10:28:18	20.17	218.2	2100.5	0.7	12.62	5.05
29/Aug/	0	10:28:28	20.33	231.2	2098.7	0.6	13.13	4.84
29/Aug/	0	10:28:38	20.50	230.6	2093.3	-0.3	13.36	4.71
29/Aug/	0	10:28:48	20.67	244.3	2092.3	0.3	13.54	4.62
29/Aug/	0	10:28:58	20.83	263.4	2087.0	0.8	13.59	4.67
29/Aug/	0	10:29: 8	21.00	267.5	2089.1	1.0	13.29	4.69
29/Aug/	0	10:29:18	21.17	247.0	2086.8	0.8	13.54	4.55
29/Aug/	0	10:29:28	21.33	245.3	2083.3	1.4	13.71	4.52
29/Aug/	0	10:29:38	21.50	265.2	2084.0	1.1	13.71	4.54
29/Aug/	0	10:29:48	21.67	275.3	2083.3	0.4	13.72	4.54
29/Aug/	0	10:29:58	21.83	282.5	1832.0	1.0	13.62	4.55
29/Aug/	0	10:30: 8	22.00	293.9	2081.2	0.7	13.65	4.53
29/Aug/	0	10:30:18	22.17	317.8	1105.3	1.0	13.61	4.57
29/Aug/	0	10:30:28	22.33	331.2	370.0	0.8	13.50	4.62
29/Aug/	0	10:30:38	22.50	316.0	2096.6	0.3	13.58	4.58
29/Aug/	0	10:30:48	22.67	330.9	1891.0	-0.1	13.70	4.58
29/Aug/	0	10:30:58	22.83	330.7	2069.9	0.6	13.47	4.63
29/Aug/	0	10:31: 8	23.00	347.4	1681.5	0.9	13.39	4.74
29/Aug/	0	10:31:18	23.17	335.7	1924.5	1.3	13.44	4.67
29/Aug/	0	10:31:28	23.33	347.1	1946.8	1.0	13.83	4.63
29/Aug/	0	10:31:38	23.50	360.8	892.6	0.4	13.69	4.67
29/Aug/	0	10:31:48	23.67	375.8	632.8	0.1	13.65	4.74
29/Aug/	0	10:31:58	23.83	373.7	457.4	0.8	13.56	4.74
29/Aug/	0	10:32: 8	24.00	361.6	966.7	0.3	13.85	4.68
29/Aug/	0	10:32:18	24.17	328.3	1895.9	-0.2	14.03	4.67
29/Aug/	0	10:32:28	24.33	287.7	2095.1	0.5	14.23	4.64
29/Aug/	0	10:32:38	24.50	235.8	2090.7	-0.6	14.32	4.63
29/Aug/	0	10:32:48	24.67	267.7	2087.0	0.2	14.26	4.64
29/Aug/	0	10:32:58	24.83	344.0	1341.7	0.6	13.76	4.74
29/Aug/	0	10:33: 8	25.00	328.1	308.3	0.7	13.57	5.00
29/Aug/	0	10:33:18	25.17	204.2	127.1	0.5	9.86	8.36
29/Aug/	0	10:33:28	25.33	111.7	76.6	-0.1	4.87	16.23
29/Aug/	0	10:33:38	25.50	58.6	29.9	-0.8	2.90	19.53
29/Aug/	0	10:33:48	25.67	34.2	16.0	-0.8	1.96	20.34
29/Aug/	0	10:33:58	25.83	22.8	12.5	-0.1	1.45	20.63
29/Aug/	0	10:34: 8	26.00	17.2	10.9	0.7	1.12	20.75

29/Aug/	0	10:34:18	26.17	14.6	9.9	-0.6	0.93	20.83
29/Aug/	0	10:34:28	26.33	13.3	8.8	-0.7	0.80	20.87
29/Aug/	0	10:34:38	26.50	12.8	8.1	-0.4	0.70	20.89
29/Aug/	0	10:34:48	26.67	12.1	7.7	-0.6	0.63	20.92
29/Aug/	0	10:34:58	26.83	11.8	7.6	-0.4	0.58	20.94
29/Aug/	0	10:35: 8	27.00	11.6	7.3	0.8	0.54	20.96
29/Aug/	0	10:35:18	27.17	11.4	7.2	0.0	0.51	20.96
29/Aug/	0	10:35:28	27.33	11.3	6.8	-0.0	0.49	20.98
29/Aug/	0	10:35:38	27.50	11.2	6.6	0.3	0.46	20.97
29/Aug/	0	10:35:48	27.67	11.0	6.3	0.3	0.45	20.99
29/Aug/	0	10:35:58	27.83	11.0	5.9	-0.4	0.43	20.99
29/Aug/	0	10:36: 8	28.00	10.9	6.2	-0.4	0.42	21.00
29/Aug/	0	10:36:18	28.17	10.9	6.5	-0.0	0.41	20.99
29/Aug/	0	10:36:28	28.33	10.8	5.8	0.5	0.40	21.01
29/Aug/	0	10:36:38	28.50	10.9	5.4	-0.2	0.40	21.01
29/Aug/	0	10:36:48	28.67	10.7	5.3	0.1	0.39	21.01
29/Aug/	0	10:36:58	28.83	10.6	5.7	-0.3	0.38	21.00
29/Aug/	0	10:37: 8	29.00	10.8	5.8	0.2	0.38	21.02
29/Aug/	0	10:37:18	29.17	10.7	5.3	0.2	0.37	21.01
29/Aug/	0	10:37:28	29.33	10.8	4.9	0.1	0.37	21.02
29/Aug/	0	10:37:38	29.50	10.7	5.0	0.3	0.37	21.01
29/Aug/	0	10:37:48	29.67	10.6	4.9	0.0	0.36	21.02
29/Aug/	0	10:37:58	29.83	10.7	5.0	0.3	0.36	21.02
29/Aug/	0	10:38: 8	30.00	10.6	4.5	-0.3	0.35	21.03
29/Aug/	0	10:38:18	30.17	10.4	4.4	-0.2	0.35	21.02
29/Aug/	0	10:38:28	30.33	10.6	3.9	-0.3	0.35	21.03
29/Aug/	0	10:38:38	30.50	10.6	3.4	-0.4	0.34	21.02
29/Aug/	0	10:38:48	30.67	10.5	3.9	0.1	0.35	21.04
29/Aug/	0	10:38:58	30.83	10.4	4.0	-0.3	0.35	21.02
29/Aug/	0	10:39: 8	31.00	10.4	3.7	0.1	0.34	21.04
29/Aug/	0	10:39:18	31.17	10.2	3.5	-0.3	0.34	21.02
29/Aug/	0	10:39:28	31.33	10.5	3.3	0.2	0.34	21.03
29/Aug/	0	10:39:38	31.50	10.4	2.9	-0.8	0.33	21.01
29/Aug/	0	10:39:48	31.67	10.6	3.1	-0.3	0.33	21.04
29/Aug/	0	10:39:58	31.83	10.3	3.0	-0.3	0.33	21.03
29/Aug/	0	10:40: 8	32.00	10.2	3.1	0.4	0.33	21.04
29/Aug/	0	10:40:18	32.17	10.2	2.4	-0.3	0.33	21.03
29/Aug/	0	10:40:28	32.33	10.2	2.7	-0.3	0.33	21.04
29/Aug/	0	10:40:38	32.50	10.1	2.8	-0.5	0.33	21.03
29/Aug/	0	10:40:48	32.67	10.1	2.3	0.3	0.32	21.04
29/Aug/	0	10:40:58	32.83	10.2	2.4	0.6	0.32	21.04
29/Aug/	0	10:41: 8	33.00	10.2	2.1	0.4	0.32	21.04

Test 11 Pot Grate NOx – 1% Coal Stoichiometric Air – 2350F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2406	2371	2373	2367	2296	258
0	67	481	64	102	380	73
1	66	418	66	102	373	73
2	229	631	131	127	202	76
3	369	638	138	136	158	77
4	894	1329	212	153	163	81
5	1194	1359	438	169	202	85
6	1505	1866	807	267	313	88
7	1848	2015	1271	564	533	95
8	2029	2015	1631	951	811	107
9	2106	2074	1877	1279	1095	120
10	2133	2119	2029	1525	1341	125
11	2164	1434	2138	1580	1423	126
12	2145	1153	2239	1660	1467	124
13	2068	995	2303	1805	1535	124
14	1979	893	2337	1966	1624	128
15	1852	814	2356	2110	1732	129
16	1758	753	2364	2212	1829	129
17	1622	686	2360	2303	1943	132
18	1367	1366	2222	2367	2138	133
19	1721	2028	1972	2257	2186	141
20	2039	2238	1948	2157	2143	150
21	2196	2333	2018	2111	2110	153
22	2279	2340	2110	2130	2118	155
23	2304	2323	2180	2168	2147	156
24	2318	2336	2215	2197	2171	163
25	2328	2316	2238	2222	2193	166
26	2340	2334	2257	2238	2208	171
27	2338	2338	2278	2252	2221	173
28	2348	2338	2293	2262	2231	171
29	2348	2368	2304	2275	2244	166
30	2353	2318	2320	2297	2260	183
31	2357	2366	2322	2307	2272	206
32	2355	2337	2332	2320	2288	223
33	2365	2371	2333	2326	2296	238
34	2402	2162	2372	2333	2175	244
35	2406	2088	2373	2251	1886	258
36	2396	2026	2360	2109	1551	245
37	2376	1957	2329	1926	1252	236
38	2346	1879	2276	1725	1041	231
39	2298	1795	2190	1514	867	225
40	2231	1701	2096	1328	727	222
41	2147	1597	1984	1173	617	217
42	2053	1487	1850	1039	535	213
43	1949	1373	1700	921	473	208
44	1741	1267	1507	757	399	207
45	1466	1109	1258	582	331	205
46	1199	951	1021	447	287	201

**Pot Grate NO_x Test Stoichiometric Air 2350F
Test #00-11, 1% Coal Temperature Profile**



Test 11 Pot-Grate Gas Analysis

<u>Date/Clock</u>		<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, ppm</u>	<u>O2, ppm</u>
30/Aug/ 0	10: 8:47	0.00	4.1	1.8	0.2	0.07	20.97
30/Aug/ 0	10: 8:57	0.17	4.1	1.1	0.6	0.07	20.98
30/Aug/ 0	10: 9: 7	0.33	3.9	1.9	0.4	0.07	20.96
30/Aug/ 0	10: 9:17	0.50	3.9	-1.0	0.4	0.07	20.98
30/Aug/ 0	10: 9:27	0.67	3.9	-2.1	0.3	0.07	20.98
30/Aug/ 0	10: 9:37	0.83	3.9	-1.2	-0.2	0.07	20.99
30/Aug/ 0	10: 9:47	1.00	4.0	-1.4	0.5	0.07	20.97
30/Aug/ 0	10: 9:57	1.17	4.1	0.6	0.5	0.07	20.96
30/Aug/ 0	10:10: 7	1.33	4.3	1.1	0.8	0.07	20.89
30/Aug/ 0	10:10:17	1.50	4.6	2.1	-0.2	0.10	20.88
30/Aug/ 0	10:10:27	1.67	4.9	18.6	-0.4	0.12	20.69
30/Aug/ 0	10:10:37	1.83	5.8	303.1	0.3	0.27	19.80
30/Aug/ 0	10:10:47	2.00	6.5	544.0	1.2	0.51	19.74
30/Aug/ 0	10:10:57	2.17	8.5	1033.3	0.2	0.86	18.11
30/Aug/ 0	10:11: 7	2.33	9.8	1134.2	-0.3	1.41	18.04
30/Aug/ 0	10:11:17	2.50	10.5	1114.8	-0.4	1.67	18.01
30/Aug/ 0	10:11:27	2.67	10.9	1079.7	0.2	1.83	17.99
30/Aug/ 0	10:11:37	2.83	11.4	1057.6	0.0	1.96	17.92
30/Aug/ 0	10:11:47	3.00	11.7	1021.0	0.6	2.06	17.82
30/Aug/ 0	10:11:57	3.17	11.9	987.8	-0.4	2.12	18.02
30/Aug/ 0	10:12: 7	3.33	11.9	963.7	-0.4	2.08	18.33
30/Aug/ 0	10:12:17	3.50	11.6	951.2	0.5	2.00	18.43
30/Aug/ 0	10:12:27	3.67	14.5	947.4	0.4	1.96	18.15
30/Aug/ 0	10:12:37	3.83	28.0	454.6	0.2	2.58	14.77
30/Aug/ 0	10:12:47	4.00	42.7	106.9	0.5	3.82	12.64
30/Aug/ 0	10:12:57	4.17	52.0	71.0	0.0	5.48	11.13
30/Aug/ 0	10:13: 7	4.33	54.7	114.4	0.2	6.34	11.20
30/Aug/ 0	10:13:17	4.50	53.7	172.2	-0.0	6.51	11.57
30/Aug/ 0	10:13:27	4.67	53.2	227.1	0.1	6.42	11.81
30/Aug/ 0	10:13:37	4.83	54.4	300.5	0.5	6.38	11.84
30/Aug/ 0	10:13:47	5.00	57.2	388.6	-0.7	6.39	11.84
30/Aug/ 0	10:13:57	5.17	62.8	470.3	-0.4	6.52	11.58
30/Aug/ 0	10:14: 7	5.33	67.5	558.6	0.0	6.56	11.92
30/Aug/ 0	10:14:17	5.50	70.0	618.0	-0.0	6.32	12.34
30/Aug/ 0	10:14:27	5.67	74.5	649.3	1.5	6.09	12.52
30/Aug/ 0	10:14:37	5.83	80.0	667.6	1.2	6.06	12.37
30/Aug/ 0	10:14:47	6.00	85.3	679.7	0.5	6.17	12.13
30/Aug/ 0	10:14:57	6.17	210.2	692.0	0.8	6.31	12.36
30/Aug/ 0	10:15: 7	6.33	673.6	928.5	1.7	7.92	13.49
30/Aug/ 0	10:15:17	6.50	1419.6	941.8	2.6	12.23	11.33
30/Aug/ 0	10:15:27	6.67	1510.5	908.1	2.3	15.50	10.36
30/Aug/ 0	10:15:37	6.83	1665.4	902.7	3.2	17.13	10.09
30/Aug/ 0	10:15:47	7.00	1800.4	987.9	4.3	17.48	10.86
30/Aug/ 0	10:15:57	7.17	1870.9	1064.7	3.5	18.15	11.68
30/Aug/ 0	10:16: 7	7.33	1891.2	1080.1	3.2	17.73	12.58
30/Aug/ 0	10:16:17	7.50	1931.0	1025.5	3.8	17.51	12.78
30/Aug/ 0	10:16:27	7.67	1950.0	962.9	4.1	17.64	12.92
30/Aug/ 0	10:16:37	7.83	1946.5	919.8	3.5	17.39	13.42
30/Aug/ 0	10:16:47	8.00	1966.1	864.6	2.8	17.31	13.56
30/Aug/ 0	10:16:57	8.17	1949.3	808.6	3.7	17.23	14.04

30/Aug/	0	10:17: 7	8.33	1929.5	744.5	3.4	16.95	14.35
30/Aug/	0	10:17:17	8.50	1955.6	680.4	4.2	16.90	14.39
30/Aug/	0	10:17:27	8.67	1985.1	607.9	2.6	17.08	14.39
30/Aug/	0	10:17:37	8.83	1983.4	510.4	3.1	17.49	13.06
30/Aug/	0	10:17:47	9.00	1574.5	353.9	4.0	18.31	8.93
30/Aug/	0	10:17:57	9.17	1207.3	325.4	2.0	17.46	7.62
30/Aug/	0	10:18: 7	9.33	987.3	330.2	2.0	16.06	7.78
30/Aug/	0	10:18:17	9.50	880.2	279.9	1.3	15.57	7.78
30/Aug/	0	10:18:27	9.67	826.4	249.9	1.4	15.41	7.70
30/Aug/	0	10:18:37	9.83	794.8	234.3	2.2	15.28	7.71
30/Aug/	0	10:18:47	10.00	743.0	217.8	1.4	15.19	7.31
30/Aug/	0	10:18:57	10.17	704.7	207.9	1.7	15.22	6.91
30/Aug/	0	10:19: 7	10.33	682.6	215.3	1.3	15.24	6.77
30/Aug/	0	10:19:17	10.50	669.0	216.0	1.6	15.15	6.75
30/Aug/	0	10:19:27	10.67	651.0	208.9	1.3	15.05	6.73
30/Aug/	0	10:19:37	10.83	486.7	247.4	1.0	14.26	7.71
30/Aug/	0	10:19:47	11.00	334.7	215.1	1.1	10.19	10.31
30/Aug/	0	10:19:57	11.17	229.2	165.9	1.9	9.32	9.78
30/Aug/	0	10:20: 7	11.33	173.2	138.2	0.2	8.79	9.81
30/Aug/	0	10:20:17	11.50	140.8	117.9	0.1	8.05	10.16
30/Aug/	0	10:20:27	11.67	119.8	102.3	0.1	7.24	10.57
30/Aug/	0	10:20:37	11.83	104.6	89.0	0.8	6.62	10.94
30/Aug/	0	10:20:47	12.00	94.7	76.5	0.4	6.13	11.31
30/Aug/	0	10:20:57	12.17	86.5	68.0	-0.7	5.65	11.67
30/Aug/	0	10:21: 7	12.33	80.4	57.5	0.2	5.20	12.05
30/Aug/	0	10:21:17	12.50	74.8	49.4	-0.1	4.83	12.42
30/Aug/	0	10:21:27	12.67	69.5	42.9	-0.2	4.44	12.75
30/Aug/	0	10:21:37	12.83	65.5	36.4	-0.1	4.06	13.10
30/Aug/	0	10:21:47	13.00	61.0	31.8	0.6	3.87	13.45
30/Aug/	0	10:21:57	13.17	57.0	28.5	0.3	3.65	13.75
30/Aug/	0	10:22: 7	13.33	53.8	25.0	-0.1	3.46	14.06
30/Aug/	0	10:22:17	13.50	50.9	21.5	-0.3	3.26	14.36
30/Aug/	0	10:22:27	13.67	47.4	18.4	-0.4	3.06	14.64
30/Aug/	0	10:22:37	13.83	45.1	15.7	-0.6	2.87	14.91
30/Aug/	0	10:22:47	14.00	42.9	12.8	-0.2	2.68	15.18
30/Aug/	0	10:22:57	14.17	40.6	10.9	-0.4	2.50	15.43
30/Aug/	0	10:23: 7	14.33	38.8	8.7	0.1	2.31	15.67
30/Aug/	0	10:23:17	14.50	36.7	7.0	0.3	2.13	15.91
30/Aug/	0	10:23:27	14.67	35.1	5.5	0.7	1.97	16.14
30/Aug/	0	10:23:37	14.83	33.6	4.0	-0.5	1.82	16.35
30/Aug/	0	10:23:47	15.00	32.2	3.0	0.0	1.67	16.58
30/Aug/	0	10:23:57	15.17	31.1	1.8	-0.2	1.53	16.77
30/Aug/	0	10:24: 7	15.33	29.8	1.0	0.2	1.41	16.96
30/Aug/	0	10:24:17	15.50	28.8	0.1	0.5	1.29	17.15
30/Aug/	0	10:24:27	15.67	27.6	-0.6	0.5	1.17	17.31
30/Aug/	0	10:24:37	15.83	26.8	-1.2	-0.3	1.09	17.27
30/Aug/	0	10:24:47	16.00	26.1	-2.7	0.6	1.08	16.70
30/Aug/	0	10:24:57	16.17	25.4	-3.1	-0.2	1.07	16.63
30/Aug/	0	10:25: 7	16.33	24.2	-2.5	0.2	0.96	17.50
30/Aug/	0	10:25:17	16.50	23.1	-1.9	0.4	0.82	18.09
30/Aug/	0	10:25:27	16.67	22.0	-2.2	-0.2	0.71	18.44
30/Aug/	0	10:25:37	16.83	20.7	-1.9	-0.1	0.63	18.64
30/Aug/	0	10:25:47	17.00	19.8	-2.3	0.1	0.57	18.77
30/Aug/	0	10:25:57	17.17	18.5	-2.3	1.0	0.52	18.89

30/Aug/ 0	10:26: 7	17.33	17.5	-2.5	-0.5	0.48	19.02
30/Aug/ 0	10:26:17	17.50	16.4	-2.7	-0.1	0.45	19.14
30/Aug/ 0	10:26:27	17.67	15.5	-3.1	-0.5	0.42	19.22
30/Aug/ 0	10:26:37	17.83	87.1	0.3	0.1	0.46	26.73
30/Aug/ 0	10:26:47	18.00	211.2	-0.5	0.3	1.90	36.15
30/Aug/ 0	10:26:57	18.17	157.8	7.4	0.6	1.97	29.54
30/Aug/ 0	10:27: 7	18.33	143.4	8.8	0.1	1.83	23.30
30/Aug/ 0	10:27:17	18.50	167.3	-0.6	1.1	4.84	14.41
30/Aug/ 0	10:27:27	18.67	198.1	-0.8	0.4	8.27	9.93
30/Aug/ 0	10:27:37	18.83	222.8	3.3	0.9	10.35	8.09
30/Aug/ 0	10:27:47	19.00	242.6	12.7	1.4	11.30	7.32
30/Aug/ 0	10:27:57	19.17	255.3	32.9	1.9	12.04	6.26
30/Aug/ 0	10:28: 7	19.33	266.1	105.4	0.6	12.85	5.29
30/Aug/ 0	10:28:17	19.50	274.2	169.7	0.9	13.25	4.92
30/Aug/ 0	10:28:27	19.67	283.3	201.0	1.0	13.36	4.71
30/Aug/ 0	10:28:37	19.83	291.7	222.1	1.8	13.41	4.63
30/Aug/ 0	10:28:47	20.00	297.5	583.2	1.0	13.56	4.43
30/Aug/ 0	10:28:57	20.17	303.5	827.1	1.8	13.63	4.38
30/Aug/ 0	10:29: 7	20.33	307.1	1159.5	1.9	13.66	4.31
30/Aug/ 0	10:29:17	20.50	311.7	1381.5	0.5	13.68	4.30
30/Aug/ 0	10:29:27	20.67	315.2	1445.6	0.9	13.70	4.27
30/Aug/ 0	10:29:37	20.83	319.4	1423.3	2.7	13.69	4.28
30/Aug/ 0	10:29:47	21.00	313.8	2086.1	0.9	13.75	4.24
30/Aug/ 0	10:29:57	21.17	310.5	2107.5	1.1	13.87	4.20
30/Aug/ 0	10:30: 7	21.33	324.2	2103.2	0.5	13.83	4.25
30/Aug/ 0	10:30:17	21.50	339.2	1166.2	0.6	13.77	4.28
30/Aug/ 0	10:30:27	21.67	350.9	725.0	1.7	13.75	4.31
30/Aug/ 0	10:30:37	21.83	361.0	377.6	1.7	13.60	4.42
30/Aug/ 0	10:30:47	22.00	335.1	191.2	1.5	13.29	4.50
30/Aug/ 0	10:30:57	22.17	311.2	167.6	0.8	13.04	4.58
30/Aug/ 0	10:31: 7	22.33	300.8	141.6	1.3	12.64	4.90
30/Aug/ 0	10:31:17	22.50	297.4	112.4	1.2	12.45	5.14
30/Aug/ 0	10:31:27	22.67	295.9	100.7	1.2	12.38	5.31
30/Aug/ 0	10:31:37	22.83	295.9	95.7	0.7	12.34	5.41
30/Aug/ 0	10:31:47	23.00	299.5	95.5	1.2	12.47	5.39
30/Aug/ 0	10:31:57	23.17	302.0	88.6	1.3	12.15	5.84
30/Aug/ 0	10:32: 7	23.33	306.6	68.5	1.1	11.94	6.09
30/Aug/ 0	10:32:17	23.50	309.2	59.7	0.5	11.84	6.25
30/Aug/ 0	10:32:27	23.67	310.8	51.1	0.2	11.78	6.36
30/Aug/ 0	10:32:37	23.83	311.7	46.5	0.3	11.69	6.48
30/Aug/ 0	10:32:47	24.00	313.1	42.0	0.5	11.64	6.55
30/Aug/ 0	10:32:57	24.17	316.0	40.2	0.8	11.73	6.45
30/Aug/ 0	10:33: 7	24.33	319.5	44.5	1.6	11.82	6.41
30/Aug/ 0	10:33:17	24.50	321.2	46.4	1.2	11.83	6.42
30/Aug/ 0	10:33:27	24.67	323.1	47.4	1.5	11.81	6.46
30/Aug/ 0	10:33:37	24.83	325.3	48.0	0.7	11.79	6.49
30/Aug/ 0	10:33:47	25.00	326.6	44.0	1.4	11.57	6.82
30/Aug/ 0	10:33:57	25.17	328.0	28.2	1.9	11.30	7.13
30/Aug/ 0	10:34: 7	25.33	329.4	17.5	1.6	11.20	7.22
30/Aug/ 0	10:34:17	25.50	331.0	14.0	1.6	11.16	7.28
30/Aug/ 0	10:34:27	25.67	332.0	14.5	1.1	11.50	6.81
30/Aug/ 0	10:34:37	25.83	333.6	30.1	1.4	11.81	6.54
30/Aug/ 0	10:34:47	26.00	333.9	42.6	1.0	11.88	6.48
30/Aug/ 0	10:34:57	26.17	337.9	44.9	1.1	11.90	6.49

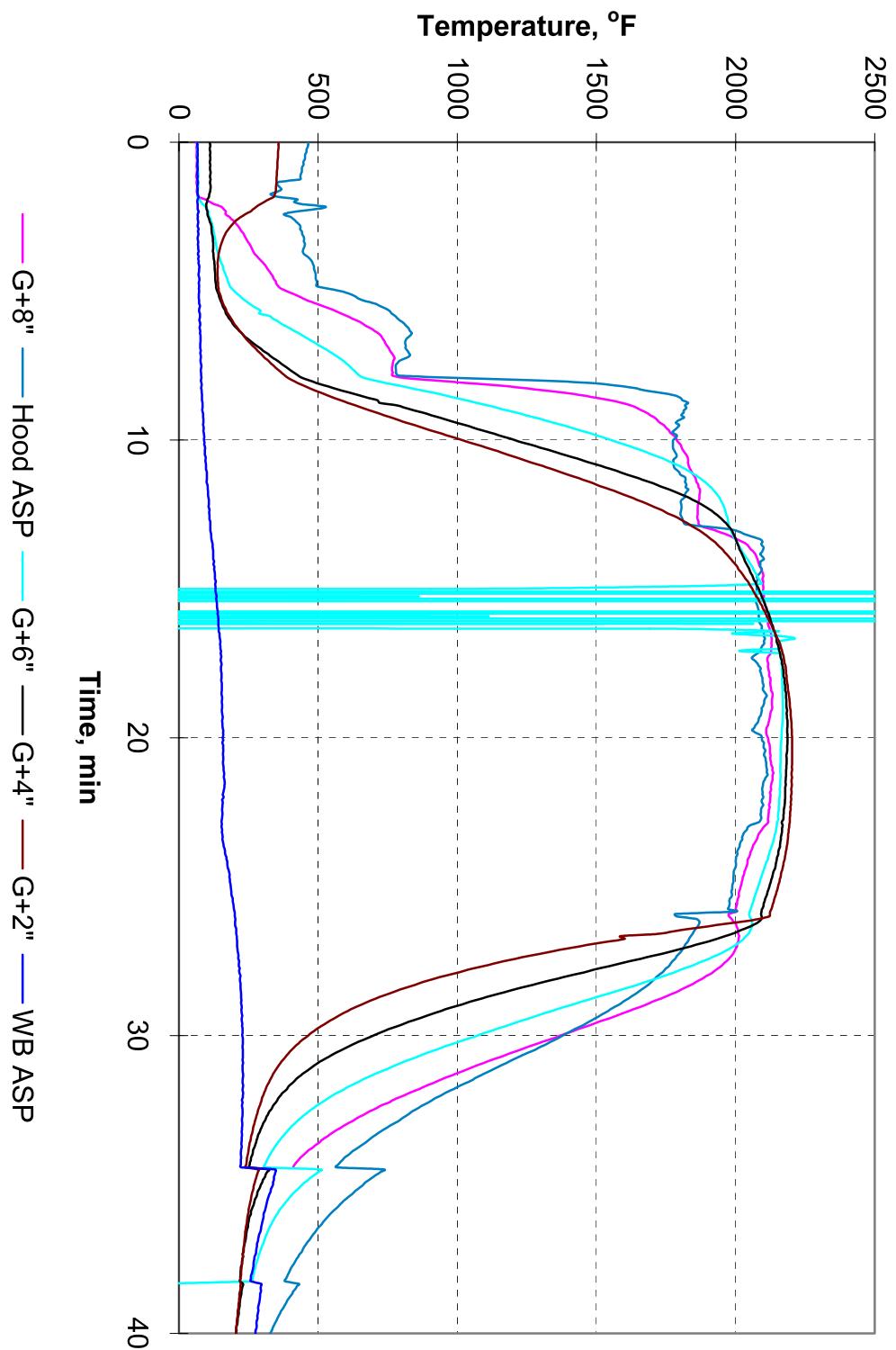
30/Aug/ 0	10:35: 7	26.33	339.5	41.5	1.2	11.57	6.92
30/Aug/ 0	10:35:17	26.50	340.4	27.3	1.0	11.15	7.38
30/Aug/ 0	10:35:27	26.67	341.9	15.1	1.0	10.97	7.57
30/Aug/ 0	10:35:37	26.83	343.3	10.9	1.0	10.91	7.67
30/Aug/ 0	10:35:47	27.00	344.2	9.4	0.9	10.87	7.75
30/Aug/ 0	10:35:57	27.17	347.3	8.9	1.2	10.83	7.82
30/Aug/ 0	10:36: 7	27.33	354.1	9.1	0.7	11.08	7.54
30/Aug/ 0	10:36:17	27.50	354.9	15.2	1.3	11.41	7.29
30/Aug/ 0	10:36:27	27.67	357.0	16.9	1.1	11.31	7.29
30/Aug/ 0	10:36:37	27.83	357.7	14.6	0.6	11.39	7.22
30/Aug/ 0	10:36:47	28.00	358.8	14.7	0.6	11.30	7.31
30/Aug/ 0	10:36:57	28.17	358.1	13.8	1.1	11.28	7.34
30/Aug/ 0	10:37: 7	28.33	360.4	13.2	0.7	11.26	7.37
30/Aug/ 0	10:37:17	28.50	356.3	11.8	0.5	11.06	7.70
30/Aug/ 0	10:37:27	28.67	353.9	9.7	0.9	10.47	8.26
30/Aug/ 0	10:37:37	28.83	353.8	8.3	1.5	10.62	8.04
30/Aug/ 0	10:37:47	29.00	356.7	8.1	0.8	10.88	7.81
30/Aug/ 0	10:37:57	29.17	356.5	8.2	1.1	10.99	7.70
30/Aug/ 0	10:38: 7	29.33	354.8	8.6	0.9	11.10	7.55
30/Aug/ 0	10:38:17	29.50	343.6	10.6	0.1	11.25	7.34
30/Aug/ 0	10:38:27	29.67	337.7	12.9	0.4	11.04	7.44
30/Aug/ 0	10:38:37	29.83	366.5	11.4	0.2	10.72	8.11
30/Aug/ 0	10:38:47	30.00	391.2	8.8	0.0	10.52	8.58
30/Aug/ 0	10:38:57	30.17	408.9	7.5	0.9	10.50	8.71
30/Aug/ 0	10:39: 7	30.33	411.2	7.2	0.5	10.37	8.94
30/Aug/ 0	10:39:17	30.50	413.7	6.6	0.6	10.13	9.09
30/Aug/ 0	10:39:27	30.67	422.9	6.7	0.7	10.59	8.60
30/Aug/ 0	10:39:37	30.83	428.7	6.9	1.6	10.92	8.29
30/Aug/ 0	10:39:47	31.00	433.6	6.7	1.8	11.02	8.21
30/Aug/ 0	10:39:57	31.17	437.3	6.6	0.7	11.01	8.19
30/Aug/ 0	10:40: 7	31.33	440.0	6.8	1.4	11.02	8.18
30/Aug/ 0	10:40:17	31.50	440.4	6.7	1.5	11.04	8.20
30/Aug/ 0	10:40:27	31.67	438.8	6.5	1.9	10.91	8.36
30/Aug/ 0	10:40:37	31.83	431.4	6.4	0.5	10.40	8.95
30/Aug/ 0	10:40:47	32.00	425.0	6.4	1.9	10.02	9.34
30/Aug/ 0	10:40:57	32.17	421.0	6.2	1.5	9.90	9.46
30/Aug/ 0	10:41: 7	32.33	426.1	6.1	1.3	10.08	9.24
30/Aug/ 0	10:41:17	32.50	432.1	6.1	0.1	10.47	8.83
30/Aug/ 0	10:41:27	32.67	436.2	6.2	1.7	10.69	8.64
30/Aug/ 0	10:41:37	32.83	440.0	6.1	1.1	10.74	8.58
30/Aug/ 0	10:41:47	33.00	444.7	6.1	1.0	10.82	8.48
30/Aug/ 0	10:41:57	33.17	450.7	6.1	1.1	10.87	8.47
30/Aug/ 0	10:42: 7	33.33	455.5	6.1	1.4	10.84	8.52
30/Aug/ 0	10:42:17	33.50	461.8	6.2	0.8	10.85	8.57
30/Aug/ 0	10:42:27	33.67	456.7	5.9	1.0	10.82	8.62
30/Aug/ 0	10:42:37	33.83	323.2	5.6	0.7	8.72	11.22
30/Aug/ 0	10:42:47	34.00	194.0	5.0	0.2	2.93	18.45
30/Aug/ 0	10:42:57	34.17	112.7	5.9	0.2	1.14	20.32
30/Aug/ 0	10:43: 7	34.33	69.3	5.6	-0.7	0.72	20.75
30/Aug/ 0	10:43:17	34.50	48.9	4.7	-0.2	0.60	20.80
30/Aug/ 0	10:43:27	34.67	38.6	4.4	-0.1	0.55	20.89
30/Aug/ 0	10:43:37	34.83	32.9	3.8	-0.1	0.52	20.89
30/Aug/ 0	10:43:47	35.00	29.8	3.5	-0.5	0.51	20.93
30/Aug/ 0	10:43:57	35.17	27.6	3.5	-0.5	0.50	20.93

30/Aug/	0	10:44:	7	35.33	26.1	3.2	-0.3	0.49	20.96
30/Aug/	0	10:44:17		35.50	25.3	3.2	0.1	0.49	20.96
30/Aug/	0	10:44:27		35.67	24.1	2.9	-0.2	0.48	20.97
30/Aug/	0	10:44:37		35.83	23.4	2.5	0.6	0.47	20.98
30/Aug/	0	10:44:47		36.00	22.6	2.6	0.4	0.47	20.98
30/Aug/	0	10:44:57		36.17	22.2	2.8	0.6	0.47	20.98
30/Aug/	0	10:45:	7	36.33	21.5	2.4	-0.0	0.47	20.99
30/Aug/	0	10:45:17		36.50	20.9	2.4	-0.7	0.46	20.99
30/Aug/	0	10:45:27		36.67	20.7	2.2	0.1	0.46	20.99
30/Aug/	0	10:45:37		36.83	20.2	2.1	-0.8	0.46	21.00
30/Aug/	0	10:45:47		37.00	19.6	2.2	-0.4	0.46	20.99
30/Aug/	0	10:45:57		37.17	19.4	2.0	-0.1	0.45	21.00
30/Aug/	0	10:46:	7	37.33	19.1	1.9	-0.7	0.45	21.02
30/Aug/	0	10:46:17		37.50	18.7	1.8	0.5	0.45	21.01
30/Aug/	0	10:46:27		37.67	18.5	1.6	0.1	0.45	21.02
30/Aug/	0	10:46:37		37.83	18.3	1.6	-0.0	0.45	21.00
30/Aug/	0	10:46:47		38.00	18.0	1.8	-0.5	0.45	21.02
30/Aug/	0	10:46:57		38.17	18.2	1.6	0.6	0.44	21.00
30/Aug/	0	10:47:	7	38.33	17.9	1.7	0.3	0.45	21.01
30/Aug/	0	10:47:17		38.50	17.4	1.7	0.0	0.44	21.00
30/Aug/	0	10:47:27		38.67	17.2	1.2	0.6	0.44	21.02
30/Aug/	0	10:47:37		38.83	16.9	1.6	0.4	0.44	21.00
30/Aug/	0	10:47:47		39.00	16.7	1.5	0.7	0.44	21.02
30/Aug/	0	10:47:57		39.17	16.4	1.4	-0.0	0.44	21.01
30/Aug/	0	10:48:	7	39.33	16.0	1.5	0.4	0.44	21.02
30/Aug/	0	10:48:17		39.50	16.1	1.4	0.3	0.43	21.01
30/Aug/	0	10:48:27		39.67	15.6	1.4	0.4	0.43	21.02
30/Aug/	0	10:48:37		39.83	15.5	1.5	-0.5	0.43	21.02
30/Aug/	0	10:48:47		40.00	15.4	1.3	0.2	0.43	21.02
30/Aug/	0	10:48:57		40.17	15.4	1.2	0.2	0.43	21.02
30/Aug/	0	10:49:	7	40.33	15.2	1.2	0.6	0.43	21.03
30/Aug/	0	10:49:17		40.50	15.0	1.1	0.8	0.43	21.01
30/Aug/	0	10:49:27		40.67	14.9	1.2	0.4	0.43	21.02
30/Aug/	0	10:49:37		40.83	14.6	1.0	0.2	0.42	21.02
30/Aug/	0	10:49:47		41.00	14.7	1.0	-0.0	0.42	21.02
30/Aug/	0	10:49:57		41.17	14.6	1.1	-0.4	0.42	21.02
30/Aug/	0	10:50:	7	41.33	14.5	0.9	1.0	0.42	21.02
30/Aug/	0	10:50:17		41.50	14.3	1.1	0.1	0.42	21.02
30/Aug/	0	10:50:27		41.67	14.5	0.9	0.5	0.41	21.03
30/Aug/	0	10:50:37		41.83	14.3	0.9	0.0	0.42	21.03
30/Aug/	0	10:50:47		42.00	14.2	0.8	0.4	0.41	21.03
30/Aug/	0	10:50:57		42.17	14.1	0.9	-0.2	0.41	21.03
30/Aug/	0	10:51:	7	42.33	14.0	0.9	0.4	0.41	21.02

Test 12 NOx Pot-Grate Acid Pellet Base Case 2100F

Time Max	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
0	63	465	66	110	358	66
1	64	442	69	114	352	67
2	110	413	79	101	307	66
3	226	442	125	118	172	68
4	297	478	150	127	140	72
5	387	582	199	137	143	72
6	641	796	353	187	192	74
7	758	821	536	302	283	79
8	918	1284	701	469	409	79
9	1662	1814	1178	845	685	84
10	1788	1775	1553	1206	1016	90
11	1838	1788	1824	1560	1347	97
12	1869	1807	1946	1844	1643	107
13	1914	1980	1981	1984	1863	113
14	2079	2101	2042	2031	1984	124
15	2100	2076	No Reading	2083	2060	131
16	2111	2086	No Reading	2124	2117	141
17	2128	2092	2161	2156	2164	149
18	2125	2097	2167	2175	2184	153
19	2131	2094	2170	2183	2196	155
20	2116	2095	2165	2186	2203	157
21	2132	2111	2161	2182	2203	160
22	2125	2100	2157	2178	2199	160
23	2100	2044	2148	2168	2193	154
24	2049	2001	2117	2150	2177	171
25	2017	1988	2081	2121	2153	187
26	1977	1788	2050	2093	2122	201
27	2006	1817	1993	1840	1442	209
28	1895	1721	1742	1398	954	221
29	1667	1572	1398	998	645	226
30	1369	1379	1072	699	465	227
31	1071	1158	778	488	359	229
32	811	943	554	366	303	230
33	598	763	411	300	270	228
34	448	609	327	263	247	222

**Pot Grate NO_x Test -Acid Base 2100F
Test #00-12, Temperature Profile**



Test 12 Pot Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
5/Sep/ 0	10:20: 0	0.00	1.9	0.4	0.07	21.05
5/Sep/ 0	10:20:10	0.17	2.0	1.3	-0.3	0.08
5/Sep/ 0	10:20:20	0.33	2.0	0.6	-0.3	0.07
5/Sep/ 0	10:20:30	0.50	2.0	1.4	-0.2	0.08
5/Sep/ 0	10:20:40	0.67	2.2	2.8	0.3	0.08
5/Sep/ 0	10:20:50	0.83	2.0	3.1	-0.5	0.09
5/Sep/ 0	10:21: 0	1.00	2.0	2.9	0.2	0.08
5/Sep/ 0	10:21:10	1.17	2.1	1.1	0.3	0.08
5/Sep/ 0	10:21:20	1.33	2.1	0.2	0.2	0.07
5/Sep/ 0	10:21:30	1.50	2.1	-0.3	0.4	0.07
5/Sep/ 0	10:21:40	1.67	2.2	0.4	-0.1	0.07
5/Sep/ 0	10:21:50	1.83	2.7	24.3	0.1	0.20
5/Sep/ 0	10:22: 0	2.00	3.7	366.8	-0.1	1.08
5/Sep/ 0	10:22:10	2.17	5.8	546.7	0.6	1.50
5/Sep/ 0	10:22:20	2.33	5.8	528.7	-0.4	1.64
5/Sep/ 0	10:22:30	2.50	5.4	609.1	-0.3	1.06
5/Sep/ 0	10:22:40	2.67	5.3	910.2	0.2	1.10
5/Sep/ 0	10:22:50	2.83	5.4	1016.9	0.3	1.21
5/Sep/ 0	10:23: 0	3.00	5.4	1029.2	0.2	1.24
5/Sep/ 0	10:23:10	3.17	5.6	1022.1	-0.1	1.27
5/Sep/ 0	10:23:20	3.33	5.5	1019.3	-0.0	1.28
5/Sep/ 0	10:23:30	3.50	5.4	1013.2	0.2	1.28
5/Sep/ 0	10:23:40	3.67	5.3	1016.6	-0.0	1.24
5/Sep/ 0	10:23:50	3.83	5.3	1037.1	-0.3	1.26
5/Sep/ 0	10:24: 0	4.00	5.5	1076.8	-0.4	1.37
5/Sep/ 0	10:24:10	4.17	5.6	1077.6	0.4	1.42
5/Sep/ 0	10:24:20	4.33	5.7	1079.2	-0.1	1.43
5/Sep/ 0	10:24:30	4.50	5.8	1077.3	0.3	1.44
5/Sep/ 0	10:24:40	4.67	5.9	1080.3	0.4	1.44
5/Sep/ 0	10:24:50	4.83	6.0	1073.2	0.5	1.44
5/Sep/ 0	10:25: 0	5.00	6.6	1159.2	-0.5	1.73
5/Sep/ 0	10:25:10	5.17	7.5	1201.6	-0.2	2.11
5/Sep/ 0	10:25:20	5.33	8.4	1194.3	-0.1	2.29
5/Sep/ 0	10:25:30	5.50	9.8	1164.1	0.1	2.54
5/Sep/ 0	10:25:40	5.67	11.1	1120.6	0.1	2.70
5/Sep/ 0	10:25:50	5.83	12.2	1100.6	-0.4	2.75
5/Sep/ 0	10:26: 0	6.00	13.3	1078.0	0.3	2.79
5/Sep/ 0	10:26:10	6.17	14.3	1040.1	-0.0	2.86
5/Sep/ 0	10:26:20	6.33	15.1	1024.3	0.1	2.89
5/Sep/ 0	10:26:30	6.50	15.5	1000.6	0.4	2.89
5/Sep/ 0	10:26:40	6.67	15.6	1017.4	0.4	2.75
5/Sep/ 0	10:26:50	6.83	15.8	1034.4	-0.1	2.67
5/Sep/ 0	10:27: 0	7.00	15.8	1018.1	0.3	2.67
5/Sep/ 0	10:27:10	7.17	16.1	985.8	0.3	2.72
5/Sep/ 0	10:27:20	7.33	15.4	978.5	0.4	2.59
5/Sep/ 0	10:27:30	7.50	14.8	982.8	-0.5	2.42
5/Sep/ 0	10:27:40	7.67	14.7	951.2	-0.3	2.40
5/Sep/ 0	10:27:50	7.83	34.0	932.7	-0.3	2.47
5/Sep/ 0	10:28: 0	8.00	271.1	326.1	0.4	4.75
5/Sep/ 0	10:28:10	8.17	589.5	87.2	1.9	9.39
						13.76

5/Sep/	0	10:28:20	8.33	855.4	66.0	1.7	11.34	12.80
5/Sep/	0	10:28:30	8.50	1076.4	59.4	2.3	12.43	12.27
5/Sep/	0	10:28:40	8.67	1168.6	53.7	3.2	12.73	12.43
5/Sep/	0	10:28:50	8.83	1170.1	46.9	2.2	12.26	13.16
5/Sep/	0	10:29: 0	9.00	1115.0	41.4	2.0	11.45	14.36
5/Sep/	0	10:29:10	9.17	1071.1	36.9	2.5	10.74	15.14
5/Sep/	0	10:29:20	9.33	1017.1	34.2	2.7	10.26	15.71
5/Sep/	0	10:29:30	9.50	993.7	32.2	2.7	9.76	16.29
5/Sep/	0	10:29:40	9.67	979.0	30.1	2.5	9.49	16.62
5/Sep/	0	10:29:50	9.83	981.9	28.4	2.0	9.29	16.79
5/Sep/	0	10:30: 0	10.00	988.6	27.1	2.2	9.27	17.01
5/Sep/	0	10:30:10	10.17	997.9	25.0	2.0	9.11	17.27
5/Sep/	0	10:30:20	10.33	1024.2	23.3	2.5	9.06	17.33
5/Sep/	0	10:30:30	10.50	1049.8	21.8	2.6	9.14	17.33
5/Sep/	0	10:30:40	10.67	1052.5	19.9	1.8	9.03	17.53
5/Sep/	0	10:30:50	10.83	1048.6	18.1	2.1	8.77	17.79
5/Sep/	0	10:31: 0	11.00	1078.0	16.4	2.6	8.77	17.74
5/Sep/	0	10:31:10	11.17	1129.0	14.9	2.7	8.99	17.66
5/Sep/	0	10:31:20	11.33	1167.0	13.5	2.3	9.08	17.66
5/Sep/	0	10:31:30	11.50	1187.1	12.7	2.2	9.05	17.68
5/Sep/	0	10:31:40	11.67	1192.5	12.4	2.6	8.98	17.75
5/Sep/	0	10:31:50	11.83	1179.1	11.8	2.8	8.76	18.10
5/Sep/	0	10:32: 0	12.00	1163.4	11.6	2.6	8.55	18.54
5/Sep/	0	10:32:10	12.17	1151.0	11.2	1.9	8.31	18.82
5/Sep/	0	10:32:20	12.33	1141.1	11.1	2.5	8.23	18.94
5/Sep/	0	10:32:30	12.50	1151.3	11.1	2.5	8.18	19.02
5/Sep/	0	10:32:40	12.67	1178.3	11.1	3.3	8.30	19.06
5/Sep/	0	10:32:50	12.83	1225.8	11.2	3.0	8.39	18.94
5/Sep/	0	10:33: 0	13.00	1329.8	11.8	2.9	10.54	14.14
5/Sep/	0	10:33:10	13.17	1425.2	13.2	3.6	12.47	11.98
5/Sep/	0	10:33:20	13.33	1481.5	13.8	3.8	12.84	11.45
5/Sep/	0	10:33:30	13.50	1503.1	14.1	3.4	12.79	11.72
5/Sep/	0	10:33:40	13.67	1487.8	13.9	3.1	12.24	12.31
5/Sep/	0	10:33:50	13.83	1464.0	13.6	2.5	11.75	12.98
5/Sep/	0	10:34: 0	14.00	1432.5	13.3	3.1	11.46	13.28
5/Sep/	0	10:34:10	14.17	1404.8	13.2	3.5	11.10	13.73
5/Sep/	0	10:34:20	14.33	1391.5	12.8	2.8	10.93	13.88
5/Sep/	0	10:34:30	14.50	1374.4	12.8	3.2	10.92	14.12
5/Sep/	0	10:34:40	14.67	1354.5	12.6	3.7	10.53	14.59
5/Sep/	0	10:34:50	14.83	1339.3	12.1	2.8	10.36	14.76
5/Sep/	0	10:35: 0	15.00	1327.5	12.0	3.1	10.28	14.83
5/Sep/	0	10:35:10	15.17	1322.4	12.1	2.8	10.27	14.87
5/Sep/	0	10:35:20	15.33	1321.6	11.8	2.7	10.24	14.89
5/Sep/	0	10:35:30	15.50	1323.4	11.8	3.0	10.25	14.88
5/Sep/	0	10:35:40	15.67	1325.3	11.8	3.2	10.24	14.89
5/Sep/	0	10:35:50	15.83	1321.8	11.5	2.5	10.21	14.93
5/Sep/	0	10:36: 0	16.00	1324.6	11.5	3.1	10.18	14.95
5/Sep/	0	10:36:10	16.17	1333.1	11.5	2.2	10.25	14.93
5/Sep/	0	10:36:20	16.33	1338.4	11.3	2.7	10.25	14.94
5/Sep/	0	10:36:30	16.50	1341.6	11.4	3.3	10.24	14.95
5/Sep/	0	10:36:40	16.67	1349.2	11.2	2.7	10.25	14.97
5/Sep/	0	10:36:50	16.83	1346.9	10.8	3.2	10.19	15.11
5/Sep/	0	10:37: 0	17.00	1363.2	10.8	2.6	9.95	15.71
5/Sep/	0	10:37:10	17.17	1319.6	10.6	3.4	9.82	16.09

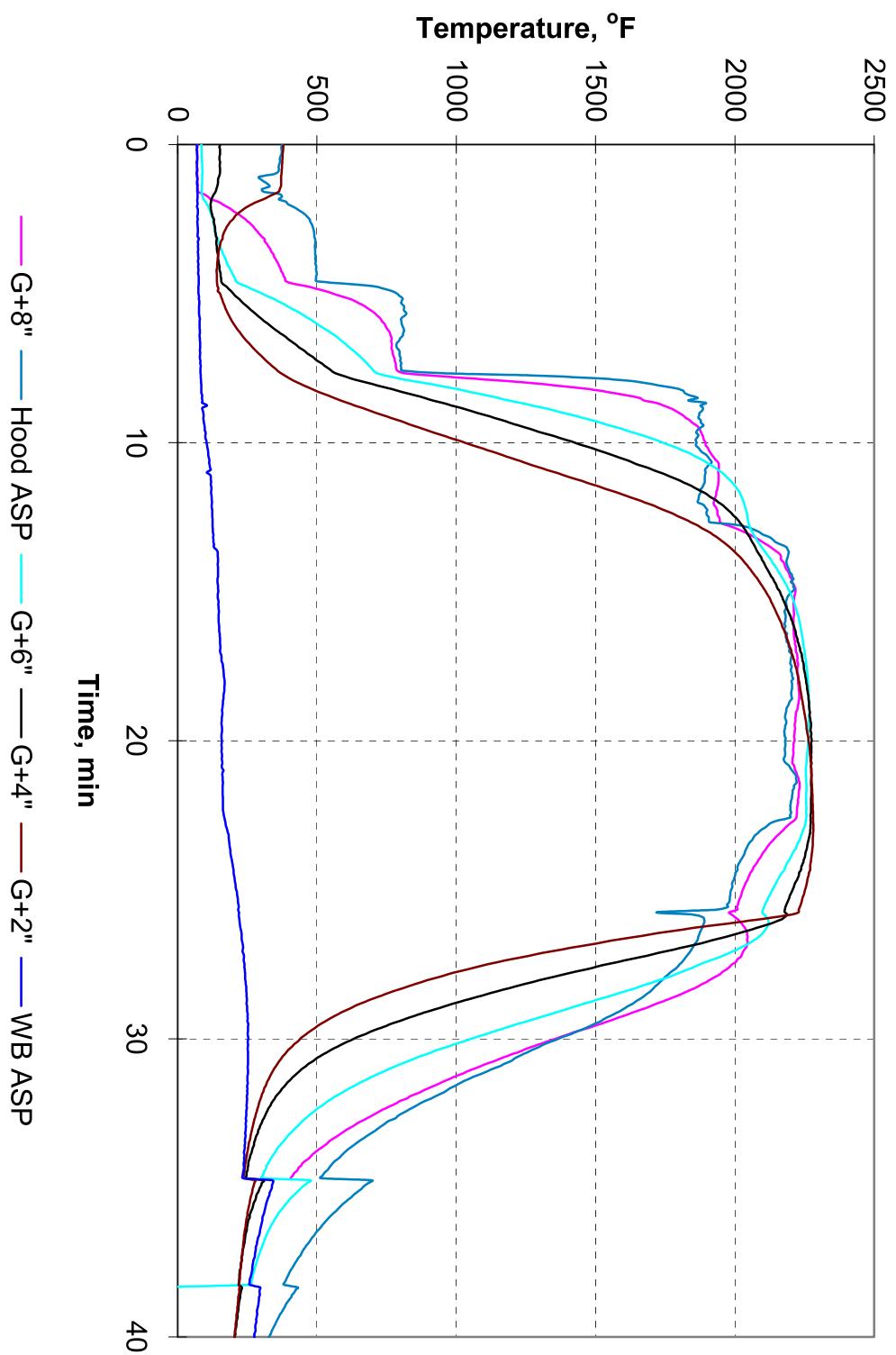
5/Sep/	0	10:37:20	17.33	1275.2	10.0	2.6	9.10	16.53
5/Sep/	0	10:37:30	17.50	1285.2	9.9	2.4	9.38	16.06
5/Sep/	0	10:37:40	17.67	1309.3	9.9	3.0	9.72	15.83
5/Sep/	0	10:37:50	17.83	1330.2	9.7	2.4	9.82	15.75
5/Sep/	0	10:38: 0	18.00	1344.7	9.4	3.4	9.93	15.75
5/Sep/	0	10:38:10	18.17	1334.9	9.5	2.8	9.80	15.79
5/Sep/	0	10:38:20	18.33	1341.4	9.5	3.3	9.76	15.82
5/Sep/	0	10:38:30	18.50	1361.9	9.3	3.4	9.88	15.77
5/Sep/	0	10:38:40	18.67	1352.6	9.3	3.0	9.88	15.80
5/Sep/	0	10:38:50	18.83	1325.4	9.3	3.2	9.62	15.99
5/Sep/	0	10:39: 0	19.00	1293.8	9.0	2.9	9.38	16.20
5/Sep/	0	10:39:10	19.17	1268.1	8.9	3.0	9.20	16.38
5/Sep/	0	10:39:20	19.33	1250.4	8.8	2.7	9.09	16.57
5/Sep/	0	10:39:30	19.50	1227.5	8.7	2.8	8.96	16.77
5/Sep/	0	10:39:40	19.67	1197.8	8.2	2.9	8.77	16.96
5/Sep/	0	10:39:50	19.83	1216.7	8.5	2.3	8.84	16.78
5/Sep/	0	10:40: 0	20.00	1253.2	8.4	2.4	9.36	16.16
5/Sep/	0	10:40:10	20.17	1274.1	8.4	3.1	9.48	16.04
5/Sep/	0	10:40:20	20.33	1274.7	8.4	3.3	9.42	16.08
5/Sep/	0	10:40:30	20.50	1266.1	8.3	2.4	9.32	16.17
5/Sep/	0	10:40:40	20.67	1259.3	8.2	2.2	9.24	16.20
5/Sep/	0	10:40:50	20.83	1262.8	7.8	2.8	9.27	16.21
5/Sep/	0	10:41: 0	21.00	1269.0	8.3	3.8	9.27	16.30
5/Sep/	0	10:41:10	21.17	1280.0	8.2	2.4	9.32	16.33
5/Sep/	0	10:41:20	21.33	1265.1	7.8	2.0	9.17	16.58
5/Sep/	0	10:41:30	21.50	1245.2	7.8	2.1	8.97	16.90
5/Sep/	0	10:41:40	21.67	1230.6	7.7	1.5	8.88	16.99
5/Sep/	0	10:41:50	21.83	1221.5	7.8	2.1	8.86	17.02
5/Sep/	0	10:42: 0	22.00	1216.2	7.4	2.6	8.84	17.04
5/Sep/	0	10:42:10	22.17	1210.0	7.6	2.5	8.83	17.07
5/Sep/	0	10:42:20	22.33	1204.9	7.5	3.0	8.82	17.07
5/Sep/	0	10:42:30	22.50	1199.3	7.6	2.4	8.78	17.11
5/Sep/	0	10:42:40	22.67	1190.9	7.5	2.6	8.75	17.15
5/Sep/	0	10:42:50	22.83	1149.7	7.5	3.2	8.64	17.38
5/Sep/	0	10:43: 0	23.00	1089.9	7.3	2.2	7.99	18.29
5/Sep/	0	10:43:10	23.17	1052.6	7.2	2.2	7.78	18.57
5/Sep/	0	10:43:20	23.33	1035.4	6.9	2.7	7.75	18.65
5/Sep/	0	10:43:30	23.50	1025.3	7.1	3.4	7.75	18.69
5/Sep/	0	10:43:40	23.67	1020.6	7.1	2.8	7.73	18.73
5/Sep/	0	10:43:50	23.83	1013.0	7.0	2.6	7.73	18.69
5/Sep/	0	10:44: 0	24.00	1008.9	7.1	1.6	7.72	18.68
5/Sep/	0	10:44:10	24.17	1002.3	6.9	2.3	7.71	18.68
5/Sep/	0	10:44:20	24.33	998.4	7.0	1.7	7.71	18.71
5/Sep/	0	10:44:30	24.50	993.0	7.0	2.0	7.69	18.70
5/Sep/	0	10:44:40	24.67	994.7	6.7	1.9	7.69	18.72
5/Sep/	0	10:44:50	24.83	987.3	6.7	2.3	7.68	18.71
5/Sep/	0	10:45: 0	25.00	977.9	6.7	2.2	7.63	18.75
5/Sep/	0	10:45:10	25.17	967.2	6.7	2.7	7.59	18.75
5/Sep/	0	10:45:20	25.33	946.0	6.6	1.8	7.53	18.78
5/Sep/	0	10:45:30	25.50	930.4	6.2	1.8	7.47	18.79
5/Sep/	0	10:45:40	25.67	910.3	6.4	2.1	7.42	18.80
5/Sep/	0	10:45:50	25.83	708.3	6.5	3.0	7.50	16.21
5/Sep/	0	10:46: 0	26.00	438.2	6.5	1.3	3.89	18.11
5/Sep/	0	10:46:10	26.17	242.8	5.3	0.8	0.93	20.67

5/Sep/	0	10:46:20	26.33	147.7	5.3	-0.2	0.28	21.03
5/Sep/	0	10:46:30	26.50	97.0	4.9	0.7	0.18	21.06
5/Sep/	0	10:46:40	26.67	70.4	4.7	-0.3	0.16	21.08
5/Sep/	0	10:46:50	26.83	55.8	4.8	0.3	0.15	21.07
5/Sep/	0	10:47: 0	27.00	47.5	4.3	-0.0	0.14	21.08
5/Sep/	0	10:47:10	27.17	42.2	4.1	0.3	0.13	21.08
5/Sep/	0	10:47:20	27.33	38.3	4.3	-0.3	0.13	21.10
5/Sep/	0	10:47:30	27.50	35.6	4.0	-0.0	0.13	21.09
5/Sep/	0	10:47:40	27.67	33.3	3.9	0.4	0.12	21.09
5/Sep/	0	10:47:50	27.83	31.4	3.8	-0.1	0.12	21.10
5/Sep/	0	10:48: 0	28.00	29.6	3.7	-0.0	0.12	21.09
5/Sep/	0	10:48:10	28.17	28.4	3.7	0.1	0.12	21.11
5/Sep/	0	10:48:20	28.33	26.9	3.7	-0.0	0.12	21.10
5/Sep/	0	10:48:30	28.50	25.9	3.5	-0.3	0.12	21.10
5/Sep/	0	10:48:40	28.67	24.8	3.2	0.6	0.11	21.08
5/Sep/	0	10:48:50	28.83	23.9	3.3	0.8	0.11	21.09
5/Sep/	0	10:49: 0	29.00	23.0	3.1	0.1	0.11	21.09
5/Sep/	0	10:49:10	29.17	22.2	3.1	0.5	0.11	21.11
5/Sep/	0	10:49:20	29.33	21.7	3.1	0.6	0.11	21.10
5/Sep/	0	10:49:30	29.50	20.9	2.9	0.4	0.11	21.12
5/Sep/	0	10:49:40	29.67	20.3	3.1	0.0	0.11	21.09
5/Sep/	0	10:49:50	29.83	20.0	2.8	0.4	0.11	21.10
5/Sep/	0	10:50: 0	30.00	19.6	3.0	-0.5	0.11	21.10
5/Sep/	0	10:50:10	30.17	19.3	2.6	0.3	0.10	21.11
5/Sep/	0	10:50:20	30.33	18.7	2.6	-0.1	0.10	21.11
5/Sep/	0	10:50:30	30.50	18.2	2.5	0.7	0.10	21.10
5/Sep/	0	10:50:40	30.67	17.8	2.8	0.0	0.10	21.11
5/Sep/	0	10:50:50	30.83	17.4	2.6	-0.2	0.10	21.10
5/Sep/	0	10:51: 0	31.00	17.0	2.5	0.1	0.10	21.11
5/Sep/	0	10:51:10	31.17	16.5	2.6	0.6	0.10	21.10
5/Sep/	0	10:51:20	31.33	16.2	2.4	-0.2	0.10	21.12
5/Sep/	0	10:51:30	31.50	15.9	2.1	0.2	0.09	21.10
5/Sep/	0	10:51:40	31.67	15.6	2.2	0.4	0.09	21.11
5/Sep/	0	10:51:50	31.83	15.2	2.3	-0.3	0.09	21.10
5/Sep/	0	10:52: 0	32.00	15.0	2.0	0.1	0.09	21.12
5/Sep/	0	10:52:10	32.17	14.8	2.0	-0.2	0.09	21.10
5/Sep/	0	10:52:20	32.33	14.5	1.9	0.4	0.09	21.12
5/Sep/	0	10:52:30	32.50	14.2	1.9	-0.5	0.09	21.10
5/Sep/	0	10:52:40	32.67	14.1	1.7	-0.5	0.09	21.12
5/Sep/	0	10:52:50	32.83	13.9	1.7	0.2	0.09	21.10
5/Sep/	0	10:53: 0	33.00	13.7	1.7	-0.1	0.08	21.12
5/Sep/	0	10:53:10	33.17	13.6	1.6	-0.0	0.08	21.11
5/Sep/	0	10:53:20	33.33	13.4	1.5	-0.1	0.09	21.11
5/Sep/	0	10:53:30	33.50	13.2	1.5	0.5	0.08	21.11
5/Sep/	0	10:53:40	33.67	13.0	1.4	-0.5	0.08	21.12
5/Sep/	0	10:53:50	33.83	12.9	1.5	-0.3	0.08	21.10
5/Sep/	0	10:54: 0	34.00	12.7	1.2	-0.5	0.08	21.11
5/Sep/	0	10:54:10	34.17	12.5	1.4	-0.3	0.08	21.12
5/Sep/	0	10:54:20	34.33	12.3	1.4	0.2	0.08	21.11
5/Sep/	0	10:54:30	34.50	12.1	1.3	0.0	0.08	21.11
5/Sep/	0	10:54:40	34.67	12.0	1.2	0.5	0.08	21.12
5/Sep/	0	10:54:50	34.83	12.1	1.1	0.3	0.08	21.12
5/Sep/	0	10:55: 0	35.00	11.9	1.3	-0.1	0.08	21.11
5/Sep/	0	10:55:10	35.17	11.7	1.0	-0.0	0.08	21.11

Test 13 Pot Grate NOx Acid Base Case 2200F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2227	2206	2268	2275	2281	338
0	71	374	85	152	379	68
1	69	344	88	151	372	68
2	160	396	105	118	267	72
3	293	490	137	136	164	71
4	361	495	178	148	142	75
5	558	788	303	200	152	75
6	740	804	498	322	200	79
7	772	796	641	465	289	81
8	1266	1677	884	684	434	83
9	1800	1873	1383	1076	711	92
10	1895	1863	1742	1425	1030	103
11	1941	1894	1952	1730	1354	105
12	1924	1867	2031	1941	1675	124
13	2034	2087	2063	2042	1907	126
14	2175	2185	2134	2102	2033	145
15	2218	2206	2197	2162	2111	146
16	2210	2181	2232	2206	2164	147
17	2219	2195	2251	2235	2203	153
18	2227	2203	2263	2256	2230	168
19	2221	2184	2268	2268	2249	159
20	2215	2181	2262	2275	2264	158
21	2217	2206	2255	2275	2274	165
22	2226	2202	2256	2273	2279	162
23	2174	2093	2245	2271	2281	178
24	2084	2022	2195	2247	2274	194
25	2028	1987	2135	2207	2252	210
26	2010	1890	2119	2167	2086	221
27	2034	1845	2009	1783	1381	234
28	1915	1743	1739	1314	909	242
29	1668	1599	1396	926	614	250
30	1356	1367	1052	632	439	253
31	1066	1134	762	448	347	251
32	822	910	554	349	297	249
33	617	721	422	294	268	244
34	472	579	335	259	246	238

**Pot Grate NOx Test -Acid Base 2200F
Test #00-13, Temperature Profile**



Test 13 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, pp m</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
6/Sep/ 0	10:15:48	0.00	1.7	-0.8	0.032	20.98
6/Sep/ 0	10:15:58	0.17	1.6	-0.7	0.031	20.99
6/Sep/ 0	10:16: 8	0.33	1.7	-1.1	0.030	20.98
6/Sep/ 0	10:16:18	0.50	1.7	-1.1	-0.04	0.024
6/Sep/ 0	10:16:28	0.67	1.7	-1.2	-0.28	0.028
6/Sep/ 0	10:16:38	0.83	1.7	-1.0	-0.16	0.026
6/Sep/ 0	10:16:48	1.00	1.7	-1.2	-0.51	0.027
6/Sep/ 0	10:16:58	1.17	1.7	-1.1	-0.08	0.026
6/Sep/ 0	10:17: 8	1.33	1.7	-0.9	-0.08	0.028
6/Sep/ 0	10:17:18	1.50	1.8	-0.9	-0.13	0.027
6/Sep/ 0	10:17:28	1.67	1.7	-0.9	-0.28	0.024
6/Sep/ 0	10:17:38	1.83	2.1	5.4	-0.54	0.021
6/Sep/ 0	10:17:48	2.00	2.9	245.0	0.40	0.028
6/Sep/ 0	10:17:58	2.17	3.7	543.4	0.47	0.045
6/Sep/ 0	10:18: 8	2.33	4.0	937.7	0.17	0.093
6/Sep/ 0	10:18:18	2.50	4.7	1059.7	-0.52	0.154
6/Sep/ 0	10:18:28	2.67	5.1	1098.1	-0.23	0.248
6/Sep/ 0	10:18:38	2.83	5.5	1085.1	-0.38	0.355
6/Sep/ 0	10:18:48	3.00	5.6	1084.8	-0.35	0.484
6/Sep/ 0	10:18:58	3.17	5.7	1075.0	0.15	0.602
6/Sep/ 0	10:19: 8	3.33	5.7	1068.2	1.14	0.727
6/Sep/ 0	10:19:18	3.50	5.8	1071.7	0.57	0.844
6/Sep/ 0	10:19:28	3.67	5.8	1061.5	0.34	0.936
6/Sep/ 0	10:19:38	3.83	5.7	1070.4	0.44	1.023
6/Sep/ 0	10:19:48	4.00	5.6	1076.1	0.61	1.087
6/Sep/ 0	10:19:58	4.17	5.5	1079.3	0.42	1.138
6/Sep/ 0	10:20: 8	4.33	5.4	1073.6	0.34	1.182
6/Sep/ 0	10:20:18	4.50	5.5	1074.8	0.15	1.211
6/Sep/ 0	10:20:28	4.67	5.7	1074.4	-0.12	1.235
6/Sep/ 0	10:20:38	4.83	5.9	1072.8	-0.31	1.254
6/Sep/ 0	10:20:48	5.00	7.6	1130.3	0.56	1.271
6/Sep/ 0	10:20:58	5.17	10.0	1106.8	-0.27	1.332
6/Sep/ 0	10:21: 8	5.33	11.7	1057.0	-0.36	1.469
6/Sep/ 0	10:21:18	5.50	12.8	1051.1	0.48	1.675
6/Sep/ 0	10:21:28	5.67	13.6	1052.0	0.33	1.906
6/Sep/ 0	10:21:38	5.83	14.0	1039.8	-0.04	2.112
6/Sep/ 0	10:21:48	6.00	14.7	993.6	-0.24	2.284
6/Sep/ 0	10:21:58	6.17	14.9	981.0	0.50	2.399
6/Sep/ 0	10:22: 8	6.33	15.3	957.5	-0.03	2.461
6/Sep/ 0	10:22:18	6.50	15.7	948.0	0.12	2.515
6/Sep/ 0	10:22:28	6.67	15.6	932.3	0.66	2.514
6/Sep/ 0	10:22:38	6.83	15.4	945.6	0.31	2.521
6/Sep/ 0	10:22:48	7.00	15.3	954.0	0.64	2.521
6/Sep/ 0	10:22:58	7.17	15.2	931.7	0.17	2.495
6/Sep/ 0	10:23: 8	7.33	15.3	903.4	0.39	2.470
6/Sep/ 0	10:23:18	7.50	15.4	895.6	0.77	2.448
6/Sep/ 0	10:23:28	7.67	15.6	896.1	0.58	2.440
6/Sep/ 0	10:23:38	7.83	35.3	905.4	0.65	2.433
6/Sep/ 0	10:23:48	8.00	282.3	475.2	1.34	2.447
						17.43

6/Sep/	0	10:23:58	8.17	699.1	126.5	2.06	2.645	14.52
6/Sep/	0	10:24: 8	8.33	1000.6	77.5	2.76	3.554	12.83
6/Sep/	0	10:24:18	8.50	1217.8	58.7	2.73	6.511	11.77
6/Sep/	0	10:24:28	8.67	1329.9	49.4	3.19	9.658	11.89
6/Sep/	0	10:24:38	8.83	1354.3	43.7	2.64	11.416	12.80
6/Sep/	0	10:24:48	9.00	1347.2	37.8	2.77	11.955	12.86
6/Sep/	0	10:24:58	9.17	1315.1	33.6	3.62	11.987	13.70
6/Sep/	0	10:25: 8	9.33	1273.5	31.0	3.25	11.745	14.56
6/Sep/	0	10:25:18	9.50	1271.6	28.6	2.80	11.352	14.91
6/Sep/	0	10:25:28	9.67	1314.1	26.4	2.34	11.033	15.12
6/Sep/	0	10:25:38	9.83	1299.5	24.9	2.14	10.900	15.60
6/Sep/	0	10:25:48	10.00	1270.8	22.6	2.79	10.727	15.93
6/Sep/	0	10:25:58	10.17	1260.8	20.7	3.03	10.453	16.10
6/Sep/	0	10:26: 8	10.33	1274.7	18.6	2.19	10.201	16.36
6/Sep/	0	10:26:18	10.50	1324.2	17.0	2.77	10.041	16.41
6/Sep/	0	10:26:28	10.67	1409.5	15.3	3.89	10.007	16.31
6/Sep/	0	10:26:38	10.83	1510.0	13.8	3.17	10.118	16.17
6/Sep/	0	10:26:48	11.00	1516.2	12.1	3.33	10.324	16.27
6/Sep/	0	10:26:58	11.17	1463.2	10.5	3.64	10.399	16.68
6/Sep/	0	10:27: 8	11.33	1430.2	9.4	2.91	10.158	17.02
6/Sep/	0	10:27:18	11.50	1426.6	8.4	3.21	9.841	17.36
6/Sep/	0	10:27:28	11.67	1441.2	7.6	2.50	9.564	17.60
6/Sep/	0	10:27:38	11.83	1429.7	7.3	3.40	9.388	17.84
6/Sep/	0	10:27:48	12.00	1408.5	7.0	2.95	9.228	18.13
6/Sep/	0	10:27:58	12.17	1390.6	6.7	3.44	9.000	18.40
6/Sep/	0	10:28: 8	12.33	1423.1	6.6	3.09	8.814	18.44
6/Sep/	0	10:28:18	12.50	1472.3	6.9	3.07	8.745	18.08
6/Sep/	0	10:28:28	12.67	1486.4	6.6	3.50	8.832	18.06
6/Sep/	0	10:28:38	12.83	1475.3	7.0	3.36	8.946	18.17
6/Sep/	0	10:28:48	13.00	1484.8	7.5	2.27	9.031	15.85
6/Sep/	0	10:28:58	13.17	1542.9	9.0	3.41	9.544	12.50
6/Sep/	0	10:29: 8	13.33	1591.8	10.4	3.26	10.785	11.77
6/Sep/	0	10:29:18	13.50	1616.1	11.1	3.14	11.819	11.36
6/Sep/	0	10:29:28	13.67	1653.9	11.2	4.01	12.353	11.26
6/Sep/	0	10:29:38	13.83	1687.0	11.5	3.82	12.602	11.06
6/Sep/	0	10:29:48	14.00	1689.3	11.5	3.51	12.775	11.33
6/Sep/	0	10:29:58	14.17	1665.6	10.6	3.59	12.737	12.13
6/Sep/	0	10:30: 8	14.33	1653.4	10.1	2.81	12.444	12.41
6/Sep/	0	10:30:18	14.50	1650.8	9.7	3.19	12.187	12.51
6/Sep/	0	10:30:28	14.67	1657.8	9.1	3.78	12.036	12.53
6/Sep/	0	10:30:38	14.83	1658.8	8.9	3.66	12.013	12.58
6/Sep/	0	10:30:48	15.00	1658.6	8.8	3.64	11.967	12.75
6/Sep/	0	10:30:58	15.17	1661.6	8.3	3.33	11.910	12.77
6/Sep/	0	10:31: 8	15.33	1629.0	8.1	3.52	11.847	13.38
6/Sep/	0	10:31:18	15.50	1596.2	7.6	2.99	11.635	13.77
6/Sep/	0	10:31:28	15.67	1567.3	7.3	4.27	11.346	13.92
6/Sep/	0	10:31:38	15.83	1548.8	7.1	3.94	11.138	14.02
6/Sep/	0	10:31:48	16.00	1532.6	6.8	3.36	10.992	14.09
6/Sep/	0	10:31:58	16.17	1505.7	6.9	3.81	10.893	14.16
6/Sep/	0	10:32: 8	16.33	1484.4	6.2	3.97	10.775	14.23
6/Sep/	0	10:32:18	16.50	1469.5	6.2	3.32	10.663	14.30
6/Sep/	0	10:32:28	16.67	1493.7	6.3	3.40	10.567	14.27
6/Sep/	0	10:32:38	16.83	1519.3	5.9	3.41	10.563	14.38
6/Sep/	0	10:32:48	17.00	1538.0	6.0	3.71	10.615	14.39

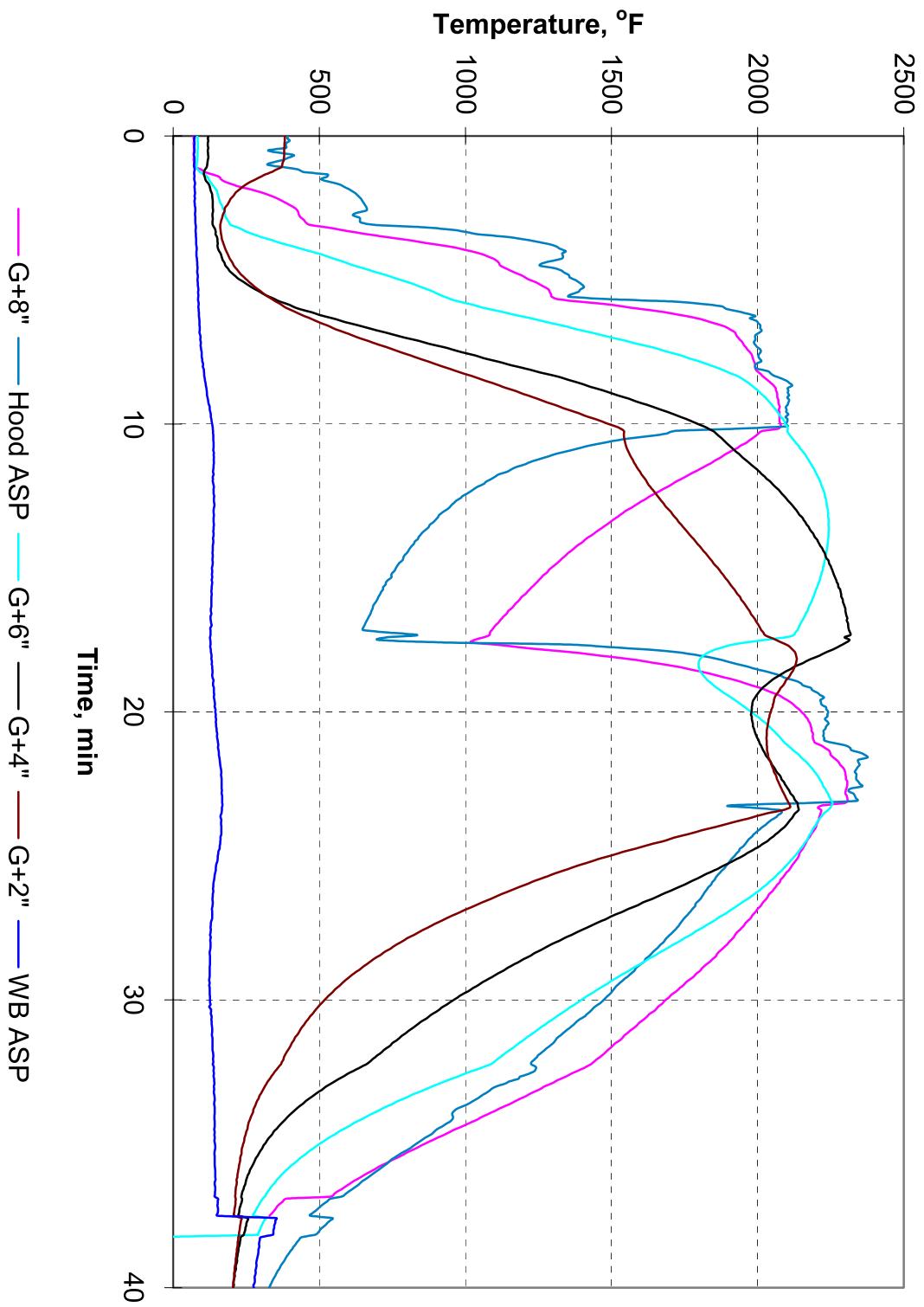
6/Sep/	0	10:32:58	17.17	1550.7	5.8	3.45	10.670	14.40
6/Sep/	0	10:33: 8	17.33	1567.8	5.9	4.03	10.698	14.39
6/Sep/	0	10:33:18	17.50	1572.6	5.5	3.25	10.718	14.47
6/Sep/	0	10:33:28	17.67	1565.3	5.8	2.49	10.711	14.60
6/Sep/	0	10:33:38	17.83	1559.5	5.9	3.51	10.657	14.68
6/Sep/	0	10:33:48	18.00	1556.4	5.6	3.17	10.589	14.72
6/Sep/	0	10:33:58	18.17	1547.5	5.5	3.94	10.536	14.76
6/Sep/	0	10:34: 8	18.33	1529.2	5.5	3.68	10.483	14.81
6/Sep/	0	10:34:18	18.50	1513.3	5.5	2.64	10.418	14.87
6/Sep/	0	10:34:28	18.67	1499.0	5.1	2.26	10.347	14.89
6/Sep/	0	10:34:38	18.83	1484.4	5.1	3.14	10.292	14.96
6/Sep/	0	10:34:48	19.00	1456.7	5.0	3.37	10.220	15.18
6/Sep/	0	10:34:58	19.17	1425.9	5.1	3.32	10.099	15.40
6/Sep/	0	10:35: 8	19.33	1401.7	4.9	3.70	9.921	15.52
6/Sep/	0	10:35:18	19.50	1387.3	4.8	3.55	9.766	15.57
6/Sep/	0	10:35:28	19.67	1374.5	4.9	3.32	9.673	15.61
6/Sep/	0	10:35:38	19.83	1371.1	4.7	3.48	9.630	15.64
6/Sep/	0	10:35:48	20.00	1370.8	4.5	3.07	9.589	15.65
6/Sep/	0	10:35:58	20.17	1371.7	4.9	2.99	9.574	15.65
6/Sep/	0	10:36: 8	20.33	1366.7	4.7	3.45	9.560	15.68
6/Sep/	0	10:36:18	20.50	1359.7	4.8	3.19	9.536	15.71
6/Sep/	0	10:36:28	20.67	1352.4	4.5	3.02	9.516	15.76
6/Sep/	0	10:36:38	20.83	1338.9	4.7	3.66	9.462	15.84
6/Sep/	0	10:36:48	21.00	1335.9	4.7	2.98	9.413	15.86
6/Sep/	0	10:36:58	21.17	1371.5	4.5	2.97	9.367	15.42
6/Sep/	0	10:37: 8	21.33	1417.5	4.7	3.36	9.496	15.18
6/Sep/	0	10:37:18	21.50	1442.9	4.7	3.36	9.739	15.11
6/Sep/	0	10:37:28	21.67	1446.8	4.8	3.85	9.919	15.13
6/Sep/	0	10:37:38	21.83	1417.5	4.4	3.86	9.971	15.56
6/Sep/	0	10:37:48	22.00	1389.3	4.6	3.86	9.858	15.79
6/Sep/	0	10:37:58	22.17	1368.2	4.5	3.47	9.682	15.88
6/Sep/	0	10:38: 8	22.33	1355.5	4.4	2.64	9.510	15.96
6/Sep/	0	10:38:18	22.50	1345.2	4.4	2.98	9.428	15.98
6/Sep/	0	10:38:28	22.67	1336.9	4.5	3.24	9.395	16.00
6/Sep/	0	10:38:38	22.83	1300.5	4.8	3.96	9.349	16.08
6/Sep/	0	10:38:48	23.00	1192.9	4.5	2.94	9.211	17.44
6/Sep/	0	10:38:58	23.17	1100.9	4.1	3.06	8.793	18.14
6/Sep/	0	10:39: 8	23.33	1044.9	4.2	2.23	8.345	18.43
6/Sep/	0	10:39:18	23.50	1009.7	3.9	1.96	7.938	18.59
6/Sep/	0	10:39:28	23.67	987.4	3.8	2.33	7.690	18.66
6/Sep/	0	10:39:38	23.83	963.4	3.8	1.41	7.545	18.70
6/Sep/	0	10:39:48	24.00	948.6	3.8	2.94	7.447	18.72
6/Sep/	0	10:39:58	24.17	938.7	3.8	2.07	7.386	18.76
6/Sep/	0	10:40: 8	24.33	930.4	3.7	2.08	7.339	18.89
6/Sep/	0	10:40:18	24.50	921.7	3.5	2.60	7.276	18.93
6/Sep/	0	10:40:28	24.67	909.3	3.6	2.16	7.230	18.96
6/Sep/	0	10:40:38	24.83	901.1	3.7	1.98	7.188	18.99
6/Sep/	0	10:40:48	25.00	893.0	3.8	2.10	7.149	19.00
6/Sep/	0	10:40:58	25.17	889.9	3.4	2.64	7.109	19.02
6/Sep/	0	10:41: 8	25.33	893.9	3.4	1.73	7.092	19.02
6/Sep/	0	10:41:18	25.50	895.6	3.5	2.18	7.085	19.08
6/Sep/	0	10:41:28	25.67	906.9	3.6	1.88	7.088	19.21
6/Sep/	0	10:41:38	25.83	803.4	3.7	2.03	7.106	18.68
6/Sep/	0	10:41:48	26.00	517.6	3.4	2.19	7.068	16.90

6/Sep/	0	10:41:58	26.17	286.0	3.8	1.63	6.514	19.45
6/Sep/	0	10:42: 8	26.33	165.1	3.9	1.63	5.301	20.15
6/Sep/	0	10:42:18	26.50	100.7	3.4	-0.10	3.939	20.52
6/Sep/	0	10:42:28	26.67	68.9	2.9	0.23	3.209	20.68
6/Sep/	0	10:42:38	26.83	50.9	2.7	0.05	2.679	20.76
6/Sep/	0	10:42:48	27.00	41.6	2.3	0.25	2.259	20.82
6/Sep/	0	10:42:58	27.17	35.8	2.3	-0.32	1.928	20.85
6/Sep/	0	10:43: 8	27.33	32.1	2.1	-0.65	1.673	20.88
6/Sep/	0	10:43:18	27.50	29.2	2.0	-0.77	1.452	20.91
6/Sep/	0	10:43:28	27.67	27.0	2.7	-0.50	1.287	20.93
6/Sep/	0	10:43:38	27.83	24.9	2.7	0.49	1.152	20.93
6/Sep/	0	10:43:48	28.00	23.7	2.5	1.03	1.030	20.95
6/Sep/	0	10:43:58	28.17	22.4	2.5	0.41	0.939	20.95
6/Sep/	0	10:44: 8	28.33	21.1	2.4	-0.65	0.856	20.97
6/Sep/	0	10:44:18	28.50	20.2	2.4	-0.57	0.786	20.97
6/Sep/	0	10:44:28	28.67	19.3	2.4	-0.76	0.732	20.98
6/Sep/	0	10:44:38	28.83	18.4	2.3	0.95	0.682	20.98
6/Sep/	0	10:44:48	29.00	17.8	2.3	1.07	0.637	20.99
6/Sep/	0	10:44:58	29.17	17.1	2.3	0.27	0.601	20.98
6/Sep/	0	10:45: 8	29.33	16.4	2.1	0.54	0.567	21.00
6/Sep/	0	10:45:18	29.50	16.0	2.0	0.83	0.541	20.98
6/Sep/	0	10:45:28	29.67	15.5	2.0	0.60	0.515	21.00
6/Sep/	0	10:45:38	29.83	15.1	2.1	0.11	0.495	20.99
6/Sep/	0	10:45:48	30.00	14.8	1.9	-0.23	0.477	21.01
6/Sep/	0	10:45:58	30.17	14.3	1.8	0.79	0.459	20.99
6/Sep/	0	10:46: 8	30.33	13.9	1.8	-0.00	0.443	21.00
6/Sep/	0	10:46:18	30.50	13.6	1.9	0.52	0.431	21.00
6/Sep/	0	10:46:28	30.67	13.2	1.9	0.36	0.421	21.00
6/Sep/	0	10:46:38	30.83	12.9	1.7	0.62	0.407	21.01
6/Sep/	0	10:46:48	31.00	12.4	1.9	0.62	0.398	21.00
6/Sep/	0	10:46:58	31.17	12.1	1.5	0.02	0.387	21.01
6/Sep/	0	10:47: 8	31.33	11.9	1.8	-0.44	0.381	21.01
6/Sep/	0	10:47:18	31.50	11.6	1.8	-0.57	0.374	21.01
6/Sep/	0	10:47:28	31.67	11.3	1.6	-0.18	0.367	21.01
6/Sep/	0	10:47:38	31.83	11.1	1.6	0.70	0.363	21.02
6/Sep/	0	10:47:48	32.00	10.8	1.4	0.35	0.354	21.01
6/Sep/	0	10:47:58	32.17	10.7	1.6	0.44	0.350	21.02
6/Sep/	0	10:48: 8	32.33	10.2	1.6	-0.48	0.346	21.00
6/Sep/	0	10:48:18	32.50	10.3	1.6	-0.47	0.343	21.02
6/Sep/	0	10:48:28	32.67	10.1	1.4	-0.25	0.339	21.01
6/Sep/	0	10:48:38	32.83	9.7	1.2	0.73	0.330	21.02
6/Sep/	0	10:48:48	33.00	9.7	1.4	0.56	0.331	21.01
6/Sep/	0	10:48:58	33.17	9.5	1.5	0.44	0.329	21.06
6/Sep/	0	10:49: 8	33.33	9.3	1.3	0.05	0.324	21.01
6/Sep/	0	10:49:18	33.50	9.0	1.4	0.01	0.321	21.03
6/Sep/	0	10:49:28	33.67	9.0	1.2	0.48	0.318	21.01
6/Sep/	0	10:49:38	33.83	8.9	1.3	-0.21	0.317	21.03
6/Sep/	0	10:49:48	34.00	8.7	1.2	-0.38	0.312	21.01
6/Sep/	0	10:49:58	34.17	8.5	0.9	-0.25	0.306	21.03
6/Sep/	0	10:50: 8	34.33	8.5	1.2	-0.45	0.308	21.02
6/Sep/	0	10:50:18	34.50	8.4	1.3	0.09	0.307	21.03
6/Sep/	0	10:50:28	34.67	8.2	1.5	-0.10	0.301	21.02
6/Sep/	0	10:50:38	34.83	8.2	1.6	0.18	0.300	21.03
6/Sep/	0	10:50:48	35.00	8.0	1.8	-0.10	0.299	21.02

Test 14 Pot-Grate NOx – Acid – Stoichiometric Air – 2350

Time Max	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
0	70	392	82	120	382	73
1	72	323	81	116	373	71
2	314	625	151	132	211	75
3	454	641	191	135	163	76
4	1019	1343	469	158	182	80
5	1221	1377	780	230	253	83
6	1597	1892	1077	430	394	87
7	1934	1992	1501	792	633	94
8	1991	1991	1849	1175	920	102
9	2067	2108	2018	1520	1211	116
10	2078	2095	2094	1796	1490	134
11	1900	1328	2157	1930	1559	139
12	1722	1072	2214	2042	1620	136
13	1553	933	2241	2132	1697	138
14	1413	837	2242	2202	1781	136
15	1294	763	2223	2252	1864	133
16	1193	703	2191	2286	1939	130
17	1102	654	2144	2310	2004	132
18	1423	1773	1820	2220	2130	131
19	1955	2147	1840	2037	2092	136
20	2150	2242	1978	1979	2045	144
21	2192	2229	2086	2003	2031	152
22	2296	2337	2189	2060	2054	164
23	2307	2336	2248	2125	2097	168
24	2199	2016	2194	2091	1855	164
25	2141	1921	2128	1949	1495	153
26	2067	1840	2030	1750	1206	137
27	1988	1764	1891	1522	972	133
28	1901	1678	1727	1309	778	128
29	1802	1578	1557	1127	630	125
30	1686	1474	1398	961	519	126
31	1575	1354	1253	818	438	134
32	1459	1245	1119	692	379	137
33	1273	1109	890	526	315	139
34	1072	955	673	399	269	141
35	862	833	502	314	239	143
36	670	690	379	260	222	144
37	376	527	301	235	213	153

**Pot Grate Acid NO_x Test Stoichiometric Air 2350F
Test #00-14, Temperature Profile**



Test 14 Pot Grate Gas Analysis

<u>Date/Clock</u>		<u>Time</u>	<u>NOx, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
7/Sep/ 0		10:15: 3	0.00	3.2	0.03	20.93
7/Sep/ 0		10:15:13	0.17	2.7	0.08	20.94
7/Sep/ 0		10:15:23	0.33	2.7	0.10	20.93
7/Sep/ 0		10:15:33	0.50	2.7	0.10	20.95
7/Sep/ 0		10:15:43	0.67	2.6	0.09	20.94
7/Sep/ 0		10:15:53	0.83	2.7	0.07	20.95
7/Sep/ 0		10:16: 3	1.00	2.6	0.06	20.93
7/Sep/ 0		10:16:13	1.17	2.7	0.04	20.87
7/Sep/ 0		10:16:23	1.33	3.5	0.03	20.22
7/Sep/ 0		10:16:33	1.50	5.5	0.03	19.06
7/Sep/ 0		10:16:43	1.67	6.6	0.11	18.78
7/Sep/ 0		10:16:53	1.83	7.3	0.26	18.54
7/Sep/ 0		10:17: 3	2.00	8.1	0.48	18.26
7/Sep/ 0		10:17:13	2.17	8.7	0.71	18.05
7/Sep/ 0		10:17:23	2.33	9.0	-0.1	0.96
7/Sep/ 0		10:17:33	2.50	9.2	-0.3	1.22
7/Sep/ 0		10:17:43	2.67	9.3	-0.1	1.43
7/Sep/ 0		10:17:53	2.83	9.4	0.2	1.60
7/Sep/ 0		10:18: 3	3.00	9.1	0.4	1.74
7/Sep/ 0		10:18:13	3.17	9.1	-0.8	1.80
7/Sep/ 0		10:18:23	3.33	11.1	-0.4	1.83
7/Sep/ 0		10:18:33	3.50	15.5	0.6	1.91
7/Sep/ 0		10:18:43	3.67	23.1	0.3	2.20
7/Sep/ 0		10:18:53	3.83	31.9	0.9	2.70
7/Sep/ 0		10:19: 3	4.00	37.8	1.1	3.37
7/Sep/ 0		10:19:13	4.17	41.1	0.5	4.16
7/Sep/ 0		10:19:23	4.33	41.6	-0.1	5.13
7/Sep/ 0		10:19:33	4.50	39.1	0.8	5.67
7/Sep/ 0		10:19:43	4.67	35.8	0.5	5.85
7/Sep/ 0		10:19:53	4.83	37.1	0.6	5.72
7/Sep/ 0		10:20: 3	5.00	39.0	0.4	5.58
7/Sep/ 0		10:20:13	5.17	41.0	0.4	5.61
7/Sep/ 0		10:20:23	5.33	43.8	0.9	5.77
7/Sep/ 0		10:20:33	5.50	44.5	0.0	5.94
7/Sep/ 0		10:20:43	5.67	44.1	-0.0	6.09
7/Sep/ 0		10:20:53	5.83	214.7	1.1	6.08
7/Sep/ 0		10:21: 3	6.00	815.3	2.4	6.25
7/Sep/ 0		10:21:13	6.17	1259.9	3.3	8.08
7/Sep/ 0		10:21:23	6.33	1490.5	3.8	11.96
7/Sep/ 0		10:21:33	6.50	1609.8	3.4	13.91
7/Sep/ 0		10:21:43	6.67	1685.2	2.9	14.34
7/Sep/ 0		10:21:53	6.83	1742.7	4.4	14.21
7/Sep/ 0		10:22: 3	7.00	1742.0	4.2	13.99
7/Sep/ 0		10:22:13	7.17	1708.1	4.4	13.61
7/Sep/ 0		10:22:23	7.33	1686.2	4.2	13.06
7/Sep/ 0		10:22:33	7.50	1646.3	4.0	12.68
7/Sep/ 0		10:22:43	7.67	1641.4	4.4	12.51
7/Sep/ 0		10:22:53	7.83	1632.8	4.5	12.63
7/Sep/ 0		10:23: 3	8.00	1614.9	3.3	12.69
7/Sep/ 0		10:23:13	8.17	1578.6	3.6	12.55

7/Sep/ 0	10:23:23	8.33	1625.8	4.3	12.27	13.99
7/Sep/ 0	10:23:33	8.50	1600.4	4.0	12.29	12.89
7/Sep/ 0	10:23:43	8.67	1283.0	2.4	12.85	8.67
7/Sep/ 0	10:23:53	8.83	1024.9	3.1	13.51	6.94
7/Sep/ 0	10:24: 3	9.00	871.6	2.2	13.72	7.21
7/Sep/ 0	10:24:13	9.17	809.3	2.9	13.50	7.61
7/Sep/ 0	10:24:23	9.33	774.8	2.6	13.17	7.83
7/Sep/ 0	10:24:33	9.50	763.5	2.0	12.91	8.06
7/Sep/ 0	10:24:43	9.67	756.6	1.5	12.66	8.42
7/Sep/ 0	10:24:53	9.83	757.0	1.1	12.40	8.54
7/Sep/ 0	10:25: 3	10.00	760.0	1.9	12.24	8.54
7/Sep/ 0	10:25:13	10.17	760.1	2.8	12.18	8.67
7/Sep/ 0	10:25:23	10.33	618.1	2.5	12.06	9.03
7/Sep/ 0	10:25:33	10.50	360.8	1.6	11.12	12.96
7/Sep/ 0	10:25:43	10.67	205.1	1.3	8.38	12.82
7/Sep/ 0	10:25:53	10.83	121.0	0.9	5.81	13.24
7/Sep/ 0	10:26: 3	11.00	74.2	1.0	3.98	13.60
7/Sep/ 0	10:26:13	11.17	52.4	0.7	3.17	14.02
7/Sep/ 0	10:26:23	11.33	40.9	1.2	2.57	14.29
7/Sep/ 0	10:26:33	11.50	33.4	0.9	2.12	14.59
7/Sep/ 0	10:26:43	11.67	29.1	0.4	1.74	14.79
7/Sep/ 0	10:26:53	11.83	25.9	0.7	1.49	15.03
7/Sep/ 0	10:27: 3	12.00	23.5	1.2	1.28	15.24
7/Sep/ 0	10:27:13	12.17	21.8	1.0	1.12	15.43
7/Sep/ 0	10:27:23	12.33	20.6	0.1	0.97	15.62
7/Sep/ 0	10:27:33	12.50	19.3	-0.1	0.87	15.83
7/Sep/ 0	10:27:43	12.67	18.1	0.1	0.77	15.99
7/Sep/ 0	10:27:53	12.83	16.8	0.4	0.69	16.16
7/Sep/ 0	10:28: 3	13.00	15.7	0.4	0.63	16.33
7/Sep/ 0	10:28:13	13.17	14.3	0.1	0.56	16.48
7/Sep/ 0	10:28:23	13.33	13.6	0.1	0.51	16.63
7/Sep/ 0	10:28:33	13.50	12.6	-0.5	0.47	16.78
7/Sep/ 0	10:28:43	13.67	11.9	1.0	0.43	16.92
7/Sep/ 0	10:28:53	13.83	11.3	0.1	0.40	17.06
7/Sep/ 0	10:29: 3	14.00	10.7	0.4	0.37	17.21
7/Sep/ 0	10:29:13	14.17	10.3	0.9	0.34	17.32
7/Sep/ 0	10:29:23	14.33	9.8	1.3	0.32	17.46
7/Sep/ 0	10:29:33	14.50	9.4	0.5	0.30	17.59
7/Sep/ 0	10:29:43	14.67	9.0	1.1	0.28	17.72
7/Sep/ 0	10:29:53	14.83	8.7	1.0	0.26	17.83
7/Sep/ 0	10:30: 3	15.00	8.4	0.6	0.25	17.96
7/Sep/ 0	10:30:13	15.17	8.1	0.2	0.23	18.06
7/Sep/ 0	10:30:23	15.33	7.9	-0.1	0.22	18.19
7/Sep/ 0	10:30:33	15.50	7.6	1.1	0.21	18.31
7/Sep/ 0	10:30:43	15.67	7.4	0.7	0.19	18.41
7/Sep/ 0	10:30:53	15.83	7.2	0.1	0.19	18.52
7/Sep/ 0	10:31: 3	16.00	6.9	0.8	0.18	18.63
7/Sep/ 0	10:31:13	16.17	6.8	0.6	0.16	18.74
7/Sep/ 0	10:31:23	16.33	6.6	0.4	0.16	18.84
7/Sep/ 0	10:31:33	16.50	6.4	0.3	0.15	18.94
7/Sep/ 0	10:31:43	16.67	6.3	-0.2	0.14	19.04
7/Sep/ 0	10:31:53	16.83	6.0	0.7	0.14	19.15
7/Sep/ 0	10:32: 3	17.00	6.0	0.7	0.13	19.22
7/Sep/ 0	10:32:13	17.17	6.0	0.5	0.12	19.31

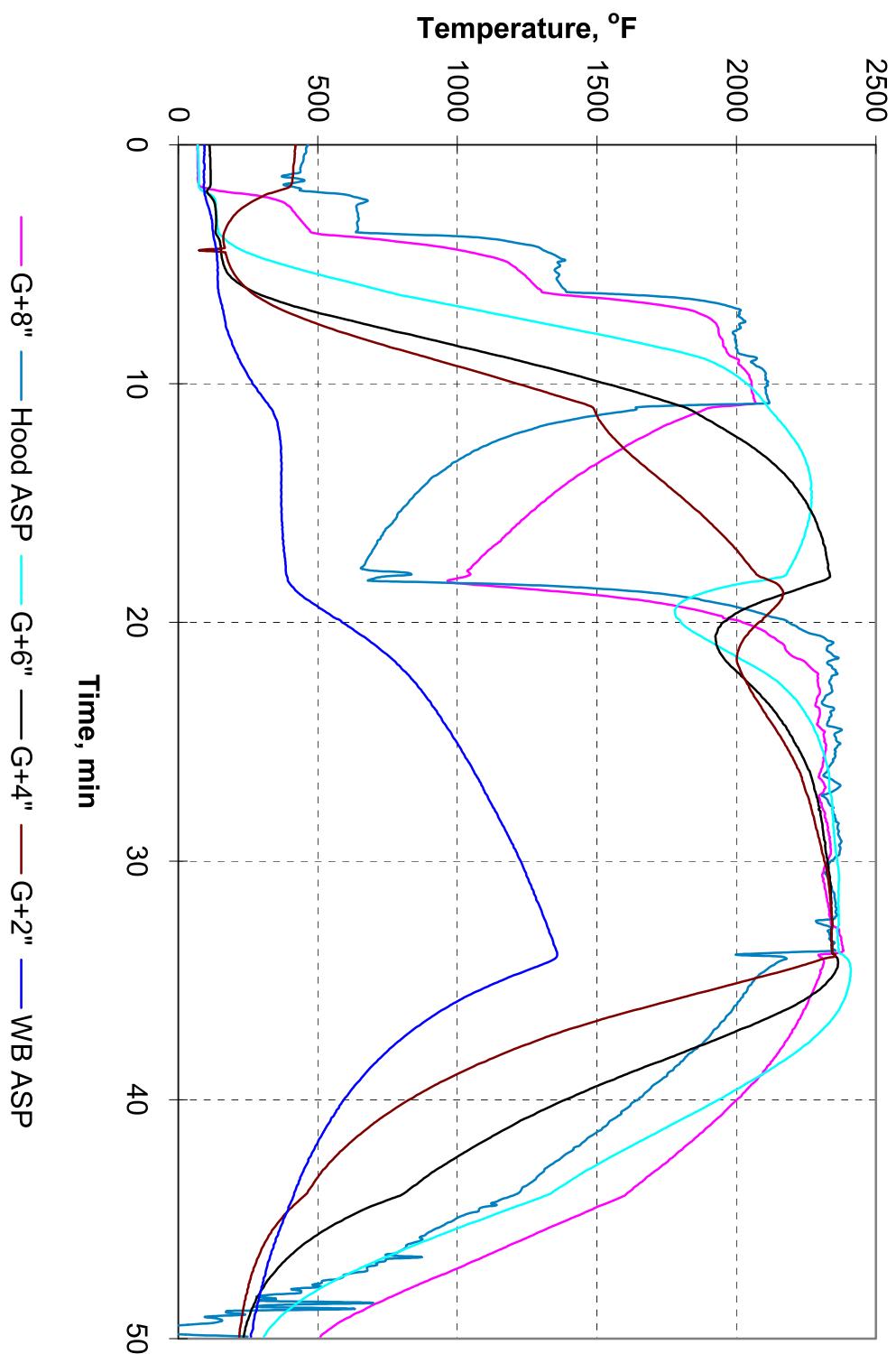
7/Sep/ 0	10:32:23	17.33	6.5	0.3	0.12	19.56
7/Sep/ 0	10:32:33	17.50	136.2	1.2	0.12	30.67
7/Sep/ 0	10:32:43	17.67	150.2	1.3	0.24	30.86
7/Sep/ 0	10:32:53	17.83	243.1	1.2	0.50	20.92
7/Sep/ 0	10:33: 3	18.00	350.8	2.0	1.19	13.69
7/Sep/ 0	10:33:13	18.17	311.6	1.8	3.17	7.30
7/Sep/ 0	10:33:23	18.33	271.1	1.1	7.27	5.11
7/Sep/ 0	10:33:33	18.50	251.5	0.8	10.63	4.70
7/Sep/ 0	10:33:43	18.67	245.9	1.4	11.98	4.59
7/Sep/ 0	10:33:53	18.83	245.6	1.2	12.51	4.41
7/Sep/ 0	10:34: 3	19.00	248.2	2.1	12.80	4.42
7/Sep/ 0	10:34:13	19.17	253.3	1.5	12.93	4.33
7/Sep/ 0	10:34:23	19.33	257.6	0.7	13.00	4.36
7/Sep/ 0	10:34:33	19.50	262.1	1.3	13.04	4.30
7/Sep/ 0	10:34:43	19.67	267.0	1.3	13.06	4.31
7/Sep/ 0	10:34:53	19.83	278.9	0.8	13.03	4.70
7/Sep/ 0	10:35: 3	20.00	288.8	1.2	12.89	5.02
7/Sep/ 0	10:35:13	20.17	296.3	1.2	12.70	5.14
7/Sep/ 0	10:35:23	20.33	304.5	1.0	12.58	5.51
7/Sep/ 0	10:35:33	20.50	312.0	0.7	12.42	5.74
7/Sep/ 0	10:35:43	20.67	318.5	1.4	12.26	5.97
7/Sep/ 0	10:35:53	20.83	323.9	0.6	12.11	6.43
7/Sep/ 0	10:36: 3	21.00	329.3	0.8	11.90	6.65
7/Sep/ 0	10:36:13	21.17	333.1	1.8	11.72	6.77
7/Sep/ 0	10:36:23	21.33	329.1	2.6	11.68	5.73
7/Sep/ 0	10:36:33	21.50	319.9	1.1	12.17	4.74
7/Sep/ 0	10:36:43	21.67	311.1	0.4	12.81	4.41
7/Sep/ 0	10:36:53	21.83	322.2	0.9	13.17	4.60
7/Sep/ 0	10:37: 3	22.00	335.8	1.4	13.10	5.04
7/Sep/ 0	10:37:13	22.17	348.3	1.3	12.86	5.37
7/Sep/ 0	10:37:23	22.33	357.5	0.3	12.64	5.83
7/Sep/ 0	10:37:33	22.50	365.3	1.0	12.39	6.02
7/Sep/ 0	10:37:43	22.67	374.0	1.9	12.30	5.83
7/Sep/ 0	10:37:53	22.83	376.8	0.6	12.42	5.88
7/Sep/ 0	10:38: 3	23.00	378.2	2.2	12.31	6.89
7/Sep/ 0	10:38:13	23.17	380.7	1.6	11.93	6.60
7/Sep/ 0	10:38:23	23.33	310.2	1.8	11.84	7.11
7/Sep/ 0	10:38:33	23.50	184.8	1.2	10.77	15.32
7/Sep/ 0	10:38:43	23.67	100.6	1.1	7.58	18.53
7/Sep/ 0	10:38:53	23.83	52.4	0.5	4.84	20.06
7/Sep/ 0	10:39: 3	24.00	30.9	-0.0	3.28	20.35
7/Sep/ 0	10:39:13	24.17	20.7	0.8	2.44	20.66
7/Sep/ 0	10:39:23	24.33	15.9	-0.0	1.86	20.72
7/Sep/ 0	10:39:33	24.50	13.5	0.8	1.42	20.79
7/Sep/ 0	10:39:43	24.67	12.1	0.6	1.14	20.84
7/Sep/ 0	10:39:53	24.83	11.3	0.2	0.93	20.85
7/Sep/ 0	10:40: 3	25.00	10.7	-0.0	0.77	20.88
7/Sep/ 0	10:40:13	25.17	10.3	0.0	0.65	20.90
7/Sep/ 0	10:40:23	25.33	10.1	0.6	0.55	20.92
7/Sep/ 0	10:40:33	25.50	9.9	-0.1	0.48	20.93
7/Sep/ 0	10:40:43	25.67	9.6	0.1	0.42	20.94
7/Sep/ 0	10:40:53	25.83	9.4	0.0	0.37	20.94
7/Sep/ 0	10:41: 3	26.00	9.3	0.2	0.34	20.96
7/Sep/ 0	10:41:13	26.17	9.0	0.1	0.31	20.96

7/Sep/ 0	10:41:23	26.33	9.1	0.3	0.28	20.96
7/Sep/ 0	10:41:33	26.50	8.8	0.4	0.26	20.96
7/Sep/ 0	10:41:43	26.67	8.7	-0.0	0.24	20.97
7/Sep/ 0	10:41:53	26.83	8.6	0.3	0.23	20.97
7/Sep/ 0	10:42: 3	27.00	8.7	0.6	0.21	20.97
7/Sep/ 0	10:42:13	27.17	8.5	1.5	0.20	20.97
7/Sep/ 0	10:42:23	27.33	8.4	0.7	0.19	20.98
7/Sep/ 0	10:42:33	27.50	8.3	0.2	0.19	20.97
7/Sep/ 0	10:42:43	27.67	8.2	-0.0	0.18	20.99
7/Sep/ 0	10:42:53	27.83	8.2	-0.1	0.17	20.96
7/Sep/ 0	10:43: 3	28.00	8.1	-0.5	0.16	20.99
7/Sep/ 0	10:43:13	28.17	8.0	0.8	0.16	20.98
7/Sep/ 0	10:43:23	28.33	7.8	0.2	0.15	20.99
7/Sep/ 0	10:43:33	28.50	7.8	0.4	0.15	20.99
7/Sep/ 0	10:43:43	28.67	7.9	-0.3	0.15	20.99
7/Sep/ 0	10:43:53	28.83	7.6	0.0	0.15	21.00
7/Sep/ 0	10:44: 3	29.00	7.7	0.2	0.14	20.99
7/Sep/ 0	10:44:13	29.17	7.7	0.3	0.15	21.00
7/Sep/ 0	10:44:23	29.33	7.6	0.5	0.14	20.99
7/Sep/ 0	10:44:33	29.50	7.7	0.5	0.15	21.00
7/Sep/ 0	10:44:43	29.67	7.7	0.0	0.14	20.98
7/Sep/ 0	10:44:53	29.83	7.5	0.5	0.14	21.01
7/Sep/ 0	10:45: 3	30.00	7.5	0.0	0.14	20.99
7/Sep/ 0	10:45:13	30.17	7.5	0.8	0.13	21.01
7/Sep/ 0	10:45:23	30.33	7.3	0.0	0.13	20.99
7/Sep/ 0	10:45:33	30.50	7.3	0.2	0.13	21.00
7/Sep/ 0	10:45:43	30.67	7.4	0.4	0.13	21.00
7/Sep/ 0	10:45:53	30.83	7.2	1.0	0.13	20.99
7/Sep/ 0	10:46: 3	31.00	7.3	0.7	0.13	21.01
7/Sep/ 0	10:46:13	31.17	7.3	0.6	0.13	21.00
7/Sep/ 0	10:46:23	31.33	7.3	0.1	0.12	21.01
7/Sep/ 0	10:46:33	31.50	7.2	-0.0	0.12	21.00
7/Sep/ 0	10:46:43	31.67	7.2	0.5	0.12	21.01
7/Sep/ 0	10:46:53	31.83	7.1	0.7	0.12	21.00
7/Sep/ 0	10:47: 3	32.00	7.1	1.3	0.12	21.01
7/Sep/ 0	10:47:13	32.17	6.9	0.5	0.12	21.01
7/Sep/ 0	10:47:23	32.33	7.1	-0.1	0.12	21.00
7/Sep/ 0	10:47:33	32.50	7.1	1.1	0.11	21.01
7/Sep/ 0	10:47:43	32.67	7.0	-0.3	0.11	21.00
7/Sep/ 0	10:47:53	32.83	6.8	0.2	0.11	21.01
7/Sep/ 0	10:48: 3	33.00	7.0	0.2	0.11	20.99
7/Sep/ 0	10:48:13	33.17	6.9	0.0	0.11	21.00
7/Sep/ 0	10:48:23	33.33	6.9	-0.1	0.11	21.00
7/Sep/ 0	10:48:33	33.50	7.0	0.4	0.11	21.01
7/Sep/ 0	10:48:43	33.67	6.9	0.3	0.11	21.01
7/Sep/ 0	10:48:53	33.83	6.9	-1.1	0.11	21.01
7/Sep/ 0	10:49: 3	34.00	6.8	0.9	0.11	21.00
7/Sep/ 0	10:49:13	34.17	6.8	-0.2	0.11	21.00
7/Sep/ 0	10:49:23	34.33	6.8	0.3	0.11	21.01
7/Sep/ 0	10:49:33	34.50	6.9	-0.2	0.11	21.01
7/Sep/ 0	10:49:43	34.67	6.7	0.6	0.10	21.01
7/Sep/ 0	10:49:53	34.83	6.9	0.2	0.11	21.01
7/Sep/ 0	10:50: 3	35.00	6.9	-0.1	0.11	21.02
7/Sep/ 0	10:50:13	35.17	6.9	0.1	0.10	21.01

Test 15 Pot Grate NOx - Acid Stoichiometric Air – 2350

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2367	2370	2407	2355	2353	1357
0	69	466	70	112	421	92
1	69	437	73	115	412	94
2	187	513	97	103	340	95
3	428	644	136	135	196	118
4	751	1165	172	148	161	130
5	1190	1365	369	162	182	140
6	1287	1378	697	244	244	142
7	1857	2010	1105	492	389	162
8	1939	1996	1532	847	626	182
9	2008	2069	1893	1206	918	219
10	2054	2108	2037	1532	1214	266
11	1912	1641	2114	1816	1484	329
12	1703	1240	2186	1967	1539	361
13	1549	1032	2241	2096	1624	368
14	1415	904	2265	2188	1725	370
15	1302	824	2269	2250	1828	369
16	1206	752	2253	2292	1920	373
17	1109	696	2224	2319	2003	378
18	1046	835	2179	2335	2073	387
19	1607	1857	1829	2124	2163	455
20	2021	2187	1801	1953	2081	587
21	2173	2327	1935	1931	2012	710
22	2277	2356	2086	1997	2014	806
23	2298	2333	2194	2083	2059	881
24	2296	2333	2257	2153	2113	941
25	2315	2362	2299	2207	2168	997
26	2309	2335	2325	2252	2215	1048
27	2315	2357	2333	2280	2246	1094
28	2317	2345	2345	2301	2272	1142
29	2335	2370	2351	2314	2294	1185
30	2327	2338	2361	2326	2315	1227
31	2316	2336	2367	2337	2331	1264
32	2333	2360	2365	2341	2339	1299
33	2367	2332	2363	2340	2341	1330
34	2298	2157	2388	2355	2353	1357
35	2290	2063	2407	2331	2039	1158
36	2253	2002	2377	2216	1713	980
37	2208	1930	2314	2026	1413	848
38	2152	1840	2214	1813	1178	746
39	2084	1750	2083	1590	985	662
40	2002	1647	1935	1387	826	593
41	1911	1540	1774	1207	699	538
42	1811	1417	1613	1054	596	490
43	1706	1310	1457	915	515	448
44	1600	1201	1320	796	453	414
45	1400	992	1088	593	367	377
46	1206	839	865	454	309	345

**Pot Grate NO_x Acid Test Stoichiometric Air 2350F
Test #00-15, Temperature Profile**



Test 15 Pot Grate Gas Analysis - Computer Data Collection system went down during test the numbers were collected by hand.

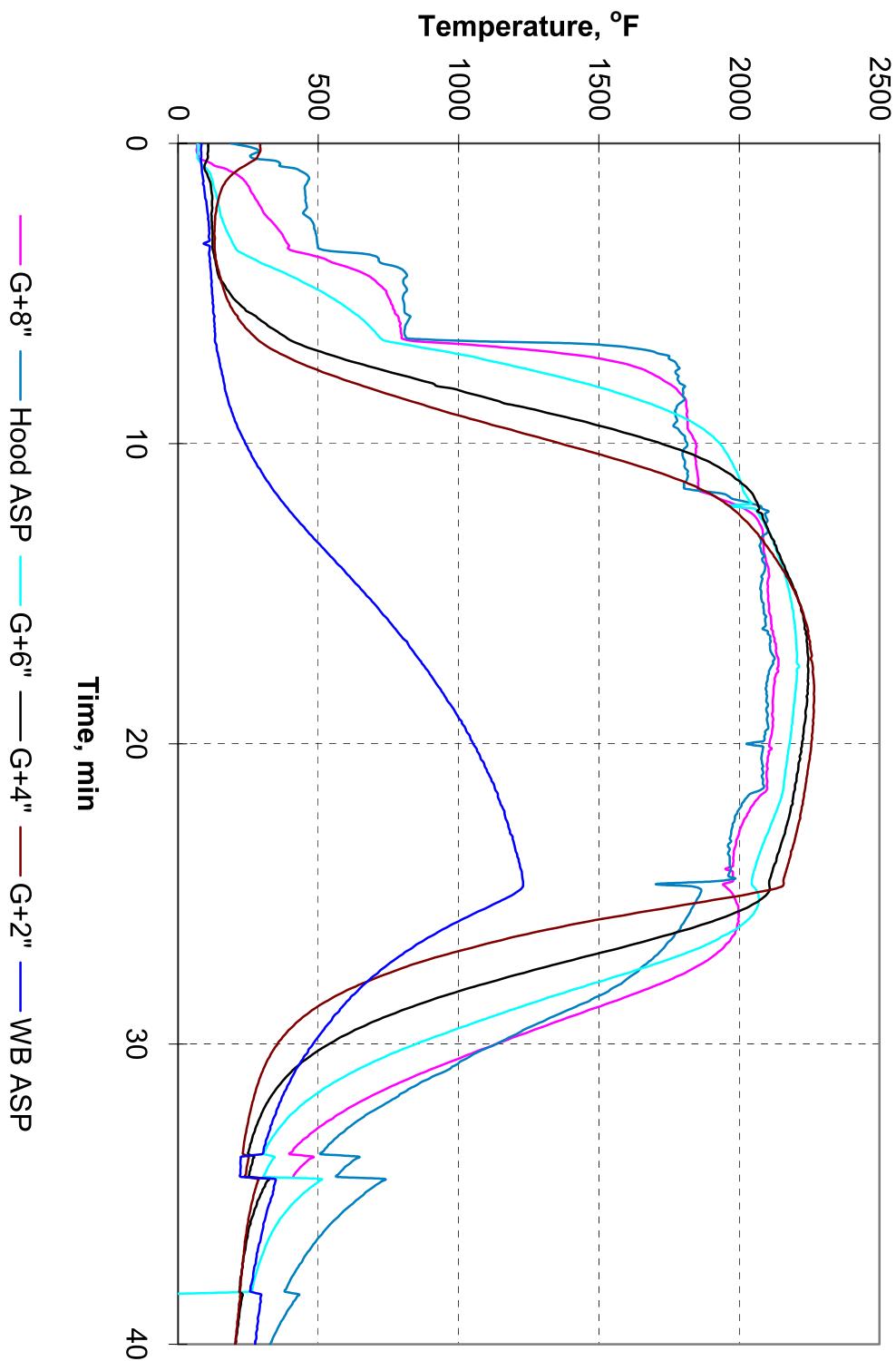
Time O2, % CO2, % NOx,ppm

0	18.0	0.8	10
1	17.9	1.6	15
2	18.0	2.0	20
3	11.6	6.2	60
4	12.3	6.0	75
5	8.8	18.0	1750
6	13.5	17.5	1700
7	13.3	16.4	1500
8	7.2	15.8	750
9	7.8	15.0	550
10	10.9	8.0	90
11	12.1	5.2	55
12	10.5	5.2	45
13	11.2	3.9	40
14	11.7	3.4	30
15	11.8	3.5	30
16	13.6	3.5	25
17	6.0	10.0	200
18	4.6	13.4	265
19	4.5	13.6	405
20	4.6	13.5	550
21	4.7	13.8	580
22	4.6	13.5	610
23	4.5	13.6	540
24	4.6	13.7	490
25	4.5	13.7	450
26	4.4	13.8	420
27	4.3	13.7	395
28	4.1	13.7	400
29	4.0	13.8	405
30	4.2	13.6	385
31	4.4	13.4	375
32	4.9	13.0	250
33	20.7	1.4	20
34	20.9	0.5	15
35	20.9	0.5	15
36	21.0	0.4	15
37	21.0	0.3	10
38	21.0	0.3	5
39	21.0	0.3	10
40	21.0	0.3	5
41	21.0	0.3	10

Test 16 Pot Grate NOx Acid 1% Coal Base Case 2100F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2133	2118	2206	2246	2266	1217
0	68	188	70	108	294	83
1	202	452	114	102	197	86
2	286	457	143	121	140	101
3	370	491	178	123	130	111
4	563	729	300	135	137	115
5	744	806	523	185	168	121
6	793	816	672	312	228	130
7	1374	1712	989	527	363	141
8	1749	1789	1453	909	633	164
9	1813	1775	1771	1328	977	194
10	1845	1816	1931	1723	1364	240
11	1852	1815	1994	1964	1726	300
12	1979	2045	2042	2066	1952	378
13	2085	2097	2110	2109	2065	468
14	2098	2091	2149	2157	2141	568
15	2103	2079	2180	2204	2200	667
16	2114	2095	2198	2233	2239	760
17	2133	2118	2206	2244	2258	844
18	2125	2097	2203	2246	2266	921
19	2118	2102	2192	2236	2265	992
20	2108	2027	2180	2224	2257	1052
21	2098	2085	2164	2207	2243	1106
22	2052	2010	2143	2191	2227	1149
23	1999	1971	2101	2163	2204	1185
24	1978	1966	2060	2127	2174	1217
25	1977	1860	2068	2099	2037	1198
26	1994	1800	2014	1877	1416	981
27	1917	1711	1803	1490	963	801
28	1719	1579	1473	1090	653	665
29	1427	1357	1145	765	461	562
30	1132	1135	848	538	355	481
31	861	929	609	396	297	412
32	634	736	445	314	264	360
33	470	579	345	269	241	321
34	448	609	327	263	247	222

**Pot Grate NO_x Test -Acid 1% Coal Base 2100F
Test #00-16, Temperature Profile**



Test 16 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
20/Sep/ 0	10:20: 5	0.00	3.9	0.3	0.63	0.06
20/Sep/ 0	10:20:15	0.17	3.9	0.4	-0.75	0.06
20/Sep/ 0	10:20:25	0.33	3.9	0.1	-0.26	0.06
20/Sep/ 0	10:20:35	0.50	4.0	0.0	-0.22	0.06
20/Sep/ 0	10:20:45	0.67	3.9	-0.2	0.69	0.05
20/Sep/ 0	10:20:55	0.83	3.9	-0.2	1.23	0.05
20/Sep/ 0	10:21: 5	1.00	4.0	-0.1	0.29	0.06
20/Sep/ 0	10:21:15	1.17	4.0	-0.0	0.41	0.06
20/Sep/ 0	10:21:25	1.33	3.9	0.1	0.51	0.06
20/Sep/ 0	10:21:35	1.50	4.0	0.1	0.66	0.06
20/Sep/ 0	10:21:45	1.67	4.1	0.2	0.28	0.06
20/Sep/ 0	10:21:55	1.83	4.2	13.8	0.29	0.08
20/Sep/ 0	10:22: 5	2.00	4.7	353.8	-0.07	0.25
20/Sep/ 0	10:22:15	2.17	5.3	700.3	-0.39	0.67
20/Sep/ 0	10:22:25	2.33	5.8	1068.8	0.43	1.02
20/Sep/ 0	10:22:35	2.50	6.3	1107.5	0.70	1.26
20/Sep/ 0	10:22:45	2.67	6.3	1080.7	0.38	1.39
20/Sep/ 0	10:22:55	2.83	6.6	1041.6	-0.18	1.39
20/Sep/ 0	10:23: 5	3.00	6.6	1023.6	0.46	1.35
20/Sep/ 0	10:23:15	3.17	6.5	1020.8	-0.18	1.31
20/Sep/ 0	10:23:25	3.33	6.7	1012.1	-0.91	1.30
20/Sep/ 0	10:23:35	3.50	6.8	1005.4	-0.47	1.29
20/Sep/ 0	10:23:45	3.67	6.8	1010.2	-0.16	1.28
20/Sep/ 0	10:23:55	3.83	7.1	1061.5	0.50	1.25
20/Sep/ 0	10:24: 5	4.00	7.0	1096.8	1.04	1.29
20/Sep/ 0	10:24:15	4.17	7.3	1087.2	0.20	1.35
20/Sep/ 0	10:24:25	4.33	7.1	1089.1	-0.28	1.38
20/Sep/ 0	10:24:35	4.50	7.4	1095.2	0.09	1.40
20/Sep/ 0	10:24:45	4.67	7.4	1089.5	-0.70	1.41
20/Sep/ 0	10:24:55	4.83	7.6	1075.3	0.13	1.41
20/Sep/ 0	10:25: 5	5.00	8.9	1108.6	-0.04	1.47
20/Sep/ 0	10:25:15	5.17	10.9	1111.4	0.23	1.88
20/Sep/ 0	10:25:25	5.33	13.3	1143.1	0.40	2.26
20/Sep/ 0	10:25:35	5.50	16.4	1098.4	0.25	2.44
20/Sep/ 0	10:25:45	5.67	19.2	1054.5	0.44	2.61
20/Sep/ 0	10:25:55	5.83	20.6	1033.7	-0.49	2.71
20/Sep/ 0	10:26: 5	6.00	21.8	1044.9	0.48	2.70
20/Sep/ 0	10:26:15	6.17	22.5	1025.7	0.82	2.66
20/Sep/ 0	10:26:25	6.33	22.5	1030.7	-0.09	2.66
20/Sep/ 0	10:26:35	6.50	22.4	1047.5	0.10	2.62
20/Sep/ 0	10:26:45	6.67	22.0	1040.1	-0.15	2.57
20/Sep/ 0	10:26:55	6.83	22.1	1043.4	1.04	2.56
20/Sep/ 0	10:27: 5	7.00	22.4	1037.8	0.22	2.54
20/Sep/ 0	10:27:15	7.17	22.9	974.2	0.07	2.55
20/Sep/ 0	10:27:25	7.33	22.8	958.5	0.77	2.59
20/Sep/ 0	10:27:35	7.50	23.1	947.6	-0.46	2.55
20/Sep/ 0	10:27:45	7.67	23.2	955.7	0.10	2.53
20/Sep/ 0	10:27:55	7.83	40.8	937.1	0.06	2.52
20/Sep/ 0	10:28: 5	8.00	297.3	512.3	2.49	2.88
20/Sep/ 0	10:28:15	8.17	595.0	494.2	1.85	5.54
						14.45

20/Sep/	0	10:28:25	8.33	837.2	864.7	1.43	8.87	13.58
20/Sep/	0	10:28:35	8.50	989.5	1152.9	1.66	10.70	13.06
20/Sep/	0	10:28:45	8.67	1094.0	1260.5	1.93	11.40	13.28
20/Sep/	0	10:28:55	8.83	1125.9	1278.1	1.96	11.67	13.62
20/Sep/	0	10:29: 5	9.00	1116.4	1268.4	2.98	11.51	14.33
20/Sep/	0	10:29:15	9.17	1120.4	1235.7	1.29	11.20	14.63
20/Sep/	0	10:29:25	9.33	1138.4	1205.8	1.87	11.15	14.81
20/Sep/	0	10:29:35	9.50	1159.6	1171.4	2.30	11.19	14.94
20/Sep/	0	10:29:45	9.67	1161.8	1152.1	2.86	11.19	15.22
20/Sep/	0	10:29:55	9.83	1151.4	1105.8	2.56	11.05	15.32
20/Sep/	0	10:30: 5	10.00	1126.9	1065.5	2.34	10.91	15.66
20/Sep/	0	10:30:15	10.17	1101.1	1004.3	2.14	10.67	16.01
20/Sep/	0	10:30:25	10.33	1084.6	912.9	2.48	10.47	16.32
20/Sep/	0	10:30:35	10.50	1083.2	809.2	1.80	10.31	16.52
20/Sep/	0	10:30:45	10.67	1078.2	699.3	1.61	10.26	16.73
20/Sep/	0	10:30:55	10.83	1080.7	580.2	1.96	10.17	16.84
20/Sep/	0	10:31: 5	11.00	1103.4	469.8	2.34	10.16	16.66
20/Sep/	0	10:31:15	11.17	1121.4	379.4	2.24	10.32	16.62
20/Sep/	0	10:31:25	11.33	1132.2	303.9	2.38	10.38	16.66
20/Sep/	0	10:31:35	11.50	1111.7	241.2	2.17	10.31	16.95
20/Sep/	0	10:31:45	11.67	1096.6	203.0	2.00	10.01	17.28
20/Sep/	0	10:31:55	11.83	1096.5	176.7	2.34	9.80	17.45
20/Sep/	0	10:32: 5	12.00	1098.1	156.3	2.33	9.70	17.58
20/Sep/	0	10:32:15	12.17	1099.9	141.9	2.44	9.59	17.67
20/Sep/	0	10:32:25	12.33	1104.7	129.6	1.84	9.48	17.76
20/Sep/	0	10:32:35	12.50	1108.3	119.0	2.18	9.39	17.93
20/Sep/	0	10:32:45	12.67	1096.0	108.3	2.14	9.18	18.15
20/Sep/	0	10:32:55	12.83	1096.6	98.1	2.36	8.98	18.34
20/Sep/	0	10:33: 5	13.00	1146.2	89.9	2.96	9.13	15.45
20/Sep/	0	10:33:15	13.17	1205.3	81.4	3.20	10.55	13.24
20/Sep/	0	10:33:25	13.33	1297.0	75.5	2.49	11.56	12.03
20/Sep/	0	10:33:35	13.50	1369.0	69.3	2.26	12.36	11.45
20/Sep/	0	10:33:45	13.67	1385.9	61.9	2.52	12.65	11.57
20/Sep/	0	10:33:55	13.83	1391.3	55.3	3.31	12.39	12.08
20/Sep/	0	10:34: 5	14.00	1366.0	48.6	2.85	12.04	12.57
20/Sep/	0	10:34:15	14.17	1349.4	43.0	2.66	11.66	12.87
20/Sep/	0	10:34:25	14.33	1323.8	37.6	3.46	11.44	13.14
20/Sep/	0	10:34:35	14.50	1290.0	33.2	2.96	11.09	13.67
20/Sep/	0	10:34:45	14.67	1269.3	28.9	2.77	10.72	13.91
20/Sep/	0	10:34:55	14.83	1254.0	25.5	2.52	10.52	14.00
20/Sep/	0	10:35: 5	15.00	1258.9	22.8	2.17	10.43	14.03
20/Sep/	0	10:35:15	15.17	1264.2	20.7	2.88	10.40	14.03
20/Sep/	0	10:35:25	15.33	1277.7	18.6	2.89	10.40	14.04
20/Sep/	0	10:35:35	15.50	1294.0	17.1	3.79	10.43	14.03
20/Sep/	0	10:35:45	15.67	1291.4	15.8	2.66	10.44	14.19
20/Sep/	0	10:35:55	15.83	1272.5	14.6	3.01	10.21	14.62
20/Sep/	0	10:36: 5	16.00	1264.4	13.5	2.44	9.93	14.79
20/Sep/	0	10:36:15	16.17	1252.1	12.9	2.69	9.80	14.86
20/Sep/	0	10:36:25	16.33	1254.3	12.4	1.97	9.73	14.91
20/Sep/	0	10:36:35	16.50	1257.7	11.6	2.16	9.68	14.93
20/Sep/	0	10:36:45	16.67	1259.8	11.4	2.59	9.66	14.95
20/Sep/	0	10:36:55	16.83	1265.7	11.1	3.49	9.64	14.98
20/Sep/	0	10:37: 5	17.00	1272.5	10.7	2.44	9.64	14.98
20/Sep/	0	10:37:15	17.17	1279.8	10.6	2.69	9.63	15.04

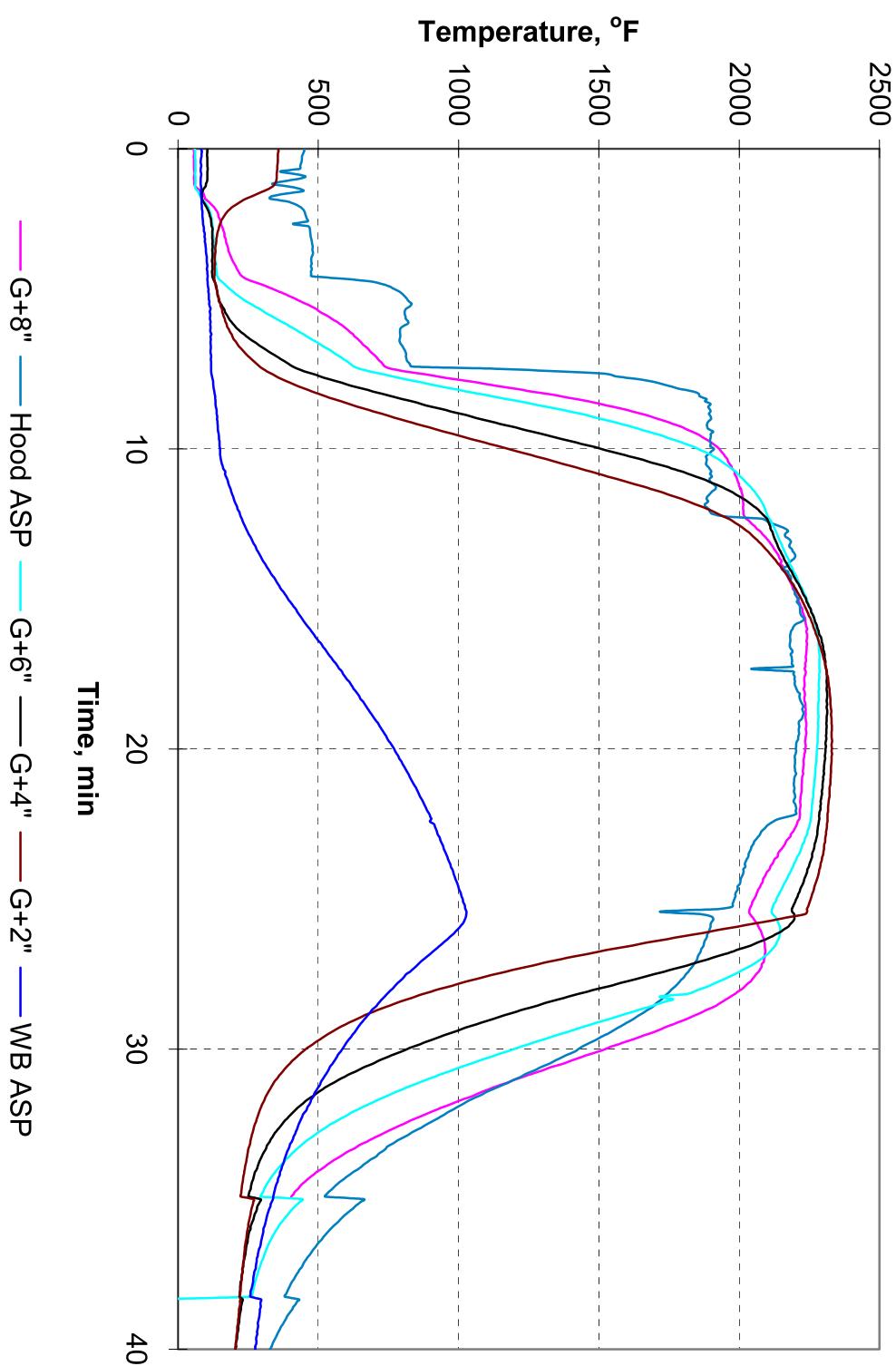
20/Sep/	0	10:37:25	17.33	1286.4	10.4	3.00	9.61	15.08
20/Sep/	0	10:37:35	17.50	1294.7	10.3	2.54	9.59	15.10
20/Sep/	0	10:37:45	17.67	1307.8	10.0	3.18	9.62	15.10
20/Sep/	0	10:37:55	17.83	1319.4	9.8	3.81	9.64	15.11
20/Sep/	0	10:38: 5	18.00	1324.4	9.8	3.11	9.65	15.14
20/Sep/	0	10:38:15	18.17	1327.3	9.4	3.03	9.63	15.17
20/Sep/	0	10:38:25	18.33	1334.5	9.3	2.86	9.61	15.21
20/Sep/	0	10:38:35	18.50	1334.5	9.1	2.62	9.60	15.24
20/Sep/	0	10:38:45	18.67	1330.9	9.1	3.37	9.57	15.31
20/Sep/	0	10:38:55	18.83	1307.3	8.8	2.43	9.46	15.70
20/Sep/	0	10:39: 5	19.00	1287.1	8.9	3.22	9.18	16.02
20/Sep/	0	10:39:15	19.17	1273.5	8.6	2.65	9.01	16.17
20/Sep/	0	10:39:25	19.33	1268.1	8.6	2.44	8.94	16.25
20/Sep/	0	10:39:35	19.50	1261.5	8.2	2.81	8.90	16.30
20/Sep/	0	10:39:45	19.67	1261.8	8.3	2.62	8.89	16.33
20/Sep/	0	10:39:55	19.83	1258.9	8.2	3.58	8.87	16.37
20/Sep/	0	10:40: 5	20.00	1256.1	8.1	3.41	8.85	16.39
20/Sep/	0	10:40:15	20.17	1255.1	8.0	2.74	8.84	16.40
20/Sep/	0	10:40:25	20.33	1253.8	8.1	3.40	8.84	16.41
20/Sep/	0	10:40:35	20.50	1250.2	8.0	3.30	8.84	16.43
20/Sep/	0	10:40:45	20.67	1251.1	8.0	2.54	8.83	16.46
20/Sep/	0	10:40:55	20.83	1239.3	7.8	2.80	8.81	16.53
20/Sep/	0	10:41: 5	21.00	1224.1	7.8	2.95	8.74	16.72
20/Sep/	0	10:41:15	21.17	1202.4	7.8	3.63	8.63	16.85
20/Sep/	0	10:41:25	21.33	1185.6	7.8	3.29	8.54	16.93
20/Sep/	0	10:41:35	21.50	1172.5	7.5	2.73	8.47	16.97
20/Sep/	0	10:41:45	21.67	1162.7	7.8	3.44	8.44	17.00
20/Sep/	0	10:41:55	21.83	1151.1	7.6	3.01	8.41	17.02
20/Sep/	0	10:42: 5	22.00	1143.3	7.3	2.43	8.37	17.05
20/Sep/	0	10:42:15	22.17	1149.2	7.5	3.14	8.37	17.04
20/Sep/	0	10:42:25	22.33	1151.8	7.4	3.70	8.42	17.04
20/Sep/	0	10:42:35	22.50	1156.6	7.3	3.29	8.43	17.04
20/Sep/	0	10:42:45	22.67	1153.4	7.3	2.28	8.43	17.04
20/Sep/	0	10:42:55	22.83	1144.7	7.2	2.94	8.44	17.08
20/Sep/	0	10:43: 5	23.00	1084.4	7.2	3.37	8.29	18.01
20/Sep/	0	10:43:15	23.17	1026.2	7.1	3.09	7.76	18.55
20/Sep/	0	10:43:25	23.33	988.3	6.8	2.24	7.42	18.78
20/Sep/	0	10:43:35	23.50	958.5	6.5	2.58	7.27	18.82
20/Sep/	0	10:43:45	23.67	941.4	6.6	2.34	7.23	18.85
20/Sep/	0	10:43:55	23.83	927.8	6.7	1.26	7.19	18.88
20/Sep/	0	10:44: 5	24.00	915.7	6.6	2.68	7.15	18.90
20/Sep/	0	10:44:15	24.17	904.4	6.4	2.94	7.12	18.90
20/Sep/	0	10:44:25	24.33	895.9	6.4	3.02	7.10	18.88
20/Sep/	0	10:44:35	24.50	887.4	6.4	1.83	7.08	18.88
20/Sep/	0	10:44:45	24.67	881.8	6.3	1.72	7.07	18.86
20/Sep/	0	10:44:55	24.83	878.2	6.3	1.33	7.06	18.83
20/Sep/	0	10:45: 5	25.00	869.9	6.2	2.91	7.08	18.65
20/Sep/	0	10:45:15	25.17	862.6	6.2	1.86	7.10	18.48
20/Sep/	0	10:45:25	25.33	853.6	6.2	1.75	7.13	18.34
20/Sep/	0	10:45:35	25.50	839.7	6.1	1.90	7.14	18.21
20/Sep/	0	10:45:45	25.67	830.2	6.1	1.41	7.16	18.10
20/Sep/	0	10:45:55	25.83	713.4	6.3	2.01	7.18	16.72
20/Sep/	0	10:46: 5	26.00	469.3	6.4	2.15	6.91	16.19
20/Sep/	0	10:46:15	26.17	296.3	5.8	1.37	4.16	19.46

20/Sep/	0	10:46:25	26.33	188.5	5.0	1.54	1.90	20.71
20/Sep/	0	10:46:35	26.50	128.5	4.6	2.22	0.82	20.98
20/Sep/	0	10:46:45	26.67	93.6	4.5	0.43	0.43	21.01
20/Sep/	0	10:46:55	26.83	73.1	4.2	1.07	0.28	21.02
20/Sep/	0	10:47: 5	27.00	61.9	4.0	0.20	0.20	21.03
20/Sep/	0	10:47:15	27.17	54.3	4.1	0.55	0.17	21.04
20/Sep/	0	10:47:25	27.33	48.9	4.1	0.22	0.14	21.03
20/Sep/	0	10:47:35	27.50	44.6	3.8	0.84	0.13	21.04
20/Sep/	0	10:47:45	27.67	41.3	3.9	1.49	0.12	21.04
20/Sep/	0	10:47:55	27.83	38.9	3.7	0.69	0.11	21.04
20/Sep/	0	10:48: 5	28.00	36.4	4.0	0.47	0.11	21.05
20/Sep/	0	10:48:15	28.17	34.4	3.7	0.93	0.11	21.05
20/Sep/	0	10:48:25	28.33	33.1	4.0	1.07	0.11	21.06
20/Sep/	0	10:48:35	28.50	31.3	3.8	1.24	0.10	21.03
20/Sep/	0	10:48:45	28.67	30.2	3.7	0.42	0.10	21.05
20/Sep/	0	10:48:55	28.83	29.0	3.8	0.86	0.10	21.05
20/Sep/	0	10:49: 5	29.00	28.1	3.7	1.19	0.10	21.04
20/Sep/	0	10:49:15	29.17	27.1	3.7	0.19	0.10	21.05
20/Sep/	0	10:49:25	29.33	26.4	3.8	0.34	0.10	21.05
20/Sep/	0	10:49:35	29.50	25.4	3.4	0.23	0.09	21.05
20/Sep/	0	10:49:45	29.67	24.6	3.6	-0.34	0.09	21.04
20/Sep/	0	10:49:55	29.83	24.1	3.2	0.52	0.09	21.06
20/Sep/	0	10:50: 5	30.00	23.5	3.5	0.56	0.09	21.05
20/Sep/	0	10:50:15	30.17	22.9	3.2	0.04	0.09	21.06
20/Sep/	0	10:50:25	30.33	22.4	3.2	-0.04	0.08	21.05
20/Sep/	0	10:50:35	30.50	22.0	3.2	0.25	0.09	21.05
20/Sep/	0	10:50:45	30.67	21.4	2.9	1.08	0.08	21.05
20/Sep/	0	10:50:55	30.83	20.9	3.0	0.67	0.08	21.06
20/Sep/	0	10:51: 5	31.00	20.7	3.0	-0.50	0.08	21.06
20/Sep/	0	10:51:15	31.17	20.0	3.0	1.37	0.08	21.05
20/Sep/	0	10:51:25	31.33	19.8	3.0	1.30	0.08	21.06
20/Sep/	0	10:51:35	31.50	19.4	2.5	-0.30	0.08	21.06
20/Sep/	0	10:51:45	31.67	19.2	2.9	0.07	0.08	21.05
20/Sep/	0	10:51:55	31.83	18.7	2.8	0.54	0.08	21.06
20/Sep/	0	10:52: 5	32.00	18.6	2.8	0.41	0.08	21.06
20/Sep/	0	10:52:15	32.17	18.4	2.8	0.21	0.08	21.06
20/Sep/	0	10:52:25	32.33	18.1	2.5	0.66	0.08	21.05
20/Sep/	0	10:52:35	32.50	17.9	2.5	0.09	0.08	21.07
20/Sep/	0	10:52:45	32.67	17.7	2.6	-0.91	0.07	21.06
20/Sep/	0	10:52:55	32.83	17.4	2.5	0.14	0.08	21.07
20/Sep/	0	10:53: 5	33.00	17.2	2.5	0.29	0.07	21.05
20/Sep/	0	10:53:15	33.17	16.8	2.3	0.13	0.07	21.06
20/Sep/	0	10:53:25	33.33	16.6	2.3	-0.07	0.07	21.04
20/Sep/	0	10:53:35	33.50	16.4	2.3	0.30	0.07	21.07
20/Sep/	0	10:53:45	33.67	16.3	2.2	0.22	0.07	21.06
20/Sep/	0	10:53:55	33.83	16.2	2.3	-0.63	0.07	21.07
20/Sep/	0	10:54: 5	34.00	16.2	2.2	0.78	0.07	21.07
20/Sep/	0	10:54:15	34.17	16.1	2.1	-0.58	0.07	21.07
20/Sep/	0	10:54:25	34.33	15.7	2.2	1.22	0.07	21.06
20/Sep/	0	10:54:35	34.50	15.6	2.0	-0.63	0.07	21.07
20/Sep/	0	10:54:45	34.67	15.5	2.1	0.40	0.07	21.06
20/Sep/	0	10:54:55	34.83	15.4	2.1	-0.09	0.07	21.07
20/Sep/	0	10:55: 5	35.00	15.1	1.9	0.46	0.06	21.06
20/Sep/	0	10:55:15	35.17	15.1	2.0	0.75	0.07	21.06

Test 17 Pot-Grate NOx Acid 1% Coal Base Case 2200F

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2242	2222	2286	2312	2330	1015
0	56	451	60	104	357	81
1	57	433	63	105	352	80
2	132	444	110	105	186	85
3	170	474	126	122	136	96
4	210	477	136	123	130	103
5	419	816	230	144	146	110
6	600	792	414	211	180	116
7	711	814	589	365	261	117
8	1205	1786	981	660	453	127
9	1712	1900	1509	1077	788	139
10	1930	1911	1853	1508	1177	150
11	1993	1894	2013	1869	1562	175
12	2014	1892	2092	2065	1886	212
13	2098	2178	2142	2127	2060	261
14	2160	2152	2190	2180	2154	322
15	2208	2213	2241	2239	2222	392
16	2242	2191	2276	2280	2267	470
17	2238	2188	2286	2306	2302	549
18	2230	2204	2285	2312	2322	626
19	2237	2222	2282	2312	2330	701
20	2234	2202	2277	2308	2330	771
21	2224	2196	2269	2300	2326	830
22	2217	2203	2259	2290	2317	885
23	2175	2061	2234	2274	2307	934
24	2108	2015	2186	2244	2286	977
25	2053	1983	2133	2203	2255	1015
26	2073	1895	2146	2162	1945	998
27	2088	1850	2078	1890	1366	876
28	2010	1760	1862	1493	931	763
29	1811	1622	1535	1121	636	664
30	1522	1426	1197	816	455	585
31	1206	1203	892	577	352	516
32	926	983	643	421	293	459
33	690	791	466	331	260	409
34	510	641	354	280	237	368

**Pot Grate NO_x Test -Acid 1% Coal Base 2200F
Test #00-17, Temperature Profile**



Test 17 Pot Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, ppm</u>
21/Sep/ 0	10:10: 6	0.00	2.8	1.4	0.06	20.96
21/Sep/ 0	10:10:16	0.17	2.8	1.1	0.0	20.99
21/Sep/ 0	10:10:26	0.33	2.9	1.4	0.0	20.96
21/Sep/ 0	10:10:36	0.50	2.9	1.2	-0.3	20.98
21/Sep/ 0	10:10:46	0.67	2.8	0.8	-0.5	20.98
21/Sep/ 0	10:10:56	0.83	2.9	0.8	0.6	20.99
21/Sep/ 0	10:11: 6	1.00	3.0	1.0	0.1	20.98
21/Sep/ 0	10:11:16	1.17	2.9	0.2	0.2	20.99
21/Sep/ 0	10:11:26	1.33	3.1	0.3	-0.5	20.99
21/Sep/ 0	10:11:36	1.50	3.0	-0.2	-0.0	21.02
21/Sep/ 0	10:11:46	1.67	3.1	-0.1	0.5	0.03
21/Sep/ 0	10:11:56	1.83	2.9	-0.2	1.0	0.03
21/Sep/ 0	10:12: 6	2.00	3.0	0.0	-0.2	21.01
21/Sep/ 0	10:12:16	2.17	3.1	-0.2	0.2	0.03
21/Sep/ 0	10:12:26	2.33	3.0	-0.5	0.4	0.03
21/Sep/ 0	10:12:36	2.50	3.2	-0.1	0.3	0.03
21/Sep/ 0	10:12:46	2.67	3.1	0.2	-0.0	20.99
21/Sep/ 0	10:12:56	2.83	3.6	18.2	-0.5	0.06
21/Sep/ 0	10:13: 6	3.00	4.6	291.6	-0.3	0.40
21/Sep/ 0	10:13:16	3.17	4.7	353.9	-0.3	0.80
21/Sep/ 0	10:13:26	3.33	5.2	478.9	-0.4	0.67
21/Sep/ 0	10:13:36	3.50	5.7	866.5	-0.2	0.81
21/Sep/ 0	10:13:46	3.67	6.2	912.5	0.3	1.02
21/Sep/ 0	10:13:56	3.83	6.6	919.0	0.3	1.15
21/Sep/ 0	10:14: 6	4.00	6.9	913.8	0.7	1.20
21/Sep/ 0	10:14:16	4.17	7.1	905.7	-0.2	1.22
21/Sep/ 0	10:14:26	4.33	7.3	897.0	0.1	1.23
21/Sep/ 0	10:14:36	4.50	7.2	891.8	-0.4	1.24
21/Sep/ 0	10:14:46	4.67	7.4	896.0	0.3	1.26
21/Sep/ 0	10:14:56	4.83	7.4	896.2	0.1	1.26
21/Sep/ 0	10:15: 6	5.00	7.3	892.2	-0.6	1.26
21/Sep/ 0	10:15:16	5.17	7.3	891.7	-0.4	1.27
21/Sep/ 0	10:15:26	5.33	7.5	894.0	0.3	1.25
21/Sep/ 0	10:15:36	5.50	7.3	904.2	-0.0	1.23
21/Sep/ 0	10:15:46	5.67	7.4	905.6	-0.3	1.21
21/Sep/ 0	10:15:56	5.83	7.6	909.7	-0.1	1.21
21/Sep/ 0	10:16: 6	6.00	9.9	970.2	-0.7	1.41
21/Sep/ 0	10:16:16	6.17	13.6	1018.6	-0.8	2.10
21/Sep/ 0	10:16:26	6.33	17.3	990.3	-0.1	2.48
21/Sep/ 0	10:16:36	6.50	20.5	942.4	-0.5	2.64
21/Sep/ 0	10:16:46	6.67	23.1	930.1	-0.1	2.71
21/Sep/ 0	10:16:56	6.83	23.9	910.9	-0.4	2.75
21/Sep/ 0	10:17: 6	7.00	23.8	909.0	-0.2	2.72
21/Sep/ 0	10:17:16	7.17	24.1	921.6	-0.2	2.62
21/Sep/ 0	10:17:26	7.33	24.4	887.3	0.3	2.59
21/Sep/ 0	10:17:36	7.50	24.8	857.5	-0.2	2.58
21/Sep/ 0	10:17:46	7.67	25.0	860.4	-0.4	2.50
21/Sep/ 0	10:17:56	7.83	25.1	857.3	-0.4	2.43
21/Sep/ 0	10:18: 6	8.00	25.3	866.0	-0.6	2.40
21/Sep/ 0	10:18:16	8.17	26.3	852.3	-0.3	2.40

21/Sep/ 0	10:18:26	8.33	27.2	831.9	0.1	2.44	17.35
21/Sep/ 0	10:18:36	8.50	27.5	830.5	-0.6	2.47	17.32
21/Sep/ 0	10:18:46	8.67	27.6	839.1	-0.3	2.49	17.29
21/Sep/ 0	10:18:56	8.83	43.1	804.2	0.9	2.51	17.10
21/Sep/ 0	10:19: 6	9.00	276.2	436.2	1.5	3.29	14.89
21/Sep/ 0	10:19:16	9.17	576.1	444.9	2.0	6.57	14.75
21/Sep/ 0	10:19:26	9.33	870.1	763.4	1.0	8.93	13.89
21/Sep/ 0	10:19:36	9.50	1093.4	1058.7	2.3	10.80	12.98
21/Sep/ 0	10:19:46	9.67	1301.6	1170.8	2.4	11.93	12.33
21/Sep/ 0	10:19:56	9.83	1410.4	1196.7	2.3	12.73	12.12
21/Sep/ 0	10:20: 6	10.00	1463.2	1209.1	2.8	12.91	12.31
21/Sep/ 0	10:20:16	10.17	1481.5	1233.7	2.7	12.79	12.86
21/Sep/ 0	10:20:26	10.33	1468.0	1219.9	2.8	12.65	13.11
21/Sep/ 0	10:20:36	10.50	1467.2	1205.9	2.5	12.42	13.52
21/Sep/ 0	10:20:46	10.67	1460.0	1193.1	2.9	12.36	13.88
21/Sep/ 0	10:20:56	10.83	1438.7	1148.7	3.3	12.18	14.28
21/Sep/ 0	10:21: 6	11.00	1440.3	1077.1	2.7	12.06	14.39
21/Sep/ 0	10:21:16	11.17	1455.8	1009.0	3.1	12.17	14.60
21/Sep/ 0	10:21:26	11.33	1449.2	931.7	1.9	12.20	14.85
21/Sep/ 0	10:21:36	11.50	1445.9	826.0	3.7	12.12	14.98
21/Sep/ 0	10:21:46	11.67	1437.4	719.0	3.2	12.10	15.09
21/Sep/ 0	10:21:56	11.83	1398.5	614.2	2.7	11.90	15.60
21/Sep/ 0	10:22: 6	12.00	1368.1	487.9	2.8	11.56	15.91
21/Sep/ 0	10:22:16	12.17	1381.8	388.5	2.1	11.35	16.04
21/Sep/ 0	10:22:26	12.33	1398.7	292.2	2.9	11.34	16.13
21/Sep/ 0	10:22:36	12.50	1400.8	234.2	3.1	11.24	16.25
21/Sep/ 0	10:22:46	12.67	1400.7	193.5	3.1	11.08	16.36
21/Sep/ 0	10:22:56	12.83	1418.9	163.0	2.8	10.94	16.48
21/Sep/ 0	10:23: 6	13.00	1407.4	141.2	2.4	10.88	16.67
21/Sep/ 0	10:23:16	13.17	1381.6	122.6	2.2	10.52	17.24
21/Sep/ 0	10:23:26	13.33	1384.1	120.8	2.8	10.15	17.63
21/Sep/ 0	10:23:36	13.50	1343.7	106.5	2.3	9.91	17.87
21/Sep/ 0	10:23:46	13.67	1357.3	94.3	3.0	9.69	17.55
21/Sep/ 0	10:23:56	13.83	1496.5	84.1	2.9	9.79	17.25
21/Sep/ 0	10:24: 6	14.00	1588.3	81.0	3.4	11.70	12.03
21/Sep/ 0	10:24:16	14.17	1628.9	73.8	4.1	13.52	10.60
21/Sep/ 0	10:24:26	14.33	1655.2	64.6	3.4	13.88	10.36
21/Sep/ 0	10:24:36	14.50	1644.1	55.3	3.3	13.57	10.99
21/Sep/ 0	10:24:46	14.67	1636.8	48.6	3.4	13.10	11.32
21/Sep/ 0	10:24:56	14.83	1646.3	42.5	3.3	12.87	11.55
21/Sep/ 0	10:25: 6	15.00	1656.8	37.6	3.5	12.73	11.70
21/Sep/ 0	10:25:16	15.17	1661.0	33.1	3.7	12.63	11.85
21/Sep/ 0	10:25:26	15.33	1624.3	29.0	3.4	12.41	12.36
21/Sep/ 0	10:25:36	15.50	1568.2	25.0	3.3	11.80	12.96
21/Sep/ 0	10:25:46	15.67	1552.7	22.4	3.9	11.40	12.98
21/Sep/ 0	10:25:56	15.83	1564.3	20.2	3.7	11.48	12.70
21/Sep/ 0	10:26: 6	16.00	1612.0	18.7	3.1	11.57	12.89
21/Sep/ 0	10:26:16	16.17	1654.1	17.6	3.2	11.60	12.96
21/Sep/ 0	10:26:26	16.33	1690.3	16.0	3.4	11.62	12.99
21/Sep/ 0	10:26:36	16.50	1711.4	15.4	3.4	11.62	13.02
21/Sep/ 0	10:26:46	16.67	1729.6	14.4	3.1	11.57	13.09
21/Sep/ 0	10:26:56	16.83	1734.3	14.0	3.4	11.52	13.15
21/Sep/ 0	10:27: 6	17.00	1741.9	13.4	2.8	11.45	13.23
21/Sep/ 0	10:27:16	17.17	1743.9	12.6	3.3	11.39	13.29

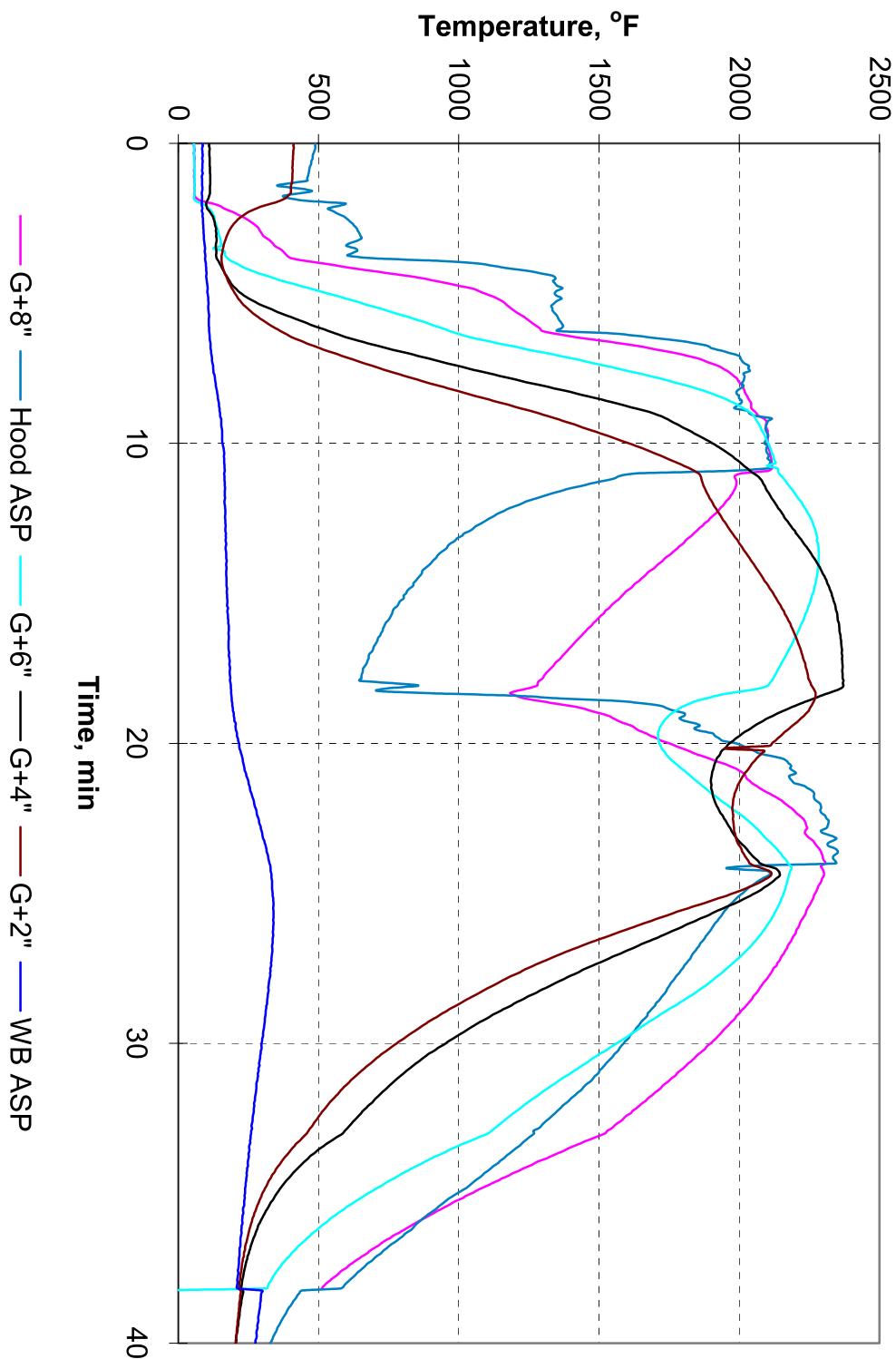
21/Sep/ 0	10:27:26	17.33	1721.9	12.5	3.8	11.32	13.48
21/Sep/ 0	10:27:36	17.50	1660.1	12.0	2.7	10.91	14.28
21/Sep/ 0	10:27:46	17.67	1611.3	11.5	2.7	10.40	14.66
21/Sep/ 0	10:27:56	17.83	1586.3	11.2	3.6	10.14	14.85
21/Sep/ 0	10:28: 6	18.00	1582.6	10.8	3.0	10.06	14.90
21/Sep/ 0	10:28:16	18.17	1597.6	10.7	3.4	10.10	14.91
21/Sep/ 0	10:28:26	18.33	1610.2	10.6	3.2	10.16	14.92
21/Sep/ 0	10:28:36	18.50	1622.1	10.2	2.8	10.17	14.96
21/Sep/ 0	10:28:46	18.67	1627.4	10.3	3.0	10.16	15.00
21/Sep/ 0	10:28:56	18.83	1633.1	10.2	3.4	10.16	15.00
21/Sep/ 0	10:29: 6	19.00	1637.1	9.9	3.6	10.14	15.03
21/Sep/ 0	10:29:16	19.17	1645.7	10.1	3.3	10.15	15.02
21/Sep/ 0	10:29:26	19.33	1653.2	10.2	3.6	10.17	15.03
21/Sep/ 0	10:29:36	19.50	1666.6	9.7	3.3	10.15	15.12
21/Sep/ 0	10:29:46	19.67	1695.5	10.0	2.9	10.21	15.08
21/Sep/ 0	10:29:56	19.83	1714.2	10.0	3.3	10.33	15.01
21/Sep/ 0	10:30: 6	20.00	1733.2	9.6	3.4	10.38	15.02
21/Sep/ 0	10:30:16	20.17	1727.9	9.8	3.4	10.38	15.02
21/Sep/ 0	10:30:26	20.33	1729.0	9.8	3.3	10.38	15.07
21/Sep/ 0	10:30:36	20.50	1723.2	9.3	2.9	10.33	15.13
21/Sep/ 0	10:30:46	20.67	1702.1	9.7	3.5	10.21	15.48
21/Sep/ 0	10:30:56	20.83	1673.1	9.6	3.8	10.00	15.69
21/Sep/ 0	10:31: 6	21.00	1653.6	9.5	3.4	9.88	15.80
21/Sep/ 0	10:31:16	21.17	1640.7	9.5	3.0	9.82	15.84
21/Sep/ 0	10:31:26	21.33	1620.6	9.5	3.6	9.76	15.95
21/Sep/ 0	10:31:36	21.50	1606.2	9.4	3.5	9.66	16.08
21/Sep/ 0	10:31:46	21.67	1586.8	9.2	3.1	9.57	16.18
21/Sep/ 0	10:31:56	21.83	1576.5	9.0	2.9	9.50	16.23
21/Sep/ 0	10:32: 6	22.00	1571.7	9.1	3.3	9.48	16.23
21/Sep/ 0	10:32:16	22.17	1564.1	9.2	3.4	9.47	16.27
21/Sep/ 0	10:32:26	22.33	1551.0	8.8	2.9	9.43	16.30
21/Sep/ 0	10:32:36	22.50	1543.4	9.0	3.2	9.41	16.32
21/Sep/ 0	10:32:46	22.67	1536.6	9.0	2.8	9.38	16.34
21/Sep/ 0	10:32:56	22.83	1528.0	8.6	3.7	9.33	16.36
21/Sep/ 0	10:33: 6	23.00	1506.9	8.7	2.7	9.30	16.39
21/Sep/ 0	10:33:16	23.17	1496.9	8.5	3.9	9.25	16.41
21/Sep/ 0	10:33:26	23.33	1486.4	8.6	3.4	9.20	16.43
21/Sep/ 0	10:33:36	23.50	1505.8	8.4	3.0	9.20	16.42
21/Sep/ 0	10:33:46	23.67	1520.7	8.7	3.6	9.32	16.38
21/Sep/ 0	10:33:56	23.83	1453.3	8.6	3.0	9.33	16.73
21/Sep/ 0	10:34: 6	24.00	1320.7	8.1	3.2	8.60	18.40
21/Sep/ 0	10:34:16	24.17	1223.1	7.8	3.1	7.77	18.99
21/Sep/ 0	10:34:26	24.33	1161.9	7.8	2.6	7.48	19.20
21/Sep/ 0	10:34:36	24.50	1126.3	7.9	3.2	7.38	19.24
21/Sep/ 0	10:34:46	24.67	1102.3	7.5	3.5	7.31	19.29
21/Sep/ 0	10:34:56	24.83	1086.2	7.6	2.5	7.27	19.31
21/Sep/ 0	10:35: 6	25.00	1073.9	7.5	2.0	7.25	19.33
21/Sep/ 0	10:35:16	25.17	1071.2	7.6	2.0	7.24	19.35
21/Sep/ 0	10:35:26	25.33	1065.2	7.3	2.4	7.23	19.36
21/Sep/ 0	10:35:36	25.50	1055.6	7.4	2.1	7.22	19.38
21/Sep/ 0	10:35:46	25.67	1046.5	7.5	2.0	7.20	19.39
21/Sep/ 0	10:35:56	25.83	1034.4	7.3	2.6	7.15	19.40
21/Sep/ 0	10:36: 6	26.00	1023.9	7.2	3.2	7.12	19.41
21/Sep/ 0	10:36:16	26.17	1007.7	7.2	1.8	7.07	19.42

21/Sep/ 0	10:36:26	26.33	992.5	7.1	2.2	7.03	19.43
21/Sep/ 0	10:36:36	26.50	980.2	7.1	2.6	6.98	19.46
21/Sep/ 0	10:36:46	26.67	968.4	7.2	3.0	6.92	19.47
21/Sep/ 0	10:36:56	26.83	867.5	6.9	2.8	6.90	19.09
21/Sep/ 0	10:37: 6	27.00	567.4	7.0	1.3	6.44	17.04
21/Sep/ 0	10:37:16	27.17	336.4	6.6	1.1	3.41	19.93
21/Sep/ 0	10:37:26	27.33	204.4	6.0	0.7	1.45	20.91
21/Sep/ 0	10:37:36	27.50	133.5	5.4	0.5	0.65	21.06
21/Sep/ 0	10:37:46	27.67	91.6	5.4	0.1	0.42	21.06
21/Sep/ 0	10:37:56	27.83	71.5	5.0	0.2	0.33	21.06
21/Sep/ 0	10:38: 6	28.00	59.1	5.1	-0.0	0.29	21.06
21/Sep/ 0	10:38:16	28.17	50.4	4.7	-0.1	0.27	21.06
21/Sep/ 0	10:38:26	28.33	45.0	4.8	0.7	0.26	21.06
21/Sep/ 0	10:38:36	28.50	41.1	4.5	0.4	0.25	21.06
21/Sep/ 0	10:38:46	28.67	37.3	4.5	0.7	0.25	21.06
21/Sep/ 0	10:38:56	28.83	34.8	4.5	0.6	0.24	21.07
21/Sep/ 0	10:39: 6	29.00	32.7	4.6	0.5	0.24	21.07
21/Sep/ 0	10:39:16	29.17	30.4	4.6	-0.0	0.24	21.06
21/Sep/ 0	10:39:26	29.33	28.6	4.3	0.6	0.23	21.07
21/Sep/ 0	10:39:36	29.50	26.9	4.4	-0.3	0.23	21.06
21/Sep/ 0	10:39:46	29.67	25.4	4.1	1.5	0.23	21.07
21/Sep/ 0	10:39:56	29.83	24.1	4.2	0.6	0.23	21.07
21/Sep/ 0	10:40: 6	30.00	23.2	4.3	0.3	0.23	21.06
21/Sep/ 0	10:40:16	30.17	22.1	4.1	-0.0	0.23	21.06
21/Sep/ 0	10:40:26	30.33	21.5	4.0	0.4	0.23	21.08
21/Sep/ 0	10:40:36	30.50	20.5	3.8	0.7	0.22	21.07
21/Sep/ 0	10:40:46	30.67	19.9	4.0	0.9	0.22	21.08
21/Sep/ 0	10:40:56	30.83	19.1	4.1	-0.6	0.22	21.07
21/Sep/ 0	10:41: 6	31.00	18.8	3.8	0.8	0.22	21.09
21/Sep/ 0	10:41:16	31.17	18.2	3.9	0.5	0.22	21.05
21/Sep/ 0	10:41:26	31.33	17.3	3.8	0.4	0.22	21.08
21/Sep/ 0	10:41:36	31.50	16.8	3.4	-0.2	0.22	21.07
21/Sep/ 0	10:41:46	31.67	16.4	3.6	-0.2	0.22	21.08
21/Sep/ 0	10:41:56	31.83	16.0	3.6	-0.1	0.22	21.07
21/Sep/ 0	10:42: 6	32.00	15.3	3.2	1.1	0.21	21.08
21/Sep/ 0	10:42:16	32.17	15.0	3.2	0.7	0.21	21.07
21/Sep/ 0	10:42:26	32.33	14.3	3.3	0.6	0.21	21.08
21/Sep/ 0	10:42:36	32.50	14.1	3.0	0.8	0.21	21.07
21/Sep/ 0	10:42:46	32.67	13.8	3.3	-0.1	0.21	21.09
21/Sep/ 0	10:42:56	32.83	13.5	3.2	0.2	0.21	21.07
21/Sep/ 0	10:43: 6	33.00	13.3	3.0	-0.4	0.21	21.09
21/Sep/ 0	10:43:16	33.17	12.9	2.7	-0.4	0.21	21.08
21/Sep/ 0	10:43:26	33.33	12.3	2.8	-0.2	0.21	21.08
21/Sep/ 0	10:43:36	33.50	12.6	2.5	0.2	0.20	21.08
21/Sep/ 0	10:43:46	33.67	12.4	2.7	1.1	0.21	21.09
21/Sep/ 0	10:43:56	33.83	11.9	2.6	0.3	0.20	21.08
21/Sep/ 0	10:44: 6	34.00	11.9	2.3	-0.1	0.20	21.09
21/Sep/ 0	10:44:16	34.17	11.4	2.5	0.2	0.20	21.08
21/Sep/ 0	10:44:26	34.33	11.0	2.5	0.6	0.20	21.09
21/Sep/ 0	10:44:36	34.50	11.0	2.5	0.8	0.20	21.08
21/Sep/ 0	10:44:46	34.67	10.7	2.3	0.6	0.20	21.08
21/Sep/ 0	10:44:56	34.83	10.5	2.2	-0.4	0.20	21.08
21/Sep/ 0	10:45: 6	35.00	10.2	2.2	-0.2	0.20	21.09
21/Sep/ 0	10:45:16	35.17	10.1	2.4	0.2	0.20	21.09

Test 18 Pot-Grate NOx Coal(1%) Acid – Stoichiometric Air – 2350

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2307	2345	2284	2369	2254	339
0	55	489	56	109	411	86
1	57	464	57	113	406	87
2	121	595	82	99	333	84
3	297	646	144	135	177	90
4	512	1059	206	147	155	98
5	1093	1342	532	224	202	105
6	1264	1367	890	460	317	109
7	1776	1968	1316	819	558	117
8	2004	2008	1783	1261	897	133
9	2061	2036	2044	1694	1286	149
10	2102	2089	2103	1904	1606	158
11	2007	1631	2142	2052	1856	164
12	1948	1226	2225	2128	1906	165
13	1839	1020	2274	2202	1975	169
14	1714	900	2284	2279	2050	171
15	1591	812	2263	2329	2121	173
16	1479	739	2223	2355	2181	178
17	1378	683	2170	2365	2223	181
18	1281	771	2108	2369	2254	187
19	1503	1804	1760	2138	2239	197
20	1749	1986	1715	1966	2118	216
21	2016	2202	1815	1903	2020	241
22	2161	2287	1948	1915	1978	270
23	2234	2300	2079	1978	1984	299
24	2307	2345	2175	2075	2037	325
25	2272	2013	2158	2056	1978	336
26	2217	1914	2105	1824	1662	339
27	2159	1836	2016	1579	1371	334
28	2085	1756	1891	1343	1138	322
29	2001	1674	1725	1133	942	312
30	1899	1588	1564	954	779	297
31	1779	1498	1399	804	643	284
32	1655	1382	1243	689	538	270
33	1522	1268	1105	587	458	259
34	1271	1139	870	443	364	247
35	1048	995	678	352	301	238
36	845	851	522	290	260	228
37	673	724	404	251	234	218
38	529	599	324	226	218	211

**Pot Grate Coal (1%) Acid NO_x Stoichiometric Air 2350F
Test #00-18, Temperature Profile**



Test 18 Pot Grate Gas Analysis

<u>Date/Clock</u>		<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
25/Sep/ 0	10:10:33	0.00	6.5	-0.7	-0.40	0.06	21.01
25/Sep/ 0	10:10:43	0.17	6.6	1.4	-0.17	0.06	21.03
25/Sep/ 0	10:10:53	0.33	6.5	1.1	0.40	0.06	21.02
25/Sep/ 0	10:11: 3	0.50	6.5	1.0	-0.68	0.06	21.04
25/Sep/ 0	10:11:13	0.67	6.6	0.8	0.45	0.05	21.02
25/Sep/ 0	10:11:23	0.83	6.4	0.9	0.00	0.05	21.04
25/Sep/ 0	10:11:33	1.00	6.5	0.7	-0.13	0.05	21.04
25/Sep/ 0	10:11:43	1.17	6.5	0.4	0.24	0.05	21.05
25/Sep/ 0	10:11:53	1.33	6.7	0.4	-0.03	0.04	21.06
25/Sep/ 0	10:12: 3	1.50	6.7	0.4	-0.06	0.04	21.05
25/Sep/ 0	10:12:13	1.67	6.7	0.5	-0.23	0.05	21.08
25/Sep/ 0	10:12:23	1.83	6.7	0.5	0.51	0.05	21.06
25/Sep/ 0	10:12:33	2.00	6.9	0.7	0.50	0.05	21.05
25/Sep/ 0	10:12:43	2.17	7.0	24.9	1.77	0.07	20.76
25/Sep/ 0	10:12:53	2.33	8.7	393.0	0.51	0.39	19.21
25/Sep/ 0	10:13: 3	2.50	10.0	987.6	0.62	1.38	18.76
25/Sep/ 0	10:13:13	2.67	10.5	1126.6	0.50	1.64	18.69
25/Sep/ 0	10:13:23	2.83	11.3	1127.4	-0.01	1.71	18.47
25/Sep/ 0	10:13:33	3.00	12.1	1103.4	-0.25	1.84	18.30
25/Sep/ 0	10:13:43	3.17	12.5	1084.3	0.06	1.96	18.23
25/Sep/ 0	10:13:53	3.33	13.0	1060.8	0.21	2.02	18.14
25/Sep/ 0	10:14: 3	3.50	13.2	1059.7	-0.15	2.06	18.16
25/Sep/ 0	10:14:13	3.67	13.1	1055.8	0.86	2.05	18.42
25/Sep/ 0	10:14:23	3.83	13.0	1075.0	0.90	1.90	18.49
25/Sep/ 0	10:14:33	4.00	13.1	1079.9	0.59	1.88	18.46
25/Sep/ 0	10:14:43	4.17	15.3	1076.0	0.61	1.85	18.36
25/Sep/ 0	10:14:53	4.33	26.7	620.7	0.38	2.31	15.31
25/Sep/ 0	10:15: 3	4.50	41.5	203.2	0.15	3.73	13.68
25/Sep/ 0	10:15:13	4.67	52.7	82.9	0.07	4.93	12.35
25/Sep/ 0	10:15:23	4.83	58.9	75.1	0.23	5.95	11.53
25/Sep/ 0	10:15:33	5.00	59.2	102.4	0.46	6.37	11.81
25/Sep/ 0	10:15:43	5.17	59.7	133.2	0.74	6.36	11.75
25/Sep/ 0	10:15:53	5.33	58.2	176.1	-0.01	6.33	12.25
25/Sep/ 0	10:16: 3	5.50	59.4	212.5	0.16	6.15	12.15
25/Sep/ 0	10:16:13	5.67	59.5	273.5	1.46	6.21	12.32
25/Sep/ 0	10:16:23	5.83	60.5	345.6	0.36	6.05	12.66
25/Sep/ 0	10:16:33	6.00	62.9	404.0	-0.15	5.87	12.66
25/Sep/ 0	10:16:43	6.17	68.0	467.5	0.36	5.90	12.54
25/Sep/ 0	10:16:53	6.33	72.9	524.1	0.02	5.99	12.40
25/Sep/ 0	10:17: 3	6.50	78.5	571.2	-0.14	6.10	12.36
25/Sep/ 0	10:17:13	6.67	234.2	604.3	0.78	6.17	11.91
25/Sep/ 0	10:17:23	6.83	677.9	940.4	0.84	7.97	13.59
25/Sep/ 0	10:17:33	7.00	1142.7	1038.9	2.24	11.02	12.50
25/Sep/ 0	10:17:43	7.17	1423.2	1020.7	2.71	13.42	11.57
25/Sep/ 0	10:17:53	7.33	1634.4	1040.5	3.50	14.38	11.14
25/Sep/ 0	10:18: 3	7.50	1775.4	1053.9	3.02	15.37	10.72
25/Sep/ 0	10:18:13	7.67	1846.2	1146.8	3.46	15.71	11.25
25/Sep/ 0	10:18:23	7.83	1884.2	1189.3	4.10	15.66	11.61
25/Sep/ 0	10:18:33	8.00	1892.6	1241.8	2.94	15.50	12.29
25/Sep/ 0	10:18:43	8.17	1878.5	1255.3	3.60	15.18	12.90

25/Sep/	0	10:18:53	8.33	1846.0	1231.3	3.50	14.91	13.36
25/Sep/	0	10:19: 3	8.50	1833.2	1209.6	3.77	14.59	13.77
25/Sep/	0	10:19:13	8.67	1822.5	1171.6	3.12	14.42	14.30
25/Sep/	0	10:19:23	8.83	1846.7	1106.1	3.39	14.24	14.46
25/Sep/	0	10:19:33	9.00	1850.1	1013.6	3.07	14.41	14.52
25/Sep/	0	10:19:43	9.17	1822.8	931.9	2.98	14.18	15.05
25/Sep/	0	10:19:53	9.33	1697.1	781.1	3.15	13.99	13.77
25/Sep/	0	10:20: 3	9.50	1343.0	534.1	3.22	14.80	8.28
25/Sep/	0	10:20:13	9.67	1042.3	555.5	2.83	15.37	6.75
25/Sep/	0	10:20:23	9.83	884.1	512.0	1.71	14.60	7.21
25/Sep/	0	10:20:33	10.00	789.7	434.4	1.73	14.11	7.20
25/Sep/	0	10:20:43	10.17	735.2	374.6	1.58	13.87	7.64
25/Sep/	0	10:20:53	10.33	711.5	318.6	1.51	13.46	7.94
25/Sep/	0	10:21: 3	10.50	698.9	261.6	2.02	13.34	7.92
25/Sep/	0	10:21:13	10.67	690.7	225.5	1.34	13.32	7.95
25/Sep/	0	10:21:23	10.83	684.3	198.2	1.79	13.31	7.98
25/Sep/	0	10:21:33	11.00	679.3	174.6	0.91	13.19	8.20
25/Sep/	0	10:21:43	11.17	666.8	152.3	1.13	13.05	8.31
25/Sep/	0	10:21:53	11.33	488.5	134.7	1.89	12.20	12.76
25/Sep/	0	10:22: 3	11.50	315.8	97.9	0.42	7.98	13.74
25/Sep/	0	10:22:13	11.67	201.3	55.3	0.77	5.99	12.15
25/Sep/	0	10:22:23	11.83	140.7	45.9	-0.20	5.97	11.80
25/Sep/	0	10:22:33	12.00	107.2	41.2	-0.22	5.57	11.93
25/Sep/	0	10:22:43	12.17	87.0	37.9	0.42	4.96	12.18
25/Sep/	0	10:22:53	12.33	73.3	34.9	0.14	4.43	12.48
25/Sep/	0	10:23: 3	12.50	65.5	31.9	0.55	3.98	12.79
25/Sep/	0	10:23:13	12.67	59.0	29.7	-0.04	3.71	13.06
25/Sep/	0	10:23:23	12.83	54.5	27.4	-0.03	3.47	13.37
25/Sep/	0	10:23:33	13.00	50.2	25.0	-0.14	3.25	13.71
25/Sep/	0	10:23:43	13.17	46.5	23.1	-0.20	3.02	14.01
25/Sep/	0	10:23:53	13.33	43.7	21.2	0.04	2.81	14.32
25/Sep/	0	10:24: 3	13.50	40.8	19.0	0.11	2.61	14.66
25/Sep/	0	10:24:13	13.67	38.4	17.6	0.25	2.42	14.96
25/Sep/	0	10:24:23	13.83	36.4	15.5	0.08	2.23	15.29
25/Sep/	0	10:24:33	14.00	34.1	13.5	0.83	2.05	15.58
25/Sep/	0	10:24:43	14.17	31.9	11.7	0.86	1.87	15.86
25/Sep/	0	10:24:53	14.33	30.2	9.9	0.67	1.72	16.13
25/Sep/	0	10:25: 3	14.50	28.4	8.3	-0.35	1.57	16.42
25/Sep/	0	10:25:13	14.67	26.7	6.6	0.05	1.42	16.67
25/Sep/	0	10:25:23	14.83	25.3	5.5	0.03	1.30	16.92
25/Sep/	0	10:25:33	15.00	24.1	5.5	-0.56	1.19	17.19
25/Sep/	0	10:25:43	15.17	22.9	5.7	-0.39	1.07	17.43
25/Sep/	0	10:25:53	15.33	21.7	5.3	0.02	0.98	17.66
25/Sep/	0	10:26: 3	15.50	20.6	4.5	0.26	0.89	17.88
25/Sep/	0	10:26:13	15.67	19.8	3.8	-0.22	0.81	18.09
25/Sep/	0	10:26:23	15.83	18.9	3.0	0.36	0.74	18.30
25/Sep/	0	10:26:33	16.00	18.3	2.8	-0.23	0.68	18.49
25/Sep/	0	10:26:43	16.17	17.7	2.7	0.04	0.63	18.68
25/Sep/	0	10:26:53	16.33	17.3	2.2	0.58	0.57	18.85
25/Sep/	0	10:27: 3	16.50	16.8	1.9	0.83	0.54	19.01
25/Sep/	0	10:27:13	16.67	16.4	1.5	0.79	0.50	19.15
25/Sep/	0	10:27:23	16.83	16.0	1.5	0.80	0.47	19.29
25/Sep/	0	10:27:33	17.00	15.7	0.9	0.87	0.43	19.40
25/Sep/	0	10:27:43	17.17	15.5	1.0	0.61	0.41	19.52

25/Sep/	0	10:27:53	17.33	15.1	0.9	-0.05	0.39	19.63
25/Sep/	0	10:28: 3	17.50	15.1	0.5	0.87	0.37	19.74
25/Sep/	0	10:28:13	17.67	14.6	0.4	0.67	0.36	19.81
25/Sep/	0	10:28:23	17.83	14.4	0.4	1.39	0.34	19.90
25/Sep/	0	10:28:33	18.00	14.4	0.5	-0.60	0.33	19.96
25/Sep/	0	10:28:43	18.17	14.2	0.2	0.58	0.32	20.05
25/Sep/	0	10:28:53	18.33	110.3	3.1	0.79	0.34	30.24
25/Sep/	0	10:29: 3	18.50	200.7	5.0	1.01	1.34	36.78
25/Sep/	0	10:29:13	18.67	179.9	14.7	0.67	2.01	26.96
25/Sep/	0	10:29:23	18.83	167.0	2.5	0.90	2.98	15.78
25/Sep/	0	10:29:33	19.00	176.1	1.2	1.38	6.62	9.86
25/Sep/	0	10:29:43	19.17	178.0	1847.1	0.87	9.84	6.55
25/Sep/	0	10:29:53	19.33	165.0	2104.7	0.65	11.74	4.98
25/Sep/	0	10:30: 3	19.50	147.8	2097.6	0.58	12.23	4.51
25/Sep/	0	10:30:13	19.67	141.4	2095.4	0.30	12.12	4.23
25/Sep/	0	10:30:23	19.83	133.2	2094.1	-0.22	12.34	4.25
25/Sep/	0	10:30:33	20.00	125.1	2090.8	0.19	12.28	4.12
25/Sep/	0	10:30:43	20.17	116.9	2088.4	0.70	12.46	4.19
25/Sep/	0	10:30:53	20.33	114.1	2083.3	0.07	12.55	4.15
25/Sep/	0	10:31: 3	20.50	116.0	2086.9	0.14	12.78	4.19
25/Sep/	0	10:31:13	20.67	121.2	2087.7	0.08	12.99	4.19
25/Sep/	0	10:31:23	20.83	136.2	2083.7	0.07	13.09	4.21
25/Sep/	0	10:31:33	21.00	182.0	2082.8	0.81	13.28	4.27
25/Sep/	0	10:31:43	21.17	227.1	2001.3	0.57	13.44	4.29
25/Sep/	0	10:31:53	21.33	233.6	2083.4	0.57	13.46	4.26
25/Sep/	0	10:32: 3	21.50	215.3	2080.8	0.58	13.39	4.19
25/Sep/	0	10:32:13	21.67	204.2	2080.4	-0.32	13.27	4.21
25/Sep/	0	10:32:23	21.83	216.0	2078.3	-0.19	13.31	4.26
25/Sep/	0	10:32:33	22.00	251.6	2079.6	0.33	13.46	4.30
25/Sep/	0	10:32:43	22.17	300.8	1775.2	0.71	13.55	4.37
25/Sep/	0	10:32:53	22.33	337.4	759.1	1.78	13.57	4.40
25/Sep/	0	10:33: 3	22.50	359.1	486.9	0.73	13.61	4.43
25/Sep/	0	10:33:13	22.67	374.3	227.1	1.00	13.51	4.49
25/Sep/	0	10:33:23	22.83	375.3	201.0	1.49	13.41	4.51
25/Sep/	0	10:33:33	23.00	366.4	581.1	1.29	13.51	4.46
25/Sep/	0	10:33:43	23.17	345.5	1779.3	0.90	13.61	4.43
25/Sep/	0	10:33:53	23.33	320.1	2097.9	0.73	13.64	4.38
25/Sep/	0	10:34: 3	23.50	336.2	2094.2	1.28	13.51	4.44
25/Sep/	0	10:34:13	23.67	382.0	751.5	1.03	13.38	4.66
25/Sep/	0	10:34:23	23.83	415.7	222.0	0.90	13.09	4.80
25/Sep/	0	10:34:33	24.00	433.9	130.5	1.70	13.31	4.73
25/Sep/	0	10:34:43	24.17	451.5	102.4	1.23	13.35	4.93
25/Sep/	0	10:34:53	24.33	441.1	92.1	0.68	13.18	5.06
25/Sep/	0	10:35: 3	24.50	296.2	79.5	0.71	11.58	9.59
25/Sep/	0	10:35:13	24.67	160.6	52.2	0.58	5.10	17.53
25/Sep/	0	10:35:23	24.83	86.8	25.8	0.89	1.89	20.03
25/Sep/	0	10:35:33	25.00	51.0	20.6	-0.29	0.77	20.64
25/Sep/	0	10:35:43	25.17	33.8	19.0	-0.31	0.46	20.79
25/Sep/	0	10:35:53	25.33	25.0	17.4	-0.13	0.34	20.88
25/Sep/	0	10:36: 3	25.50	21.0	17.0	-0.57	0.30	20.96
25/Sep/	0	10:36:13	25.67	18.5	15.7	-0.19	0.27	20.94
25/Sep/	0	10:36:23	25.83	17.3	15.9	0.14	0.26	21.01
25/Sep/	0	10:36:33	26.00	16.7	14.7	-0.29	0.24	20.99
25/Sep/	0	10:36:43	26.17	15.8	14.6	-0.23	0.23	21.02

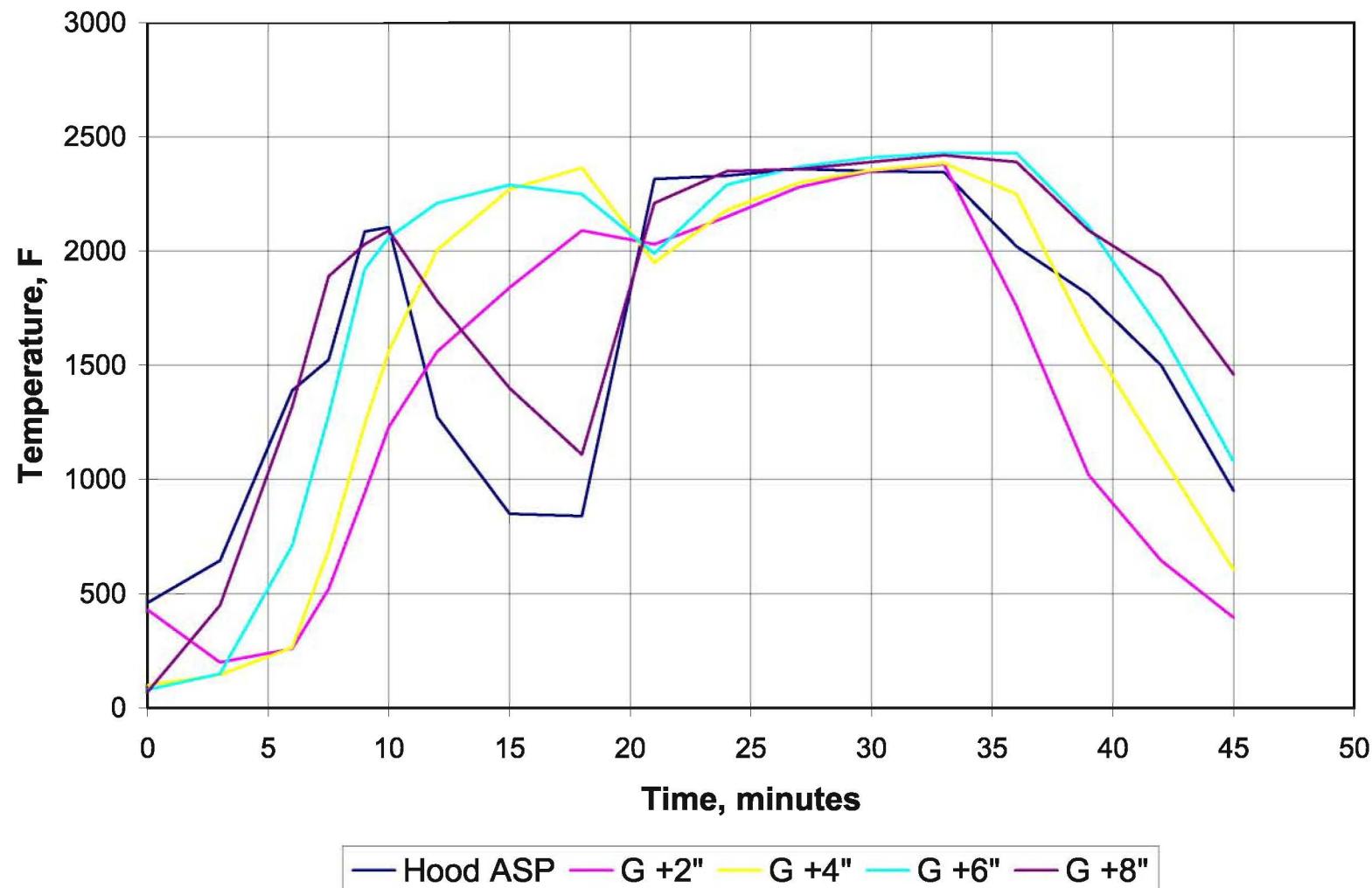
25/Sep/	0	10:36:53	26.33	15.6	15.1	-0.30	0.23	21.03
25/Sep/	0	10:37: 3	26.50	15.3	13.7	0.11	0.22	21.03
25/Sep/	0	10:37:13	26.67	15.0	13.2	0.22	0.22	21.04
25/Sep/	0	10:37:23	26.83	14.8	12.6	0.25	0.22	21.05
25/Sep/	0	10:37:33	27.00	14.5	12.4	0.59	0.21	21.05
25/Sep/	0	10:37:43	27.17	14.2	12.0	-0.12	0.21	21.06
25/Sep/	0	10:37:53	27.33	14.0	11.3	-0.20	0.21	21.07
25/Sep/	0	10:38: 3	27.50	13.8	11.5	0.25	0.21	21.08
25/Sep/	0	10:38:13	27.67	13.6	11.3	-0.29	0.20	21.07
25/Sep/	0	10:38:23	27.83	13.6	10.9	0.02	0.20	21.08
25/Sep/	0	10:38:33	28.00	13.3	10.8	0.39	0.20	21.08
25/Sep/	0	10:38:43	28.17	13.3	10.4	-0.26	0.19	21.08
25/Sep/	0	10:38:53	28.33	13.2	10.7	0.80	0.20	21.08
25/Sep/	0	10:39: 3	28.50	12.9	10.1	-0.50	0.19	21.08
25/Sep/	0	10:39:13	28.67	12.8	9.4	-0.28	0.19	21.09
25/Sep/	0	10:39:23	28.83	12.6	9.4	0.35	0.19	21.08
25/Sep/	0	10:39:33	29.00	12.6	9.6	-0.20	0.19	21.09
25/Sep/	0	10:39:43	29.17	12.6	9.7	-0.17	0.19	21.08
25/Sep/	0	10:39:53	29.33	12.3	9.7	0.03	0.19	21.09
25/Sep/	0	10:40: 3	29.50	12.3	9.4	-0.42	0.19	21.08
25/Sep/	0	10:40:13	29.67	12.2	9.1	0.08	0.19	21.09
25/Sep/	0	10:40:23	29.83	12.2	8.8	0.20	0.18	21.09
25/Sep/	0	10:40:33	30.00	11.9	8.2	0.25	0.18	21.09
25/Sep/	0	10:40:43	30.17	11.8	8.4	-0.49	0.18	21.10
25/Sep/	0	10:40:53	30.33	11.7	8.3	0.47	0.18	21.09
25/Sep/	0	10:41: 3	30.50	11.7	7.7	-0.14	0.18	21.11
25/Sep/	0	10:41:13	30.67	11.5	7.7	-0.38	0.18	21.09
25/Sep/	0	10:41:23	30.83	11.4	7.8	0.02	0.18	21.10
25/Sep/	0	10:41:33	31.00	11.3	7.7	0.16	0.18	21.09
25/Sep/	0	10:41:43	31.17	11.4	7.7	-0.04	0.18	21.11
25/Sep/	0	10:41:53	31.33	11.1	7.5	-0.90	0.18	21.10
25/Sep/	0	10:42: 3	31.50	11.1	6.8	-0.62	0.17	21.11
25/Sep/	0	10:42:13	31.67	11.1	6.7	0.13	0.17	21.10
25/Sep/	0	10:42:23	31.83	11.1	6.7	-0.04	0.17	21.12
25/Sep/	0	10:42:33	32.00	10.9	6.3	0.34	0.17	21.10
25/Sep/	0	10:42:43	32.17	10.8	6.5	-0.24	0.17	21.11
25/Sep/	0	10:42:53	32.33	10.8	6.4	0.54	0.17	21.11
25/Sep/	0	10:43: 3	32.50	10.7	6.1	-0.35	0.17	21.10
25/Sep/	0	10:43:13	32.67	10.6	6.2	-0.07	0.17	21.11
25/Sep/	0	10:43:23	32.83	10.6	6.1	-0.17	0.17	21.10
25/Sep/	0	10:43:33	33.00	10.5	5.5	-0.68	0.16	21.12
25/Sep/	0	10:43:43	33.17	10.4	5.7	-0.54	0.17	21.10
25/Sep/	0	10:43:53	33.33	10.4	5.9	-0.65	0.17	21.12
25/Sep/	0	10:44: 3	33.50	10.4	5.5	-0.41	0.16	21.10
25/Sep/	0	10:44:13	33.67	10.3	5.7	-0.32	0.16	21.12
25/Sep/	0	10:44:23	33.83	10.3	5.5	0.39	0.16	21.11
25/Sep/	0	10:44:33	34.00	10.2	5.1	-0.51	0.16	21.12
25/Sep/	0	10:44:43	34.17	10.2	5.2	-0.10	0.16	21.12
25/Sep/	0	10:44:53	34.33	10.2	5.2	-1.22	0.16	21.12
25/Sep/	0	10:45: 3	34.50	10.1	5.1	-0.45	0.16	21.12
25/Sep/	0	10:45:13	34.67	9.9	4.8	-0.14	0.16	21.11
25/Sep/	0	10:45:23	34.83	10.0	5.0	-0.14	0.16	21.12
25/Sep/	0	10:45:33	35.00	10.0	5.0	0.32	0.16	21.10
25/Sep/	0	10:45:43	35.17	10.0	4.6	-0.07	0.15	21.12

Test 19 Pot-Grate NOx Coal(1%) Acid – Stoichiometric Air – 2350

<u>Time</u>	<u>Hood ASP</u>	<u>G+ 2"</u>	<u>G+4"</u>	<u>G+6"</u>	<u>G+8"</u>
Max Temp	2110	2385	2390	2440	2400
0	460	430	100	80	70
3	645	200	145	150	450
6	1390	260	265	710	1320
7.5	1525	520	690	1280	1890
9	2085	940	1240	1920	2030
10	2105	1230	1560	2060	2090
12	1275	1560	2005	2210	1780
15	850	1840	2270	2290	1400
18	840	2090	2365	2250	1110
21	2315	2030	1950	1990	2210
24	2330	2150	2180	2290	2350
27	2360	2280	2300	2370	2360
30	2350	2350	2355	2410	2390
33	2345	2380	2385	2430	2420
36	2020	1760	2250	2430	2390
39	1810	1020	1620	2110	2090
42	1500	645	1110	1650	1890
45	950	395	605	1080	1460

Note: The data collection computer for the Pot-Grate went down during the test. These temperatures were read from a chart recorder by hand. The following graph was made using the above data.

Pot Grate Coal (1%) Acid NOx Test Stoichiometric Air 2350F
Test #00-19, Temperature Profile



Test 19 Pot Grate Gas Analysis

<u>Date/Clock</u>		<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
26/Sep/ 0	10:13:50	0.00	1.0	0.9	-0.8	0.08	21.00
26/Sep/ 0	10:14: 0	0.17	1.1	1.0	0.3	0.08	20.99
26/Sep/ 0	10:14:10	0.33	1.0	1.0	0.2	0.08	21.01
26/Sep/ 0	10:14:20	0.50	1.1	0.9	0.3	0.07	21.00
26/Sep/ 0	10:14:30	0.67	1.2	0.5	0.2	0.06	21.00
26/Sep/ 0	10:14:40	0.83	1.2	0.9	0.2	0.07	21.00
26/Sep/ 0	10:14:50	1.00	1.1	0.9	-0.0	0.07	21.00
26/Sep/ 0	10:15: 0	1.17	1.3	1.0	0.5	0.07	21.00
26/Sep/ 0	10:15:10	1.33	1.8	10.0	0.2	0.11	20.96
26/Sep/ 0	10:15:20	1.50	2.4	32.2	1.1	0.31	20.77
26/Sep/ 0	10:15:30	1.67	3.2	318.8	1.1	0.73	20.09
26/Sep/ 0	10:15:40	1.83	3.6	603.4	0.6	0.83	20.07
26/Sep/ 0	10:15:50	2.00	4.2	980.0	0.4	0.96	19.63
26/Sep/ 0	10:16: 0	2.17	5.2	1064.3	0.4	1.25	19.06
26/Sep/ 0	10:16:10	2.33	6.3	1050.9	0.3	1.66	18.52
26/Sep/ 0	10:16:20	2.50	7.2	1016.6	1.4	1.91	18.30
26/Sep/ 0	10:16:30	2.67	8.0	992.1	0.3	2.03	18.20
26/Sep/ 0	10:16:40	2.83	8.5	977.9	0.0	2.08	18.14
26/Sep/ 0	10:16:50	3.00	9.2	961.5	0.8	2.12	18.08
26/Sep/ 0	10:17: 0	3.17	9.3	943.4	0.8	2.13	18.20
26/Sep/ 0	10:17:10	3.33	9.2	959.6	0.2	2.00	18.44
26/Sep/ 0	10:17:20	3.50	11.5	932.9	0.4	1.98	17.84
26/Sep/ 0	10:17:30	3.67	18.6	660.8	0.2	2.79	16.09
26/Sep/ 0	10:17:40	3.83	27.7	333.7	0.9	3.61	14.66
26/Sep/ 0	10:17:50	4.00	37.9	154.7	0.8	4.49	13.76
26/Sep/ 0	10:18: 0	4.17	47.1	81.4	0.2	5.23	12.71
26/Sep/ 0	10:18:10	4.33	51.1	77.9	0.6	5.80	12.35
26/Sep/ 0	10:18:20	4.50	52.8	99.6	0.6	6.02	12.14
26/Sep/ 0	10:18:30	4.67	54.1	126.7	0.3	6.14	12.08
26/Sep/ 0	10:18:40	4.83	54.4	164.9	1.1	6.34	11.96
26/Sep/ 0	10:18:50	5.00	54.1	201.6	0.7	6.17	12.41
26/Sep/ 0	10:19: 0	5.17	55.8	245.7	1.2	6.06	12.31
26/Sep/ 0	10:19:10	5.33	58.8	311.4	1.0	6.19	12.13
26/Sep/ 0	10:19:20	5.50	62.0	380.6	1.6	6.28	12.22
26/Sep/ 0	10:19:30	5.67	64.3	427.3	0.9	6.08	12.52
26/Sep/ 0	10:19:40	5.83	73.3	451.5	0.4	5.95	12.56
26/Sep/ 0	10:19:50	6.00	351.7	533.8	0.8	6.02	14.45
26/Sep/ 0	10:20: 0	6.17	846.5	788.9	1.9	8.24	14.00
26/Sep/ 0	10:20:10	6.33	1312.0	821.9	2.6	11.98	12.32
26/Sep/ 0	10:20:20	6.50	1629.5	758.9	3.0	14.23	10.75
26/Sep/ 0	10:20:30	6.67	1789.2	831.4	3.6	15.04	10.98
26/Sep/ 0	10:20:40	6.83	1884.7	944.1	3.9	15.09	11.81
26/Sep/ 0	10:20:50	7.00	1919.1	994.3	3.8	14.43	12.61
26/Sep/ 0	10:21: 0	7.17	1952.5	976.7	4.1	14.26	12.80
26/Sep/ 0	10:21:10	7.33	1957.8	969.2	3.8	14.27	13.12
26/Sep/ 0	10:21:20	7.50	1934.1	959.6	4.0	14.03	13.66
26/Sep/ 0	10:21:30	7.67	1914.5	934.9	3.9	13.71	14.00
26/Sep/ 0	10:21:40	7.83	1965.6	892.0	3.6	13.75	14.05
26/Sep/ 0	10:21:50	8.00	1998.5	855.6	3.3	13.97	14.28
26/Sep/ 0	10:22: 0	8.17	2025.0	816.9	2.9	13.95	14.43

26/Sep/	0	10:22:10	8.33	1989.8	779.5	3.7	13.85	14.85
26/Sep/	0	10:22:20	8.50	1939.4	754.7	3.6	13.31	15.65
26/Sep/	0	10:22:30	8.67	1697.1	642.5	2.9	13.32	13.46
26/Sep/	0	10:22:40	8.83	1307.3	414.9	2.7	14.61	7.94
26/Sep/	0	10:22:50	9.00	1029.6	411.1	2.2	14.50	7.20
26/Sep/	0	10:23: 0	9.17	882.1	424.4	1.9	14.29	6.85
26/Sep/	0	10:23:10	9.33	811.1	438.9	2.2	14.20	6.97
26/Sep/	0	10:23:20	9.50	780.3	447.1	1.4	13.85	7.28
26/Sep/	0	10:23:30	9.67	764.9	422.1	1.7	13.67	7.45
26/Sep/	0	10:23:40	9.83	757.7	388.9	1.8	13.47	7.67
26/Sep/	0	10:23:50	10.00	759.8	344.2	2.2	13.42	7.72
26/Sep/	0	10:24: 0	10.17	759.7	294.8	2.1	13.34	8.07
26/Sep/	0	10:24:10	10.33	740.8	249.0	2.5	12.80	9.04
26/Sep/	0	10:24:20	10.50	670.3	202.2	1.5	12.17	9.40
26/Sep/	0	10:24:30	10.67	459.7	169.5	1.2	11.56	9.37
26/Sep/	0	10:24:40	10.83	277.2	136.6	1.1	7.32	12.38
26/Sep/	0	10:24:50	11.00	180.4	78.3	0.7	5.34	11.71
26/Sep/	0	10:25: 0	11.17	121.3	66.6	0.8	5.01	11.77
26/Sep/	0	10:25:10	11.33	91.3	61.1	1.0	4.45	12.04
26/Sep/	0	10:25:20	11.50	72.5	55.8	0.7	3.96	12.27
26/Sep/	0	10:25:30	11.67	61.2	51.3	0.4	3.65	12.53
26/Sep/	0	10:25:40	11.83	53.5	47.4	0.7	3.43	12.79
26/Sep/	0	10:25:50	12.00	47.0	44.3	0.7	3.21	13.03
26/Sep/	0	10:26: 0	12.17	42.7	41.0	0.5	3.00	13.30
26/Sep/	0	10:26:10	12.33	38.5	38.0	0.5	2.82	13.55
26/Sep/	0	10:26:20	12.50	35.1	35.2	-0.0	2.62	13.81
26/Sep/	0	10:26:30	12.67	32.3	32.3	0.7	2.45	14.05
26/Sep/	0	10:26:40	12.83	29.9	29.6	-0.5	2.28	14.33
26/Sep/	0	10:26:50	13.00	27.9	27.0	0.7	2.11	14.59
26/Sep/	0	10:27: 0	13.17	25.8	24.4	0.4	1.95	14.89
26/Sep/	0	10:27:10	13.33	24.1	22.0	0.7	1.79	15.17
26/Sep/	0	10:27:20	13.50	22.5	19.6	0.3	1.65	15.42
26/Sep/	0	10:27:30	13.67	21.3	17.5	0.3	1.52	15.68
26/Sep/	0	10:27:40	13.83	20.0	15.2	1.0	1.39	15.95
26/Sep/	0	10:27:50	14.00	18.9	13.5	1.3	1.27	16.19
26/Sep/	0	10:28: 0	14.17	17.8	14.3	0.8	1.16	16.43
26/Sep/	0	10:28:10	14.33	16.9	14.5	0.0	1.06	16.67
26/Sep/	0	10:28:20	14.50	15.8	13.8	0.3	0.97	16.89
26/Sep/	0	10:28:30	14.67	15.3	12.6	0.5	0.89	17.13
26/Sep/	0	10:28:40	14.83	14.6	11.5	1.0	0.81	17.33
26/Sep/	0	10:28:50	15.00	14.2	10.3	1.8	0.74	17.56
26/Sep/	0	10:29: 0	15.17	13.9	9.6	0.8	0.68	17.74
26/Sep/	0	10:29:10	15.33	13.4	9.0	0.7	0.62	17.95
26/Sep/	0	10:29:20	15.50	13.0	8.1	-0.1	0.57	18.14
26/Sep/	0	10:29:30	15.67	12.7	7.7	0.1	0.53	18.34
26/Sep/	0	10:29:40	15.83	12.3	7.2	-0.1	0.49	18.52
26/Sep/	0	10:29:50	16.00	12.1	6.7	-0.5	0.46	18.68
26/Sep/	0	10:30: 0	16.17	11.8	6.3	-0.2	0.43	18.84
26/Sep/	0	10:30:10	16.33	11.3	6.0	0.4	0.41	19.01
26/Sep/	0	10:30:20	16.50	10.9	6.1	-0.1	0.38	19.16
26/Sep/	0	10:30:30	16.67	10.6	5.5	0.3	0.36	19.30
26/Sep/	0	10:30:40	16.83	10.5	5.7	0.2	0.34	19.43
26/Sep/	0	10:30:50	17.00	10.1	5.5	-0.9	0.33	19.54
26/Sep/	0	10:31: 0	17.17	9.7	5.1	-0.2	0.31	19.65

26/Sep/	0	10:31:10	17.33	9.7	5.1	-0.2	0.30	19.75
26/Sep/	0	10:31:20	17.50	11.4	6.1	-0.9	0.30	19.78
26/Sep/	0	10:31:30	17.67	105.5	9.8	1.1	1.34	20.68
26/Sep/	0	10:31:40	17.83	188.6	8.5	0.7	2.82	28.17
26/Sep/	0	10:31:50	18.00	209.4	21.2	1.3	2.46	22.57
26/Sep/	0	10:32: 0	18.17	240.7	4.6	1.7	3.77	17.06
26/Sep/	0	10:32:10	18.33	254.6	2.1	1.5	6.64	12.84
26/Sep/	0	10:32:20	18.50	267.3	3.8	1.4	8.96	9.09
26/Sep/	0	10:32:30	18.67	267.3	225.7	1.0	11.63	5.86
26/Sep/	0	10:32:40	18.83	255.3	2088.5	1.0	12.92	5.01
26/Sep/	0	10:32:50	19.00	239.5	2086.0	1.3	13.07	4.43
26/Sep/	0	10:33: 0	19.17	225.7	2071.3	1.3	13.06	4.40
26/Sep/	0	10:33:10	19.33	208.7	2075.8	1.4	13.02	4.20
26/Sep/	0	10:33:20	19.50	189.9	2072.0	0.3	12.94	4.22
26/Sep/	0	10:33:30	19.67	172.3	2068.2	0.3	12.86	4.13
26/Sep/	0	10:33:40	19.83	155.6	2066.3	0.6	12.80	4.14
26/Sep/	0	10:33:50	20.00	146.6	2066.9	0.4	12.72	4.11
26/Sep/	0	10:34: 0	20.17	178.6	2064.4	0.2	12.89	4.21
26/Sep/	0	10:34:10	20.33	240.9	2058.1	0.7	13.34	4.27
26/Sep/	0	10:34:20	20.50	290.4	1890.6	0.7	13.52	4.29
26/Sep/	0	10:34:30	20.67	326.4	1460.1	1.9	13.56	4.32
26/Sep/	0	10:34:40	20.83	355.3	1103.5	1.0	13.60	4.33
26/Sep/	0	10:34:50	21.00	374.6	815.0	0.7	13.61	4.36
26/Sep/	0	10:35: 0	21.17	383.6	1505.8	0.8	13.65	4.36
26/Sep/	0	10:35:10	21.33	388.9	2042.4	2.0	13.71	4.36
26/Sep/	0	10:35:20	21.50	394.7	2071.8	0.6	13.74	4.36
26/Sep/	0	10:35:30	21.67	399.4	2070.0	1.2	13.79	4.38
26/Sep/	0	10:35:40	21.83	392.9	2067.5	1.5	13.81	4.36
26/Sep/	0	10:35:50	22.00	370.4	2066.3	1.0	13.74	4.35
26/Sep/	0	10:36: 0	22.17	352.2	2064.5	0.8	13.65	4.34
26/Sep/	0	10:36:10	22.33	337.1	2062.7	0.9	13.64	4.33
26/Sep/	0	10:36:20	22.50	323.3	2064.8	1.3	13.64	4.33
26/Sep/	0	10:36:30	22.67	314.2	2057.0	0.1	13.64	4.33
26/Sep/	0	10:36:40	22.83	301.3	2058.3	0.3	13.64	4.32
26/Sep/	0	10:36:50	23.00	286.2	2057.8	0.5	13.64	4.30
26/Sep/	0	10:37: 0	23.17	269.0	2053.2	1.0	13.64	4.30
26/Sep/	0	10:37:10	23.33	251.0	2055.5	1.0	13.65	4.29
26/Sep/	0	10:37:20	23.50	236.8	2055.7	0.5	13.64	4.29
26/Sep/	0	10:37:30	23.67	225.2	2056.8	0.9	13.63	4.28
26/Sep/	0	10:37:40	23.83	217.6	2054.7	-0.2	13.64	4.29
26/Sep/	0	10:37:50	24.00	256.1	2054.7	1.0	13.68	4.34
26/Sep/	0	10:38: 0	24.17	356.2	2042.3	1.6	13.62	4.51
26/Sep/	0	10:38:10	24.33	443.0	714.5	1.2	12.91	4.79
26/Sep/	0	10:38:20	24.50	488.9	153.9	0.7	12.47	5.04
26/Sep/	0	10:38:30	24.67	497.8	78.8	1.7	12.33	5.30
26/Sep/	0	10:38:40	24.83	448.5	57.7	1.4	12.25	5.26
26/Sep/	0	10:38:50	25.00	415.2	52.2	0.3	12.14	5.45
26/Sep/	0	10:39: 0	25.17	396.4	46.3	0.5	11.70	5.83
26/Sep/	0	10:39:10	25.33	388.0	37.6	1.2	11.44	6.14
26/Sep/	0	10:39:20	25.50	383.6	32.7	0.7	11.34	6.40
26/Sep/	0	10:39:30	25.67	381.5	29.4	1.8	11.30	6.58
26/Sep/	0	10:39:40	25.83	380.8	27.4	1.1	11.29	6.73
26/Sep/	0	10:39:50	26.00	379.2	25.8	0.6	11.28	6.82
26/Sep/	0	10:40: 0	26.17	378.5	25.7	0.4	11.53	6.51

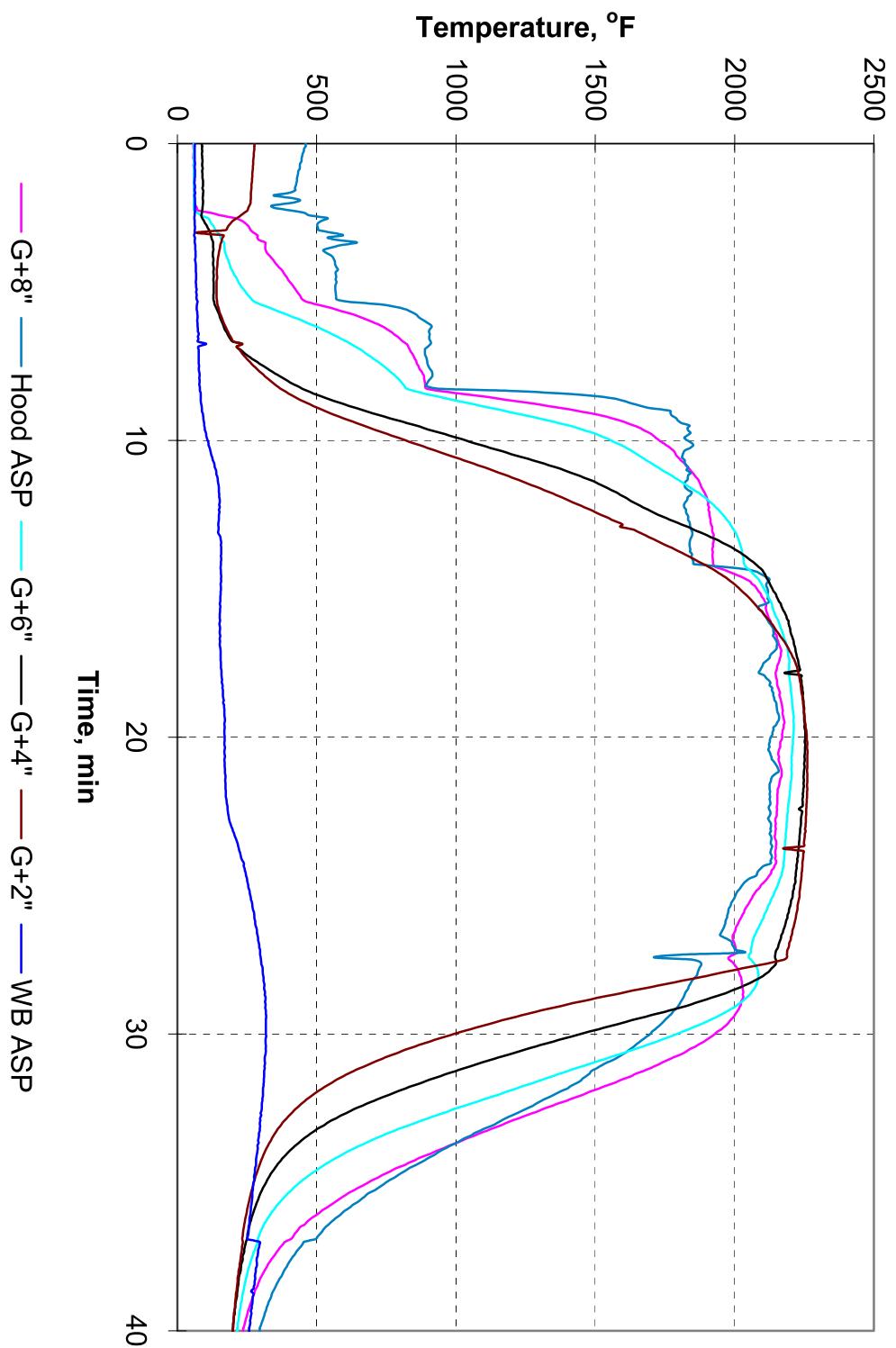
26/Sep/	0	10:40:10	26.33	377.5	30.4	0.4	12.00	6.19
26/Sep/	0	10:40:20	26.50	377.2	37.1	0.3	12.18	6.09
26/Sep/	0	10:40:30	26.67	377.9	40.1	0.5	12.21	6.10
26/Sep/	0	10:40:40	26.83	381.8	39.9	0.9	12.12	6.26
26/Sep/	0	10:40:50	27.00	385.8	35.0	0.7	11.80	6.64
26/Sep/	0	10:41: 0	27.17	388.1	30.0	0.5	11.53	6.92
26/Sep/	0	10:41:10	27.33	388.5	25.9	1.1	11.27	7.24
26/Sep/	0	10:41:20	27.50	388.7	22.3	-0.2	11.07	7.46
26/Sep/	0	10:41:30	27.67	389.0	20.6	1.0	11.00	7.58
26/Sep/	0	10:41:40	27.83	389.3	19.4	0.6	10.95	7.66
26/Sep/	0	10:41:50	28.00	391.2	18.9	2.0	10.96	7.63
26/Sep/	0	10:42: 0	28.17	392.5	19.4	1.3	11.27	7.26
26/Sep/	0	10:42:10	28.33	394.1	21.6	0.9	11.52	7.08
26/Sep/	0	10:42:20	28.50	395.0	22.8	0.6	11.59	7.06
26/Sep/	0	10:42:30	28.67	397.1	23.1	1.0	11.54	7.10
26/Sep/	0	10:42:40	28.83	397.8	22.1	1.4	11.41	7.27
26/Sep/	0	10:42:50	29.00	398.5	20.2	1.5	11.29	7.36
26/Sep/	0	10:43: 0	29.17	399.9	19.1	1.9	11.21	7.48
26/Sep/	0	10:43:10	29.33	399.2	18.4	1.7	11.02	7.73
26/Sep/	0	10:43:20	29.50	398.9	17.3	0.3	10.82	7.97
26/Sep/	0	10:43:30	29.67	400.6	16.6	0.2	10.65	8.16
26/Sep/	0	10:43:40	29.83	397.2	24.2	2.1	10.52	8.46
26/Sep/	0	10:43:50	30.00	398.4	16.1	0.7	10.49	8.10
26/Sep/	0	10:44: 0	30.17	400.9	18.2	0.9	11.33	7.47
26/Sep/	0	10:44:10	30.33	402.4	19.4	0.6	11.02	7.86
26/Sep/	0	10:44:20	30.50	405.6	17.5	1.2	11.05	7.73
26/Sep/	0	10:44:30	30.67	410.3	16.4	0.6	11.18	7.64
26/Sep/	0	10:44:40	30.83	411.4	17.0	1.3	11.28	7.57
26/Sep/	0	10:44:50	31.00	408.6	16.8	1.9	11.16	7.69
26/Sep/	0	10:45: 0	31.17	401.4	15.7	1.2	11.12	7.64
26/Sep/	0	10:45:10	31.33	386.2	15.4	0.3	11.09	7.71
26/Sep/	0	10:45:20	31.50	372.8	14.8	1.2	10.65	8.08
26/Sep/	0	10:45:30	31.67	400.5	14.2	0.8	10.24	8.71
26/Sep/	0	10:45:40	31.83	433.7	14.2	0.4	10.04	9.19
26/Sep/	0	10:45:50	32.00	457.6	14.0	1.0	10.14	9.11
26/Sep/	0	10:46: 0	32.17	473.2	13.9	0.8	10.46	8.95
26/Sep/	0	10:46:10	32.33	480.1	13.7	0.9	10.54	8.92
26/Sep/	0	10:46:20	32.50	483.4	13.7	2.0	10.55	8.91
26/Sep/	0	10:46:30	32.67	483.3	13.4	0.8	10.57	8.91
26/Sep/	0	10:46:40	32.83	481.8	13.2	1.2	10.54	8.92
26/Sep/	0	10:46:50	33.00	481.8	13.1	0.8	10.54	8.92
26/Sep/	0	10:47: 0	33.17	479.8	12.9	1.9	10.52	8.93
26/Sep/	0	10:47:10	33.33	476.2	12.6	1.9	10.47	8.95
26/Sep/	0	10:47:20	33.50	409.6	12.8	0.5	10.43	8.87
26/Sep/	0	10:47:30	33.67	250.9	13.5	0.9	8.10	12.90
26/Sep/	0	10:47:40	33.83	130.4	13.3	-0.1	2.94	19.00
26/Sep/	0	10:47:50	34.00	71.8	12.7	0.3	0.94	20.61
26/Sep/	0	10:48: 0	34.17	42.8	12.1	0.4	0.53	20.72
26/Sep/	0	10:48:10	34.33	29.0	11.5	0.2	0.42	20.89
26/Sep/	0	10:48:20	34.50	22.2	10.9	-0.2	0.38	20.87
26/Sep/	0	10:48:30	34.67	18.7	10.5	0.8	0.37	20.93
26/Sep/	0	10:48:40	34.83	16.9	10.1	0.3	0.35	20.93
26/Sep/	0	10:48:50	35.00	15.8	9.8	0.4	0.35	20.94
26/Sep/	0	10:49: 0	35.17	15.1	9.3	-0.3	0.34	20.95

26/Sep/	0	10:49:10	35.33	14.5	9.3	0.4	0.33	20.96
26/Sep/	0	10:49:20	35.50	14.1	9.1	0.2	0.33	20.98
26/Sep/	0	10:49:30	35.67	13.4	8.9	0.2	0.33	20.98
26/Sep/	0	10:49:40	35.83	13.2	8.6	0.3	0.32	20.98
26/Sep/	0	10:49:50	36.00	12.8	8.7	0.8	0.32	20.99
26/Sep/	0	10:50: 0	36.17	12.7	8.7	-0.1	0.32	20.98
26/Sep/	0	10:50:10	36.33	12.3	8.8	0.3	0.32	21.00
26/Sep/	0	10:50:20	36.50	12.3	8.2	0.1	0.31	20.98
26/Sep/	0	10:50:30	36.67	11.9	8.3	0.6	0.31	21.00
26/Sep/	0	10:50:40	36.83	11.7	8.3	0.5	0.31	20.99
26/Sep/	0	10:50:50	37.00	11.6	8.2	0.0	0.31	21.00
26/Sep/	0	10:51: 0	37.17	11.2	7.9	0.0	0.30	21.00
26/Sep/	0	10:51:10	37.33	11.2	7.8	0.2	0.31	21.00
26/Sep/	0	10:51:20	37.50	10.9	7.8	0.3	0.31	21.00
26/Sep/	0	10:51:30	37.67	10.9	7.6	0.6	0.30	21.00
26/Sep/	0	10:51:40	37.83	10.9	7.5	0.5	0.30	21.01
26/Sep/	0	10:51:50	38.00	10.6	7.4	0.5	0.30	21.00
26/Sep/	0	10:52: 0	38.17	10.4	7.4	0.2	0.30	21.02
26/Sep/	0	10:52:10	38.33	10.4	7.1	0.3	0.30	21.01
26/Sep/	0	10:52:20	38.50	10.3	6.9	-0.2	0.29	21.02
26/Sep/	0	10:52:30	38.67	10.2	6.8	-0.5	0.29	21.00
26/Sep/	0	10:52:40	38.83	10.3	6.8	0.6	0.29	21.02
26/Sep/	0	10:52:50	39.00	10.1	6.6	0.0	0.29	21.01
26/Sep/	0	10:53: 0	39.17	10.0	6.3	-0.7	0.29	21.02
26/Sep/	0	10:53:10	39.33	10.1	6.5	-0.5	0.29	21.02
26/Sep/	0	10:53:20	39.50	10.0	6.3	0.7	0.28	21.01
26/Sep/	0	10:53:30	39.67	10.0	6.2	0.1	0.28	21.01
26/Sep/	0	10:53:40	39.83	9.7	6.2	-0.0	0.28	21.01
26/Sep/	0	10:53:50	40.00	9.8	5.9	1.0	0.28	21.03
26/Sep/	0	10:54: 0	40.17	9.7	5.8	0.5	0.28	21.01
26/Sep/	0	10:54:10	40.33	9.7	5.7	-0.3	0.28	21.03
26/Sep/	0	10:54:20	40.50	9.6	5.6	-0.1	0.28	21.01
26/Sep/	0	10:54:30	40.67	9.6	5.4	0.2	0.27	21.02
26/Sep/	0	10:54:40	40.83	9.7	5.5	0.1	0.27	21.02
26/Sep/	0	10:54:50	41.00	9.8	5.5	-0.2	0.27	21.03
26/Sep/	0	10:55: 0	41.17	9.5	5.5	-0.0	0.27	21.02
26/Sep/	0	10:55:10	41.33	9.5	5.1	-1.1	0.27	21.02
26/Sep/	0	10:55:20	41.50	9.5	5.2	-0.7	0.27	21.02
26/Sep/	0	10:55:30	41.67	9.5	4.9	-0.1	0.26	21.03
26/Sep/	0	10:55:40	41.83	9.7	5.1	-0.0	0.27	21.03
26/Sep/	0	10:55:50	42.00	9.7	5.0	-0.0	0.26	21.03
26/Sep/	0	10:56: 0	42.17	9.6	5.1	0.3	0.26	21.03
26/Sep/	0	10:56:10	42.33	9.5	5.0	-0.5	0.26	21.02
26/Sep/	0	10:56:20	42.50	9.6	4.5	0.4	0.26	21.03
26/Sep/	0	10:56:30	42.67	9.6	4.7	-0.3	0.26	21.03
26/Sep/	0	10:56:40	42.83	9.6	4.6	-0.4	0.26	21.04
26/Sep/	0	10:56:50	43.00	9.5	4.6	-0.0	0.26	21.03
26/Sep/	0	10:57: 0	43.17	9.4	4.6	0.0	0.26	21.03
26/Sep/	0	10:57:10	43.33	9.4	4.5	-0.8	0.25	21.04
26/Sep/	0	10:57:20	43.50	9.5	4.4	-0.4	0.25	21.04
26/Sep/	0	10:57:30	43.67	9.6	4.2	0.1	0.25	21.04
26/Sep/	0	10:57:40	43.83	9.5	4.5	-0.0	0.25	21.03
26/Sep/	0	10:57:50	44.00	9.5	4.4	-0.2	0.25	21.04
26/Sep/	0	10:58: 0	44.17	9.4	4.4	0.7	0.25	21.03

Test 20 Pot-Grate NOx 0.6% Coal Acid 2150

Time	G+8"	Hood ASP	G+6"	G+4"	G+2"	WB ASP
Max	2171	2154	2210	2254	2261	318
0	58	460	59	87	277	63
1	60	433	59	90	269	63
2	62	407	59	92	263	63
3	273	554	145	118	67	62
4	350	566	185	128	144	65
5	430	568	245	130	141	67
6	699	891	456	159	165	71
7	837	889	668	233	227	76
8	888	901	801	397	335	80
9	1433	1769	1173	672	528	88
10	1729	1831	1557	1035	820	108
11	1841	1828	1740	1387	1129	138
12	1902	1829	1904	1621	1399	152
13	1920	1844	1996	1852	1636	148
14	1922	1849	2032	2052	1855	157
15	2080	2118	2106	2136	2018	156
16	2123	2116	2152	2187	2118	152
17	2165	2151	2189	2218	2192	154
18	2149	2113	2197	2238	2233	159
19	2171	2152	2208	2249	2248	167
20	2171	2130	2210	2254	2259	169
21	2164	2154	2205	2251	2261	170
22	2153	2128	2197	2245	2260	174
23	2146	2130	2186	2238	2255	194
24	2147	2134	2179	2228	2246	227
25	2093	2026	2154	2213	2237	254
26	2027	1974	2106	2190	2220	276
27	2001	1992	2062	2157	2195	293
28	2018	1866	2086	2108	1919	307
29	2023	1802	2013	1845	1402	317
30	1929	1697	1792	1447	992	318
31	1732	1533	1482	1080	693	314
32	1466	1361	1165	772	494	307
33	1179	1148	853	537	377	296
34	916	933	603	396	313	286

**Pot Grate NO_x Test -0.6 Coal 2150F
Test #00-20, Temperature Profile**



Test 20 Pot-Grate Gas Analysis

<u>Date/Clock</u>	<u>Time</u>	<u>NOx, ppm</u>	<u>CO, ppm</u>	<u>SO2, ppm</u>	<u>CO2, %</u>	<u>O2, %</u>
28/Sep/ 0	10: 9:18	0.00	6.7	3.9	0.3	20.96
28/Sep/ 0	10: 9:28	0.17	6.6	3.8	-0.2	20.95
28/Sep/ 0	10: 9:38	0.33	6.7	3.4	-0.4	20.98
28/Sep/ 0	10: 9:48	0.50	6.7	3.4	0.4	20.97
28/Sep/ 0	10: 9:58	0.67	6.7	3.3	-0.1	20.99
28/Sep/ 0	10:10: 8	0.83	6.8	3.4	-0.6	20.98
28/Sep/ 0	10:10:18	1.00	6.7	3.4	-0.3	20.97
28/Sep/ 0	10:10:28	1.17	6.9	2.9	0.4	20.98
28/Sep/ 0	10:10:38	1.33	7.0	2.8	0.0	20.98
28/Sep/ 0	10:10:48	1.50	6.9	2.6	0.6	21.01
28/Sep/ 0	10:10:58	1.67	6.8	2.7	0.0	20.98
28/Sep/ 0	10:11: 8	1.83	7.0	2.4	-0.4	21.01
28/Sep/ 0	10:11:18	2.00	6.9	1.1	0.1	21.03
28/Sep/ 0	10:11:28	2.17	7.0	1.3	0.3	21.02
28/Sep/ 0	10:11:38	2.33	7.0	2.9	-0.6	20.96
28/Sep/ 0	10:11:48	2.50	7.5	25.8	-0.6	20.77
28/Sep/ 0	10:11:58	2.67	8.8	296.8	0.4	0.63
28/Sep/ 0	10:12: 8	2.83	9.8	821.2	0.1	1.36
28/Sep/ 0	10:12:18	3.00	10.2	1020.4	0.0	1.60
28/Sep/ 0	10:12:28	3.17	10.3	1026.9	-0.5	1.53
28/Sep/ 0	10:12:38	3.33	11.1	1030.3	-0.1	1.59
28/Sep/ 0	10:12:48	3.50	11.7	969.8	0.0	1.82
28/Sep/ 0	10:12:58	3.67	12.3	959.8	-0.3	1.92
28/Sep/ 0	10:13: 8	3.83	12.3	897.6	-0.6	1.91
28/Sep/ 0	10:13:18	4.00	12.1	920.0	-0.6	1.60
28/Sep/ 0	10:13:28	4.17	12.3	978.1	0.3	1.63
28/Sep/ 0	10:13:38	4.33	12.5	969.4	-0.3	1.69
28/Sep/ 0	10:13:48	4.50	12.7	967.8	-0.9	1.71
28/Sep/ 0	10:13:58	4.67	12.8	966.9	-0.3	1.72
28/Sep/ 0	10:14: 8	4.83	12.9	966.7	0.0	1.70
28/Sep/ 0	10:14:18	5.00	12.9	973.6	-0.6	1.69
28/Sep/ 0	10:14:28	5.17	13.0	985.6	0.3	1.67
28/Sep/ 0	10:14:38	5.33	13.1	996.6	0.7	1.65
28/Sep/ 0	10:14:48	5.50	13.3	993.0	0.4	1.66
28/Sep/ 0	10:14:58	5.67	14.6	985.0	1.1	1.76
28/Sep/ 0	10:15: 8	5.83	17.9	991.4	0.2	2.42
28/Sep/ 0	10:15:18	6.00	21.3	930.3	0.0	2.87
28/Sep/ 0	10:15:28	6.17	24.0	887.9	0.7	3.04
28/Sep/ 0	10:15:38	6.33	26.2	845.5	0.2	3.11
28/Sep/ 0	10:15:48	6.50	27.4	813.7	0.1	3.18
28/Sep/ 0	10:15:58	6.67	27.4	844.5	0.5	3.14
28/Sep/ 0	10:16: 8	6.83	27.6	855.8	-0.3	3.07
28/Sep/ 0	10:16:18	7.00	28.0	834.8	1.1	3.05
28/Sep/ 0	10:16:28	7.17	28.0	814.6	0.3	3.02
28/Sep/ 0	10:16:38	7.33	28.0	824.6	-0.2	2.93
28/Sep/ 0	10:16:48	7.50	28.3	826.0	0.8	2.89
						16.85

28/Sep/	0	10:16:58	7.67	28.4	823.9	0.6	2.89	16.82
28/Sep/	0	10:17: 8	7.83	28.9	835.6	0.0	2.90	16.80
28/Sep/	0	10:17:18	8.00	29.4	801.1	-0.7	2.94	16.66
28/Sep/	0	10:17:28	8.17	29.9	812.0	-1.2	2.99	16.68
28/Sep/	0	10:17:38	8.33	29.4	838.9	0.6	2.94	16.79
28/Sep/	0	10:17:48	8.50	44.2	858.8	0.1	2.88	16.87
28/Sep/	0	10:17:58	8.67	256.5	488.6	1.2	3.49	16.82
28/Sep/	0	10:18: 8	8.83	537.9	442.9	1.2	6.77	16.16
28/Sep/	0	10:18:18	9.00	747.1	674.6	2.3	8.91	15.12
28/Sep/	0	10:18:28	9.17	930.5	825.9	2.3	10.17	14.58
28/Sep/	0	10:18:38	9.33	1103.0	833.2	2.2	11.30	13.59
28/Sep/	0	10:18:48	9.50	1168.1	815.3	1.3	12.09	13.81
28/Sep/	0	10:18:58	9.67	1193.1	764.9	3.1	12.17	14.14
28/Sep/	0	10:19: 8	9.83	1245.7	719.6	3.1	12.50	14.23
28/Sep/	0	10:19:18	10.00	1271.1	689.3	2.9	12.91	14.57
28/Sep/	0	10:19:28	10.17	1261.1	659.3	3.1	13.04	15.04
28/Sep/	0	10:19:38	10.33	1272.2	617.6	2.6	12.99	15.28
28/Sep/	0	10:19:48	10.50	1284.1	569.8	2.7	13.20	15.39
28/Sep/	0	10:19:58	10.67	1258.3	521.5	2.5	13.14	15.89
28/Sep/	0	10:20: 8	10.83	1240.8	468.5	3.0	12.78	16.32
28/Sep/	0	10:20:18	11.00	1252.7	431.4	2.1	12.79	16.42
28/Sep/	0	10:20:28	11.17	1260.6	365.6	3.1	12.84	16.46
28/Sep/	0	10:20:38	11.33	1282.9	300.2	2.3	12.81	16.48
28/Sep/	0	10:20:48	11.50	1287.8	246.6	3.1	12.87	16.69
28/Sep/	0	10:20:58	11.67	1277.3	206.1	2.2	12.64	16.99
28/Sep/	0	10:21: 8	11.83	1266.8	164.3	2.9	12.47	17.11
28/Sep/	0	10:21:18	12.00	1288.0	129.8	2.4	12.41	17.16
28/Sep/	0	10:21:28	12.17	1296.5	98.8	3.0	12.48	17.24
28/Sep/	0	10:21:38	12.33	1275.5	76.6	3.7	12.23	17.61
28/Sep/	0	10:21:48	12.50	1255.6	56.6	2.5	11.88	17.85
28/Sep/	0	10:21:58	12.67	1249.9	42.4	2.9	11.65	17.94
28/Sep/	0	10:22: 8	12.83	1252.8	32.8	2.5	11.47	17.99
28/Sep/	0	10:22:18	13.00	1260.9	27.2	3.8	11.31	18.03
28/Sep/	0	10:22:28	13.17	1263.3	23.1	2.7	11.04	18.09
28/Sep/	0	10:22:38	13.33	1278.9	20.5	2.6	10.80	18.14
28/Sep/	0	10:22:48	13.50	1284.8	18.5	2.7	10.60	18.28
28/Sep/	0	10:22:58	13.67	1277.4	17.4	2.7	10.17	18.58
28/Sep/	0	10:23: 8	13.83	1270.9	16.8	2.2	9.75	18.75
28/Sep/	0	10:23:18	14.00	1266.6	15.8	2.6	9.45	18.89
28/Sep/	0	10:23:28	14.17	1290.1	15.6	3.0	9.25	18.99
28/Sep/	0	10:23:38	14.33	1309.9	15.2	1.8	9.19	19.05
28/Sep/	0	10:23:48	14.50	1390.1	14.8	3.0	9.12	18.68
28/Sep/	0	10:23:58	14.67	1480.0	15.8	3.8	11.54	13.13
28/Sep/	0	10:24: 8	14.83	1545.7	17.5	3.7	13.43	11.21
28/Sep/	0	10:24:18	15.00	1578.8	18.6	2.8	13.83	10.92
28/Sep/	0	10:24:28	15.17	1572.8	18.2	2.2	13.19	12.17
28/Sep/	0	10:24:38	15.33	1562.6	17.8	2.4	12.58	12.66
28/Sep/	0	10:24:48	15.50	1562.5	17.5	3.3	12.29	13.01
28/Sep/	0	10:24:58	15.67	1580.0	17.2	3.7	12.13	13.19

28/Sep/	0	10:25: 8	15.83	1510.9	17.1	3.0	11.92	13.78
28/Sep/	0	10:25:18	16.00	1464.4	16.2	2.1	11.02	14.44
28/Sep/	0	10:25:28	16.17	1466.1	16.2	2.8	11.03	14.18
28/Sep/	0	10:25:38	16.33	1505.0	16.4	2.7	11.24	14.01
28/Sep/	0	10:25:48	16.50	1560.3	16.3	3.6	11.47	13.87
28/Sep/	0	10:25:58	16.67	1606.7	16.6	2.7	11.73	13.76
28/Sep/	0	10:26: 8	16.83	1601.8	16.3	3.1	11.67	13.89
28/Sep/	0	10:26:18	17.00	1597.5	15.9	3.1	11.45	13.97
28/Sep/	0	10:26:28	17.17	1599.6	15.5	3.1	11.39	14.03
28/Sep/	0	10:26:38	17.33	1595.7	15.5	2.9	11.38	14.16
28/Sep/	0	10:26:48	17.50	1572.1	15.1	3.7	11.04	14.92
28/Sep/	0	10:26:58	17.67	1531.5	14.8	3.4	10.65	15.36
28/Sep/	0	10:27: 8	17.83	1459.1	14.2	2.5	10.16	15.76
28/Sep/	0	10:27:18	18.00	1414.7	13.9	3.5	9.78	16.04
28/Sep/	0	10:27:28	18.17	1422.2	14.0	3.3	9.67	16.03
28/Sep/	0	10:27:38	18.33	1478.1	13.8	3.5	10.13	15.46
28/Sep/	0	10:27:48	18.50	1521.0	13.9	4.0	10.56	15.20
28/Sep/	0	10:27:58	18.67	1535.4	13.9	3.4	10.60	15.18
28/Sep/	0	10:28: 8	18.83	1551.6	13.7	2.9	10.58	15.20
28/Sep/	0	10:28:18	19.00	1560.6	13.7	3.7	10.61	15.21
28/Sep/	0	10:28:28	19.17	1565.4	13.6	3.4	10.59	15.25
28/Sep/	0	10:28:38	19.33	1572.3	13.1	2.9	10.56	15.28
28/Sep/	0	10:28:48	19.50	1577.7	13.4	2.6	10.57	15.29
28/Sep/	0	10:28:58	19.67	1578.9	13.0	2.7	10.58	15.34
28/Sep/	0	10:29: 8	19.83	1555.1	12.7	2.6	10.45	15.63
28/Sep/	0	10:29:18	20.00	1513.3	12.7	3.0	10.11	16.06
28/Sep/	0	10:29:28	20.17	1481.6	12.5	3.7	9.80	16.29
28/Sep/	0	10:29:38	20.33	1457.6	12.0	2.7	9.69	16.41
28/Sep/	0	10:29:48	20.50	1434.0	12.3	2.6	9.59	16.55
28/Sep/	0	10:29:58	20.67	1410.0	12.2	3.4	9.41	16.66
28/Sep/	0	10:30: 8	20.83	1396.4	11.6	2.4	9.36	16.48
28/Sep/	0	10:30:18	21.00	1392.4	11.9	2.3	9.50	16.19
28/Sep/	0	10:30:28	21.17	1441.6	11.9	2.5	9.71	16.01
28/Sep/	0	10:30:38	21.33	1482.6	11.8	3.3	10.05	15.90
28/Sep/	0	10:30:48	21.50	1478.1	11.8	3.0	10.09	16.01
28/Sep/	0	10:30:58	21.67	1434.3	11.6	2.5	9.67	16.60
28/Sep/	0	10:31: 8	21.83	1395.6	11.6	3.5	9.29	16.86
28/Sep/	0	10:31:18	22.00	1372.5	11.0	3.0	9.13	16.94
28/Sep/	0	10:31:28	22.17	1372.2	11.4	2.7	9.18	16.96
28/Sep/	0	10:31:38	22.33	1387.2	11.3	2.4	9.28	16.98
28/Sep/	0	10:31:48	22.50	1394.7	11.0	3.2	9.28	17.04
28/Sep/	0	10:31:58	22.67	1394.3	11.4	3.3	9.26	17.08
28/Sep/	0	10:32: 8	22.83	1385.5	11.4	3.4	9.23	17.10
28/Sep/	0	10:32:18	23.00	1375.6	11.2	2.9	9.16	17.12
28/Sep/	0	10:32:28	23.17	1379.5	11.0	1.8	9.14	17.12
28/Sep/	0	10:32:38	23.33	1384.2	11.3	1.9	9.22	17.11
28/Sep/	0	10:32:48	23.50	1382.4	11.1	2.7	9.23	17.13
28/Sep/	0	10:32:58	23.67	1379.8	10.7	3.0	9.22	17.14
28/Sep/	0	10:33: 8	23.83	1376.9	11.0	2.5	9.21	17.15

28/Sep/	0	10:33:18	24.00	1372.7	10.9	2.5	9.18	17.17
28/Sep/	0	10:33:28	24.17	1364.7	10.9	2.9	9.15	17.18
28/Sep/	0	10:33:38	24.33	1353.7	10.7	2.8	9.09	17.21
28/Sep/	0	10:33:48	24.50	1336.1	10.8	3.0	9.04	17.20
28/Sep/	0	10:33:58	24.67	1276.6	10.7	1.8	8.81	17.86
28/Sep/	0	10:34: 8	24.83	1231.7	10.6	2.6	8.34	18.40
28/Sep/	0	10:34:18	25.00	1179.3	10.3	1.8	8.17	18.72
28/Sep/	0	10:34:28	25.17	1123.6	10.1	1.9	7.79	19.35
28/Sep/	0	10:34:38	25.33	1089.0	10.2	2.9	7.53	19.60
28/Sep/	0	10:34:48	25.50	1062.6	10.0	2.7	7.43	19.69
28/Sep/	0	10:34:58	25.67	1046.4	9.9	2.5	7.38	19.74
28/Sep/	0	10:35: 8	25.83	1036.9	9.7	2.3	7.37	19.76
28/Sep/	0	10:35:18	26.00	1026.6	9.6	1.8	7.34	19.77
28/Sep/	0	10:35:28	26.17	1019.2	9.7	2.8	7.31	19.78
28/Sep/	0	10:35:38	26.33	1005.8	9.7	3.4	7.29	19.78
28/Sep/	0	10:35:48	26.50	993.5	9.5	2.1	7.25	19.80
28/Sep/	0	10:35:58	26.67	972.6	9.5	1.8	7.19	19.80
28/Sep/	0	10:36: 8	26.83	958.5	9.5	2.7	7.14	19.80
28/Sep/	0	10:36:18	27.00	957.4	9.5	2.1	7.11	19.73
28/Sep/	0	10:36:28	27.17	998.7	9.6	1.6	7.44	19.02
28/Sep/	0	10:36:38	27.33	1033.9	9.7	1.7	7.88	18.69
28/Sep/	0	10:36:48	27.50	961.6	9.6	2.2	8.01	18.13
28/Sep/	0	10:36:58	27.67	652.3	10.0	1.0	7.19	16.61
28/Sep/	0	10:37: 8	27.83	408.7	9.3	0.9	2.94	20.03
28/Sep/	0	10:37:18	28.00	257.9	8.9	0.6	0.83	21.02
28/Sep/	0	10:37:28	28.17	172.0	8.2	-0.3	0.39	21.15
28/Sep/	0	10:37:38	28.33	122.4	8.2	0.7	0.30	21.10
28/Sep/	0	10:37:48	28.50	85.8	7.6	-0.8	0.26	21.09
28/Sep/	0	10:37:58	28.67	70.5	7.4	0.1	0.25	21.09
28/Sep/	0	10:38: 8	28.83	60.3	7.1	-0.3	0.23	21.09
28/Sep/	0	10:38:18	29.00	53.6	7.0	0.0	0.23	21.10
28/Sep/	0	10:38:28	29.17	48.4	6.8	0.3	0.22	21.10
28/Sep/	0	10:38:38	29.33	44.6	6.8	0.3	0.22	21.10
28/Sep/	0	10:38:48	29.50	41.1	6.5	0.3	0.21	21.11
28/Sep/	0	10:38:58	29.67	38.6	6.3	0.2	0.21	21.09
28/Sep/	0	10:39: 8	29.83	35.9	6.3	-0.1	0.21	21.11
28/Sep/	0	10:39:18	30.00	33.9	6.1	-0.1	0.20	21.11
28/Sep/	0	10:39:28	30.17	32.2	6.1	0.1	0.20	21.10
28/Sep/	0	10:39:38	30.33	30.6	6.0	-0.2	0.20	21.12
28/Sep/	0	10:39:48	30.50	29.5	6.1	0.1	0.20	21.12
28/Sep/	0	10:39:58	30.67	28.1	6.0	-0.8	0.20	21.11
28/Sep/	0	10:40: 8	30.83	27.0	5.7	0.3	0.19	21.12
28/Sep/	0	10:40:18	31.00	26.2	5.7	0.7	0.19	21.12
28/Sep/	0	10:40:28	31.17	25.2	5.6	0.0	0.19	21.11
28/Sep/	0	10:40:38	31.33	24.5	5.7	0.2	0.19	21.11
28/Sep/	0	10:40:48	31.50	23.6	5.5	0.5	0.19	21.11
28/Sep/	0	10:40:58	31.67	23.0	5.2	0.9	0.19	21.13
28/Sep/	0	10:41: 8	31.83	22.2	5.4	0.3	0.19	21.11
28/Sep/	0	10:41:18	32.00	21.4	5.2	1.0	0.19	21.13

28/Sep/	0	10:41:28	32.17	21.1	4.9	0.0	0.18	21.11
28/Sep/	0	10:41:38	32.33	20.5	5.0	0.2	0.18	21.12
28/Sep/	0	10:41:48	32.50	19.9	5.1	0.5	0.18	21.11
28/Sep/	0	10:41:58	32.67	19.5	4.7	0.1	0.18	21.12
28/Sep/	0	10:42: 8	32.83	19.2	4.7	-0.1	0.18	21.12
28/Sep/	0	10:42:18	33.00	18.8	4.8	-0.2	0.18	21.12
28/Sep/	0	10:42:28	33.17	18.7	4.8	-0.4	0.17	21.12
28/Sep/	0	10:42:38	33.33	18.2	4.6	-0.2	0.17	21.12
28/Sep/	0	10:42:48	33.50	17.7	4.3	0.4	0.17	21.13
28/Sep/	0	10:42:58	33.67	17.3	4.6	0.0	0.17	21.12
28/Sep/	0	10:43: 8	33.83	17.0	4.6	-1.0	0.17	21.13
28/Sep/	0	10:43:18	34.00	16.9	4.2	0.5	0.17	21.12
28/Sep/	0	10:43:28	34.17	16.6	4.2	0.0	0.17	21.12
28/Sep/	0	10:43:38	34.33	16.2	4.1	0.3	0.17	21.12
28/Sep/	0	10:43:48	34.50	15.9	4.1	0.4	0.16	21.11
28/Sep/	0	10:43:58	34.67	15.6	4.1	0.4	0.16	21.12
28/Sep/	0	10:44: 8	34.83	15.5	3.9	-0.5	0.16	21.13
28/Sep/	0	10:44:18	35.00	15.1	3.5	0.2	0.16	21.13
28/Sep/	0	10:44:28	35.17	15.2	3.8	0.3	0.16	21.12
28/Sep/	0	10:44:38	35.33	14.9	3.7	-0.1	0.16	21.13
28/Sep/	0	10:44:48	35.50	14.8	3.7	0.4	0.16	21.13
28/Sep/	0	10:44:58	35.67	14.5	3.5	0.2	0.16	21.13
28/Sep/	0	10:45: 8	35.83	14.3	3.6	0.1	0.16	21.13
28/Sep/	0	10:45:18	36.00	14.2	3.6	0.1	0.16	21.13
28/Sep/	0	10:45:28	36.17	13.9	3.3	-0.5	0.15	21.13
28/Sep/	0	10:45:38	36.33	13.6	3.4	-0.7	0.15	21.13
28/Sep/	0	10:45:48	36.50	13.8	3.5	-0.1	0.15	21.14
28/Sep/	0	10:45:58	36.67	13.6	3.0	-0.2	0.15	21.12
28/Sep/	0	10:46: 8	36.83	13.5	3.2	-0.3	0.15	21.14
28/Sep/	0	10:46:18	37.00	13.2	3.2	0.6	0.15	21.12
28/Sep/	0	10:46:28	37.17	13.3	2.9	-0.2	0.15	21.14
28/Sep/	0	10:46:38	37.33	13.0	3.0	0.6	0.15	21.12
28/Sep/	0	10:46:48	37.50	13.1	3.0	0.0	0.15	21.14
28/Sep/	0	10:46:58	37.67	12.9	3.0	0.0	0.15	21.12
28/Sep/	0	10:47: 8	37.83	12.8	2.8	0.0	0.14	21.14
28/Sep/	0	10:47:18	38.00	12.6	2.7	-0.1	0.15	21.13
28/Sep/	0	10:47:28	38.17	12.6	2.8	-0.2	0.15	21.15
28/Sep/	0	10:47:38	38.33	12.6	2.5	0.3	0.14	21.13
28/Sep/	0	10:47:48	38.50	12.5	2.7	0.0	0.14	21.13
28/Sep/	0	10:47:58	38.67	12.2	2.6	0.0	0.14	21.14
28/Sep/	0	10:48: 8	38.83	12.3	2.5	0.3	0.14	21.13
28/Sep/	0	10:48:18	39.00	12.3	2.3	-0.2	0.14	21.14
28/Sep/	0	10:48:28	39.17	12.1	2.4	-0.2	0.14	21.13
28/Sep/	0	10:48:38	39.33	12.1	2.2	1.1	0.14	21.14
28/Sep/	0	10:48:48	39.50	12.0	2.1	0.9	0.13	21.13
28/Sep/	0	10:48:58	39.67	11.8	2.1	-0.1	0.13	21.14
28/Sep/	0	10:49: 8	39.83	11.8	2.0	-0.2	0.13	21.13
28/Sep/	0	10:49:18	40.00	11.9	2.1	1.0	0.13	21.14

Appendix 5
Pot-Grate Tests Gas and Air Flow Data

						Pellet						
Test 1				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		
Min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry		Flow
0	0	0	0	0	0	0	0	0	0	0	CO2 Coal	Area
1	0.96	272	0.0	4.8	2.88	0	0	3.84	266	1.08	0	133.1
3	1.08	312	0.0	5.4	3.24	0	0	4.32	306	1.06		571.8
5	1.92	324	0.0	9.6	5.76	0	0	7.68	312	1.84		618.0
7	7.08	200	29.6	35.4	21.24	10.28	1.97	28.32	195	16.13		507.9
9	4.92	160	29.6	24.6	14.76	6.85	1.97	19.68	165	13.10		360.4
11	4.20	140	29.6	21.0	12.60	3.43	1.97	16.80	146	10.99		310.8
13	5.76	128	22.2	28.8	17.28	0	1.97	23.04	114	15.20		259.5
15	4.80	128	22.2	24.0	14.40	0	1.97	19.20	119	12.06		233.1
17	4.56	136	22.2	22.8	13.68	0	1.97	18.24	129	10.62		248.3
19	4.44	140	22.2	22.2	13.32	0	1.97	17.76	134	9.97		262.5
21	4.32	140	22.2	21.6	12.96	0	1.97	17.28	134	9.65		267.9
23	4.32	140	22.2	21.6	12.96	0	0	17.28	136	9.51		270.6
25	3.00	152	22.2	15.0	9.00	0	0	12.00	156	5.76		292.5
27	0.00	220	0.0	0.0	0.00	0	0	0.00	220	0.00		376.2
29	0.00	288	0.0	0.0	0.00	0	0	0.00	288	0.00		508.0
31	0.00	380	0.0	0.0	0.00	0	0	0.00	380	0.00		668.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		780.0
35	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	259060									Total Flow SCF		7468.6
						Pellet						
Test 2				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0		
1	0.72	288	0.0	3.6	2.16	0	0	2.88	284	0.76	0	141.8
3	0.72	316	0.0	3.6	2.16	0	0	2.88	312	0.69		595.4
5	2.16	332	0.0	10.8	6.48	0	0	8.64	319	2.03		630.7
7	7.92	220	29.6	39.6	23.76	10.28	1.97	31.68	210	16.18		529.4
9	5.40	168	29.6	27.0	16.20	6.85	1.97	21.60	170	13.55		380.5
11	4.68	148	29.6	23.4	14.04	3.43	1.97	18.72	151	11.57		321.1
13	6.60	136	22.2	33.0	19.80	0	1.97	26.40	117	16.98		267.6
15	5.64	140	22.2	28.2	16.92	0	1.97	22.56	126	13.39		243.0
17	5.64	152	22.2	28.2	16.92	0	1.97	22.56	138	12.23		264.8
19	5.28	160	22.2	26.4	15.84	0	1.97	21.12	149	10.66		286.9
21	4.80	164	22.2	24.0	14.40	0	1.97	19.20	155	9.26		304.0
23	4.80	164	22.2	24.0	14.40	0	0	19.20	157	9.15		312.8
25	3.60	184	22.2	18.0	10.80	0	0	14.40	185	5.85		342.0
27	0.00	276	0.0	0.0	0.00	0	0	0.00	276	0.00		460.6
29	0.00	360	0.0	0.0	0.00	0	0	0.00	360	0.00		636.0

31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		760.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
35	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	292350									Total Flow SCF		8076.7
					Pellet							
Test 3				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	348.3	0.6
1	0.72	276	0.0	3.6	2.16	0	0	2.88	272	0.80		135.8
3	0.72	296	0.0	3.6	2.16	0	0	2.88	292	0.74		563.4
5	2.16	320	0.0	10.8	6.48	0	0	8.64	307	2.11		598.7
7	6.96	196	29.6	34.8	20.88	10.28	1.97	27.84	192	16.22		499.2
9	4.92	152	29.6	24.6	14.76	6.85	1.97	19.68	157	13.77		349.1
11	4.20	128	29.6	21.0	12.60	3.43	1.97	16.80	134	11.97		290.8
13	6.00	120	22.2	30.0	18.00	0	1.97	24.00	104	17.27		238.1
15	5.16	124	22.2	25.8	15.48	0	1.97	20.64	113	13.67		217.5
17	5.04	140	22.2	25.2	15.12	0	1.97	20.16	130	11.63		243.3
19	4.80	140	22.2	24.0	14.40	0	1.97	19.20	131	10.96		261.4
21	4.56	140	22.2	22.8	13.68	0	1.97	18.24	133	10.30		264.3
23	4.56	140	22.2	22.8	13.68	0	0	18.24	135	10.15		267.7
25	3.60	152	22.2	18.0	10.80	0	0	14.40	153	7.08		287.4
27	0.00	232	0.0	0.0	0.00	0	0	0.00	232	0.00		384.6
29	0.00	296	0.0	0.0	0.00	0	0	0.00	296	0.00		528.0
31	0.00	380	0.0	0.0	0.00	0	0	0.00	380	0.00		676.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		780.0
Btu=	269350									Total Flow SCF		6933.7
					Pellet							
Test 4				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	348.3	0.6
1	0.96	276	0.0	4.8	2.88	0	0	3.84	270	1.07		135.1
3	0.84	308	0.0	4.2	2.52	0	0	3.36	303	0.83		573.2
5	2.16	320	0.0	10.8	6.48	0	0	8.64	307	2.11		610.0
7	7.08	204	29.6	35.4	21.24	10.28	1.97	28.32	199	15.80		506.5
9	4.68	164	29.6	23.4	14.04	6.85	1.97	18.72	170	12.26		369.8
11	4.32	148	29.6	21.6	12.96	3.43	1.97	17.28	153	10.70		323.5
13	5.88	136	22.2	29.4	17.64	0	1.97	23.52	121	14.58		274.1
15	4.80	140	22.2	24.0	14.40	0	1.97	19.20	131	10.96		252.4
17	4.80	144	22.2	24.0	14.40	0	1.97	19.20	135	10.63		266.9
19	4.68	144	22.2	23.4	14.04	0	1.97	18.72	136	10.31		271.6
21	4.56	148	22.2	22.8	13.68	0	1.97	18.24	141	9.71		277.0
23	4.56	148	22.2	22.8	13.68	0	0	18.24	143	9.58		283.7
25	3.60	156	22.2	18.0	10.80	0	0	14.40	157	6.90		299.4

27	0.00	224	0.0	0.0	0.00	0	0	0.00	224	0.00		380.6
29	0.00	296	0.0	0.0	0.00	0	0	0.00	296	0.00		520.0
31	0.00	380	0.0	0.0	0.00	0	0	0.00	380	0.00		676.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		780.0
Btu=	266928									Total Flow SCFM		7148.2
					Pellet							
Test 5				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.84	296	0.0	4.2	2.52	0	0	3.36	291	0.87		145.5
3	0.84	312	0.0	4.2	2.52	0	0	3.36	307	0.82		597.9
5	2.16	328	0.0	10.8	6.48	0	0	8.64	315	2.06		622.0
7	6.96	196	29.6	34.8	20.88	10.28	1.97	27.84	192	16.22		507.2
9	4.92	156	29.6	24.6	14.76	6.85	1.97	19.68	161	13.43		353.1
11	4.44	144	29.6	22.2	13.32	3.43	1.97	17.76	148	11.28		309.4
13	5.76	144	22.2	28.8	17.28	0	1.97	23.04	130	13.33		278.1
15	5.28	140	22.2	26.4	15.84	0	1.97	21.12	129	12.32		258.2
17	5.16	144	22.2	25.8	15.48	0	1.97	20.64	133	11.62		261.8
19	4.92	152	22.2	24.6	14.76	0	1.97	19.68	143	10.34		276.0
21	4.80	152	22.2	24.0	14.40	0	1.97	19.20	143	10.04		286.1
23	4.80	152	22.2	24.0	14.40	0	0	19.20	145	9.90		288.8
25	3.36	164	22.2	16.8	10.08	0	0	13.44	166	6.07		311.4
27	0.00	264	0.0	0.0	0.00	0	0	0.00	264	0.00		430.0
29	0.00	328	0.0	0.0	0.00	0	0	0.00	328	0.00		592.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		728.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	273587									Total Flow SCFM		7626.2
				Pellet								
Test 6				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.84	316	0.0	4.2	2.52	0	0	3.36	311	0.81		155.5
3	0.84	328	0.0	4.2	2.52	0	0	3.36	323	0.78		633.9
5	2.16	344	0.0	10.8	6.48	0	0	8.64	331	1.96		654.0
7	7.32	224	29.6	36.6	21.96	10.28	1.97	29.28	218	14.79		549.0
9	5.16	172	29.6	25.8	15.48	6.85	1.97	20.64	176	12.72		393.5
11	4.44	160	29.6	22.2	13.32	3.43	1.97	17.76	164	10.19		339.9
13	6.60	148	22.2	33.0	19.80	0	1.97	26.40	129	15.39		293.1
15	5.76	156	22.2	28.8	17.28	0	1.97	23.04	142	12.20		270.3
17	5.52	160	22.2	27.6	16.56	0	1.97	22.08	147	11.26		288.8
19	5.40	160	22.2	27.0	16.20	0	1.97	21.60	148	10.96		294.9

21	5.28	164	22.2	26.4	15.84	0	1.97	21.12	153	10.38		300.4
23	5.28	172	22.2	26.4	15.84	0	0	21.12	163	9.75		315.1
25	3.48	172	22.2	17.4	10.44	0	0	13.92	173	6.02		335.8
27	0.00	252	0.0	0.0	0.00	0	0	0.00	252	0.00		425.3
29	0.00	360	0.0	0.0	0.00	0	0	0.00	360	0.00		612.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		760.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	292956									Total Flow SCFM		8002.1
					Pellet							
Test 7				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	348.3	0.6
1	0.84	292	0.0	4.2	2.52	0	0	3.36	287	0.88		143.5
3	0.84	320	0.0	4.2	2.52	0	0	3.36	315	0.80		601.9
5	2.16	328	0.0	10.8	6.48	0	0	8.64	315	2.06		630.0
7	6.72	212	29.6	33.6	20.16	10.28	1.97	26.88	210	14.52		524.6
9	5.16	168	29.6	25.8	15.48	6.85	1.97	20.64	172	13.02		381.1
11	4.56	148	29.6	22.8	13.68	3.43	1.97	18.24	152	11.28		323.2
13	6.72	132	22.2	33.6	20.16	0	1.97	26.88	112	18.01		263.6
15	5.76	144	22.2	28.8	17.28	0	1.97	23.04	130	13.33		241.6
17	5.52	152	22.2	27.6	16.56	0	1.97	22.08	139	11.90		268.8
19	5.28	152	22.2	26.4	15.84	0	1.97	21.12	141	11.27		279.7
21	5.16	156	22.2	25.8	15.48	0	1.97	20.64	145	10.66		285.8
23	5.16	156	22.2	25.8	15.48	0	0	20.64	147	10.51		292.5
25	3.60	172	22.2	18.0	10.80	0	0	14.40	173	6.26		319.8
27	0.00	260	0.0	0.0	0.00	0	0	0.00	260	0.00		432.6
29	0.00	344	0.0	0.0	0.00	0	0	0.00	344	0.00		604.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		744.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	289929									Total Flow SCFM		7485.1
					Pellet							
Test 8				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1	0.72	344	0.0	3.6	2.16	0	0	2.88	340	0.64		169.8
3	4.92	312	0.0	24.6	14.76	0	0	19.68	282	5.23		622.2
5	7.80	192	29.6	39.0	23.40	0	0	31.20	175	13.39		457.3
7	5.64	160	25.9	28.2	16.92	10.28	1.97	22.56	160	16.96		335.2
9	5.16	156	11.1	25.8	15.48	6.85	1.97	20.64	141	15.84		301.4
11	0.00	16.28	0.0	0.0	0.00	3.43	1.97	0.00	18	19.32		158.8
13	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		32.1

15	0.00	16.65	0.0	0.0	0.00	0	1.97	0.00	15	0.00		29.0
17	7.80	192	5.6	39.0	23.40	0	1.97	31.20	149	15.73		163.5
19	6.96	184	5.6	34.8	20.88	0	1.97	27.84	146	14.32		294.6
21	5.88	176	5.6	29.4	17.64	0	1.97	23.52	144	12.22		290.1
23	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		224.3
25	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
27	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
29	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
31	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
33	0.00	204	0.0	0.0	0.00	0	0	0.00	204	0.00		284.0
35	0.00	340	0.0	0.0	0.00	0	0	0.00	340	0.00		544.0
Btu=	226375									Total Flow SCFM		4546.2
						Pellet						
Test 9				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1	1.20	336	0.0	6.0	3.60	0	0	4.80	329	1.09		164.4
3	4.44	296	0.0	22.2	13.32	0	0	17.76	269	4.95		598.2
5	7.80	188	29.6	39.0	23.40	0	0	31.20	171	13.70		440.2
7	5.04	124	29.6	25.2	15.12	10.28	1.97	20.16	132	19.29		302.5
9	4.92	140	9.3	24.6	14.76	6.85	1.97	19.68	125	17.34		256.3
11	0.00	16.28	0.0	0.0	0.00	3.43	1.97	0.00	18	19.32		142.4
13	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		32.1
15	0.00	16.65	0.0	0.0	0.00	0	1.97	0.00	15	0.00		29.0
17	6.60	172	5.6	33.0	19.80	0	1.97	26.40	136	14.56		150.7
19	6.12	164	5.6	30.6	18.36	0	1.97	24.48	131	14.03		266.8
21	5.52	156	3.7	27.6	16.56	0	1.97	22.08	125	13.29		255.5
23	5.04	156	3.7	25.2	15.12	0	0	20.16	129	11.68		254.1
25	4.80	156	3.7	24.0	14.40	0	0	19.20	131	11.00		260.4
27	4.56	160	3.7	22.8	13.68	0	0	18.24	136	10.03		267.2
29	4.56	160	3.7	22.8	13.68	0	0	18.24	136	10.03		272.7
31	4.56	160	3.7	22.8	13.68	0	0	18.24	136	10.03		272.7
33	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		216.3
35	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
37	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
39	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
41	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
43	0.00	248	0.0	0.0	0.00	0	0	0.00	248	0.00		328.0
45	0.00	340	0.0	0.0	0.00	0	0	0.00	340	0.00		588.0
Btu=	328667									Total Flow SCFM		5737.2
						Pellet						
Test 10				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2	SCFM	Oxid.	H2O	Dry Flow	Propane		Flow

					form			form				
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.96	308	0.0	4.8	2.88	0	0	3.84	302	0.95		151.1
3	3.96	268	0.0	19.8	11.88	0	0	15.84	244	4.86		546.5
5	7.80	156	29.6	39.0	23.40	0	0	31.20	139	16.86		383.0
7	4.92	116	25.9	24.6	14.76	10.28	1.97	19.68	121	20.75		259.5
9	4.80	124	11.1	24.0	14.40	6.85	1.97	19.20	111	19.12		231.9
11	0.00	16.28	0.0	0.0	0.00	3.43	1.97	0.00	18	19.32		128.9
13	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		32.1
15	0.00	5.55	0.0	0.0	0.00	0	1.97	0.00	4	0.00		17.9
17	5.64	152	5.6	28.2	16.92	0	1.97	22.56	122	13.90		125.3
19	5.64	152	5.6	28.2	16.92	0	1.97	22.56	122	13.90		243.5
21	5.52	136	5.6	27.6	16.56	0	1.97	22.08	106	15.55		228.2
23	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		186.5
25	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
27	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
29	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
31	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
33	0.00	260	0.0	0.0	0.00	0	0	0.00	260	0.00		340.0
35	0.00	304	0.0	0.0	0.00	0	0	0.00	304	0.00		564.0
Btu=	197927									Total Flow SCFM		4658.9
					Pellet							
Test 11				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.96	332	0.0	4.8	2.88	0	0	3.84	326	0.88		163.1
3	4.32	284	0.0	21.6	12.96	0	0	17.28	258	5.02		584.3
5	7.56	180	29.6	37.8	22.68	0	0	30.24	164	13.81		422.3
7	5.04	108	29.6	25.2	15.12	10.28	1.97	20.16	116	21.96		279.9
9	5.04	132	9.3	25.2	15.12	6.85	1.97	20.16	116	18.96		231.6
11	0.00	15.54	0.0	0.0	0.00	3.43	1.97	0.00	17	20.16		132.9
13	0.00	15.54	0.0	0.0	0.00	0	1.97	0.00	14	0.00		30.6
15	0.00	16.65	0.0	0.0	0.00	0	1.97	0.00	15	0.00		28.3
17	7.80	192	5.6	39.0	23.40	0	1.97	31.20	149	15.73		163.5
19	6.72	184	5.6	33.6	20.16	0	1.97	26.88	147	13.69		296.0
21	5.76	176	3.7	28.8	17.28	0	1.97	23.04	143	12.07		290.4
23	5.16	160	3.7	25.8	15.48	0	0	20.64	133	11.66		275.9
25	5.40	164	3.7	27.0	16.20	0	0	21.60	135	11.97		268.0
27	4.80	164	3.7	24.0	14.40	0	0	19.20	139	10.37		274.2
29	4.80	164	3.7	24.0	14.40	0	0	19.20	139	10.37		277.8
31	4.80	164	3.7	24.0	14.40	0	0	19.20	139	10.37		277.8
33	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		218.9
35	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
37	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0

39	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
41	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
43	0.00	268	0.0	0.0	0.00	0	0	0.00	268	0.00		348.0
45	0.00	320	0.0	0.0	0.00	0	0	0.00	320	0.00		588.0
47	0.00	332	0.0	0.0	0.00	0	0	0.00	332	0.00		652.0
Btu=	343799									Total Flow SCFM		6372.1
					Pellet							
Test 12				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1	0.96	348	0.0	4.8	2.88	0	0	3.84	342	0.84		171.1
3	0.60	356	0.0	3.0	1.80	0	0	2.40	352	0.51		694.6
5	2.04	380	0.0	10.2	6.12	0	0	8.16	368	1.66		720.2
7	6.96	248	29.6	34.8	20.88	2.06	1.97	27.84	236	9.72		603.7
9	5.04	208	29.6	25.2	15.12	1.37	1.97	20.16	207	7.98		442.7
11	5.88	180	29.6	29.4	17.64	0.69	1.97	23.52	173	10.59		379.8
13	5.28	176	22.2	26.4	15.84	0	1.97	21.12	165	9.63		337.6
15	4.92	172	22.2	24.6	14.76	0	1.97	19.68	163	9.07		327.3
17	4.68	176	22.2	23.4	14.04	0	1.97	18.72	168	8.35		330.9
19	4.32	176	22.2	21.6	12.96	0	1.97	17.28	170	7.61		338.5
21	4.32	176	22.2	21.6	12.96	0	1.97	17.28	170	7.61		340.6
23	4.08	184	22.2	20.4	12.24	0	0	16.32	182	6.74		352.0
25	4.08	264	22.2	20.4	12.24	0	0	16.32	262	4.68		443.4
27	0.00	344	0.0	0.0	0.00	0	0	0.00	344	0.00		605.7
29	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		744.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	268139									Total Flow SCFM		7632.1
					Pellet							
Test 13				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1	1.08	324	0.0	5.4	3.24	0	0	4.32	318	1.02		158.8
3	0.60	348	0.0	3.0	1.80	0	0	2.40	344	0.52		661.9
5	1.80	364	0.0	9.0	5.40	0	0	7.20	353	1.53		697.6
7	7.92	224	29.6	39.6	23.76	2.06	1.97	31.68	206	12.52		559.4
9	5.76	176	29.6	28.8	17.28	1.37	1.97	23.04	170	10.94		376.6
11	5.76	176	29.6	28.8	17.28	0.69	1.97	23.04	170	10.58		340.2
13	7.20	164	22.2	36.0	21.60	0	1.97	28.80	141	15.32		310.8
15	5.76	164	22.2	28.8	17.28	0	1.97	23.04	150	11.55		290.7

17	5.64	164	22.2	28.2	16.92	0	1.97	22.56	150	11.25		300.1
19	5.40	172	22.2	27.0	16.20	0	1.97	21.60	160	10.14		310.2
21	5.28	176	22.2	26.4	15.84	0	1.97	21.12	165	9.63		324.4
23	4.20	192	22.2	21.0	12.60	0	0	16.80	189	6.67		353.6
25	4.20	192	22.2	21.0	12.60	0	0	16.80	189	6.67		378.0
27	0.00	268	0.0	0.0	0.00	0	0	0.00	268	0.00		457.0
29	0.00	360	0.0	0.0	0.00	0	0	0.00	360	0.00		628.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		760.0
Btu=	305666									Total Flow SCFM		6907.2
						Pellet						
Test 14				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1	1.20	324	0.0	6.0	3.60	0	0	4.80	317	1.14		158.4
3	3.96	280	0.0	19.8	11.88	0	0	15.84	256	4.64		573.0
5	7.68	176	29.6	38.4	23.04	0	0	30.72	160	14.44		415.8
7	5.16	136	25.9	25.8	15.48	2.06	1.97	20.64	131	13.38		290.5
9	4.92	136	11.1	24.6	14.76	1.37	1.97	19.68	117	13.79		248.0
11	0.00	15.91	0.0	0.0	0.00	0.69	1.97	0.00	15	4.68		131.6
13	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		28.9
15	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		28.6
17	6.84	196	5.6	34.2	20.52	0	1.97	27.36	159	12.94		172.9
19	6.36	188	5.6	31.8	19.08	0	1.97	25.44	153	12.44		312.0
21	5.76	172	5.6	28.8	17.28	0	1.97	23.04	141	12.25		294.4
23	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		221.0
25	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
27	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
29	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
31	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
33	0.00	288	0.0	0.0	0.00	0	0	0.00	288	0.00		368.0
35	0.00	312	0.0	0.0	0.00	0	0	0.00	312	0.00		600.0
Btu=	211243									Total Flow SCFM		4483.2
					Pellet							
Test 15				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1	0.96	320	0.0	4.8	2.88	0	0	3.84	314	0.92		157.1
3	4.44	288	0.0	22.2	13.32	0	0	17.76	261	5.10		575.6
5	7.68	172	29.6	38.4	23.04	0	0	30.72	156	14.81		416.9

7	5.16	120	29.6	25.8	15.48	2.06	1.97	20.64	119	14.77		274.2
9	4.92	132	11.1	24.6	14.76	1.37	1.97	19.68	113	14.28		231.7
11	0.00	15.54	0.0	0.0	0.00	0.69	1.97	0.00	14	4.80		127.2
13	0.00	15.54	0.0	0.0	0.00	0	1.97	0.00	14	0.00		27.8
15	0.00	15.54	0.0	0.0	0.00	0	1.97	0.00	14	0.00		27.1
17	6.72	196	5.6	33.6	20.16	0	1.97	26.88	159	12.66		172.8
19	6.84	188	5.6	34.2	20.52	0	1.97	27.36	151	13.63		309.8
21	5.76	168	5.6	28.8	17.28	0	1.97	23.04	137	12.61		287.6
23	5.40	164	5.6	27.0	16.20	0	0	21.60	137	11.81		274.2
25	4.92	168	3.7	24.6	14.76	0	0	19.68	142	10.38		279.3
27	4.80	168	3.7	24.0	14.40	0	0	19.20	143	10.08		285.1
29	4.80	168	3.7	24.0	14.40	0	0	19.20	143	10.08		285.8
31	4.80	168	3.7	24.0	14.40	0	0	19.20	143	10.08		285.8
33	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		222.9
35	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
37	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
39	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
41	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
43	0.00	284	0.0	0.0	0.00	0	0	0.00	284	0.00		364.0
45	0.00	320	0.0	0.0	0.00	0	0	0.00	320	0.00		604.0
47	0.00	356	0.0	0.0	0.00	0	0	0.00	356	0.00		676.0
Btu=	338957									Total Flow SCFM		5849.1
						Pellet						
Test 16				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.60	332	0.0	3.0	1.80	0	0	2.40	328	0.55		164.2
3	0.72	356	0.0	3.6	2.16	0	0	2.88	352	0.61		680.1
5	1.92	376	0.0	9.6	5.76	0	0	7.68	364	1.58		716.2
7	6.60	236	29.6	33.0	19.80	2.06	1.97	26.40	226	9.67		590.6
9	5.04	188	29.6	25.2	15.12	1.37	1.97	20.16	187	8.83		412.9
11	5.04	188	29.6	25.2	15.12	0.69	1.97	20.16	186	8.49		372.8
13	5.52	160	22.2	27.6	16.56	0	1.97	22.08	147	11.26		333.2
15	4.92	160	22.2	24.6	14.76	0	1.97	19.68	151	9.79		297.8
17	4.80	160	22.2	24.0	14.40	0	1.97	19.20	151	9.51		302.1
19	4.56	164	22.2	22.8	13.68	0	1.97	18.24	157	8.72		308.3
21	4.56	164	22.2	22.8	13.68	0	1.97	18.24	157	8.72		313.7
23	4.08	176	22.2	20.4	12.24	0	0	16.32	174	7.05		330.6
25	4.08	176	22.2	20.4	12.24	0	0	16.32	174	7.05		347.4
27	0.00	288	0.0	0.0	0.00	0	0	0.00	288	0.00		461.7
29	0.00	364	0.0	0.0	0.00	0	0	0.00	364	0.00		652.0
Btu=	264507									Total Flow SCFM		7628.2
						Pellet						

Test 17				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.72	328	0.0	3.6	2.16	0	0	2.88	324	0.67		161.8
3	0.72	340	0.0	3.6	2.16	0	0	2.88	336	0.64		659.4
5	1.92	360	0.0	9.6	5.76	0	0	7.68	348	1.65		684.2
7	6.36	224	29.6	31.8	19.08	2.06	1.97	25.44	216	9.81		564.0
9	5.28	168	29.6	26.4	15.84	1.37	1.97	21.12	165	10.41		380.9
11	5.28	168	29.6	26.4	15.84	0.69	1.97	21.12	165	10.04		330.0
13	6.48	148	22.2	32.4	19.44	0	1.97	25.92	129	15.03		294.0
15	5.64	144	22.2	28.2	16.92	0	1.97	22.56	130	12.98		259.7
17	5.16	144	22.2	25.8	15.48	0	1.97	20.64	133	11.62		263.7
19	4.92	144	22.2	24.6	14.76	0	1.97	19.68	135	10.96		268.0
21	4.92	148	22.2	24.6	14.76	0	1.97	19.68	139	10.64		273.4
23	3.72	156	22.2	18.6	11.16	0	0	14.88	156	7.16		294.6
25	3.72	156	22.2	18.6	11.16	0	0	14.88	156	7.16		311.8
27	0.00	312	0.0	0.0	0.00	0	0	0.00	312	0.00		467.9
29	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		712.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	276613									Total Flow SCFM		7305.7
							Pellet					
Test 18				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	1.20	332	0.0	6.0	3.60	0	0	4.80	325	1.11		162.4
3	4.68	292	0.0	23.4	14.04	0	0	18.72	264	5.32		588.7
5	7.68	180	29.6	38.4	23.04	0	0	30.72	164	14.09		427.4
7	5.40	112	29.6	27.0	16.20	2.06	1.97	21.60	109	16.70		272.8
9	5.52	136	11.1	27.6	16.56	1.37	1.97	22.08	113	15.81		222.7
11	0.00	16.28	0.0	0.0	0.00	0.69	1.97	0.00	15	4.57		128.4
13	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		29.3
15	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		28.6
17	6.84	184	5.6	34.2	20.52	0	1.97	27.36	147	14.00		160.9
19	6.48	152	5.6	32.4	19.44	0	1.97	25.92	117	16.66		263.2
21	6.12	136	5.6	30.6	18.36	0	1.97	24.48	103	17.85		219.6
23	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		182.9
25	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
27	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
29	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
31	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
33	0.00	256	0.0	0.0	0.00	0	0	0.00	256	0.00		336.0
35	0.00	280	0.0	0.0	0.00	0	0	0.00	280	0.00		536.0

Btu=	221532									Total Flow SCFM		4779.4
					Pellet							
Test 19				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	4.11	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	580.5	1.0
1	0.96	344	0.0	4.8	2.88	0	0	3.84	338	0.85		169.1
3	4.44	292	0.0	22.2	13.32	0	0	17.76	265	5.02		603.6
5	7.08	180	29.6	35.4	21.24	0	0	28.32	167	12.71		432.5
7	5.40	124	29.6	27.0	16.20	2.06	1.97	21.60	121	15.05		288.4
9	4.68	128	11.1	23.4	14.04	1.37	1.97	18.72	110	13.96		231.7
11	0.00	15.91	0.0	0.0	0.00	0.69	1.97	0.00	15	4.68		125.1
13	0.00	15.91	0.0	0.0	0.00	0	1.97	0.00	14	0.00		28.6
15	0.00	16.28	0.0	0.0	0.00	0	1.97	0.00	14	0.00		28.3
17	6.00	184	5.6	30.0	18.00	0	1.97	24.00	152	11.87		165.9
19	6.36	156	5.6	31.8	19.08	0	1.97	25.44	121	15.71		273.0
21	6.36	140	5.6	31.8	19.08	0	1.97	25.44	105	18.10		226.8
23	5.28	136	5.6	26.4	15.84	0	0	21.12	110	14.42		215.3
25	4.92	128	3.7	24.6	14.76	0	0	19.68	102	14.45		212.1
27	4.68	128	3.7	23.4	14.04	0	0	18.72	104	13.55		205.8
29	4.68	128	3.7	23.4	14.04	0	0	18.72	104	13.55		207.2
31	4.68	128	3.7	23.4	14.04	0	0	18.72	104	13.55		207.2
33	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		183.6
35	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
37	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
39	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
41	0.00	80	0.0	0.0	0.00	0	0	0.00	80	0.00		160.0
43	0.00	256	0.0	0.0	0.00	0	0	0.00	256	0.00		336.0
45	0.00	300	0.0	0.0	0.00	0	0	0.00	300	0.00		556.0
47	0.00	328	0.0	0.0	0.00	0	0	0.00	328	0.00		628.0
Btu=	330483									Total Flow SCFM		5916.7
					Pellet							
Test 20				propane	propane	CO2	Pellet	propane	Total			
Time	Propane	Air	O2	O2 used	CO2 form	SCFM	Oxid.	H2O form	Dry Flow	Propane		Flow
min	SCFM	SCFM	SCFM	SCFM	SCFM	20.56	SCFM	SCFM	SCFM	%CO2 dry	CO2 Coal	Area
0	0	0	0	0	0	0	0	0	0	0	348.3	0.6
1	0.72	300	0.0	3.6	2.16	0	0	2.88	296	0.73		147.8
3	0.84	324	0.0	4.2	2.52	0	0	3.36	319	0.79		614.6
5	3.99	340	0.0	20.0	11.97	0	0	15.96	316	3.79		635.0
7	6.72	228	29.6	33.6	20.16	10.28	1.97	26.88	226	13.49		541.7
9	5.04	172	29.6	25.2	15.12	6.85	1.97	20.16	176	12.47		401.8

11	4.56	148	29.6	22.8	13.68	3.43	1.97	18.24	152	11.28		327.9
13	5.88	140	22.2	29.4	17.64	0	1.97	23.52	125	14.12		276.7
15	5.16	144	22.2	25.8	15.48	0	1.97	20.64	133	11.62		258.2
17	5.04	144	22.2	25.2	15.12	0	1.97	20.16	134	11.28		267.3
19	4.92	152	22.2	24.6	14.76	0	1.97	19.68	143	10.34		276.7
21	4.80	152	22.2	24.0	14.40	0	1.97	19.20	143	10.04		286.1
23	3.60	160	22.2	18.0	10.80	0	0	14.40	161	6.72		304.0
25	3.60	160	22.2	18.0	10.80	0	0	14.40	161	6.72		321.2
27	0.00	244	0.0	0.0	0.00	0	0	0.00	244	0.00		404.6
29	0.00	316	0.0	0.0	0.00	0	0	0.00	316	0.00		560.0
31	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		716.0
33	0.00	400	0.0	0.0	0.00	0	0	0.00	400	0.00		800.0
Btu=	276764									Total Flow SCFM		7488.1