

A

JAMES E. BICKFORD
SECRETARY



9.1

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT KY 40601-1403
June 19, 2000

Ms. Valerie A. Hudson, Manager
Environmental Systems
Gallatin Steel
R.R. #1, Box 320
Ghent, Kentucky 41045-9704

Dear Ms. Hudson:

On May 4, 2000, NO_x and SO₂ compliance tests were performed on the Electric Arc Furnace baghouse at your Ghent facility. Ambient Air Services, Inc performed the testing. Gerald Slucher observed testing for the Division for Air Quality. Proper test methods were followed, and the test report was checked for completeness and accuracy. The results are summarized below.

PARAMETER	TEST RESULTS	PERMIT LIMIT
Sulfur Dioxide	0.10 lb/ton, 19.0 lb/hr	0.2 lb/ton, 40 lb/hr
Nitrogen Oxides(as NO ₂)	0.19 lb/ton, 36.1 lb/hr	0.51 lb/ton, 102 lb/hr

Therefore, this test report is accepted as proof of compliance for sulfur dioxide and nitrogen oxides. A copy of this letter is being sent to the Florence Regional Office for review. If you have any questions, please contact me at (502) 573-3382.

Sincerely,

A handwritten signature in cursive script, reading "Gerald H. Slucher".

Gerald Slucher, Supervisor
Source Testing Section
Technical Services Branch

GHS/mlp

cc: Edd Frazier
W. A. Clements
Florence Regional Office



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bee: File: ID# 21-077-00018

GALSTLEAF

Facility Gallatin Steel
 Source Type Electric Arc Furnace
 Performed By Ambient Air Services Req. by E. Frazier Rvwed. By Slucher
 Date Performed 5/4/2000 Received 5/4/00 Reviewed 6/15/00

=====

PARTICULATE

	Run #1	Run #2	Run #3
Cp	0.84	0.84	0.84
Theta,min.	252	252	252
As1,ft2	201.062	201.062	201.062
Ts1,degF	132.3	135	119.3
Ps1,in.Hg.	29.8	29.85	29.87
DELP1sqr	1.3231	1.3321	1.3087
As2,ft2	78.54	78.54	78.54
Ts2,degF	168.9	106.9	98.4
Ps2,in.Hg.	29.88	29.89	29.89
DELP2sqr	0.3231	0.2778	0.307
As3,ft2	78.54	78.54	78.54
Ts3,degF	469.1	478.7	356.9
Ps3,in.Hg.	29.68	29.63	29.57
DELP3sqr	1.119	1.1309	1.1406
Asout,ft2	12069.79	12069.79	12069.79
Gamma	1	1	1
Ts,degF	0	151.4	151.4
Tm,degF	85.6	89	86
Ps,in.Hg.	30.03	30	30.03
Pbar,in.Hg.	30.03	30	30.03
Vlc,ml.	9	13.4	12.5
Vm,ft3.	31.4	31.79	31.196
DELH,in.H2O	1.5	1.5	1.5
CO2%	0	0	0
O2%	20.9	20.9	20.9
CO%	0	0	0
N2%	79.1	79.1	79.1
Vwstd,ft3	0.4239	0.63114	0.58875
Vmstd,ft3.	30.5985857	30.7561352	30.3775214
Bws	0.01366428	0.02010815	0.01901262
Md	28.836	28.836	28.836
Ms	28.6879338	28.6181081	28.6299792
vs1,ft/sec	79.0861386	79.8357274	77.3496481
vs2,ft/sec	19.8738692	16.2403975	17.8086996
vs3,ft/sec	83.9410382	85.4468251	80.4592981
Q1std,dscf/hr.	50130616.8	50130979.1	49975464.6
Q2std,dscf/hr.	4646976.42	4186571.79	4665953.62
Q3std,dscf/hr.	13196684	13186914.6	14255628.6

GALSTLEAF

Qtotal,dscf/min	1132904.62	1125074.43	1148284.11
vs,out ft/sec	1.56438046	1.55356808	1.58561736

NITROGEN OXIDES

ppm	6.4	3.4	3.4
tons/hr	182	198	199
lb/scf	7.645E-07	4.0616E-07	4.062E-07
lb/hr	51.969304	27.4178724	27.983489
lbs/ton	0.2855456	0.1384741	0.1406205

Avg lbs/ton	0.1882134
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SULFUR DIOXIDE

ppm	1.1	1.15	2.8
tons/hr	182	198	199
lb/scf	1.83E-07	1.9127E-07	4.657E-07
lb/hr	12.436389	12.9118174	32.086007
lb/ton	0.0683318	0.0652112	0.1612362

Avg lbs/ton	0.0982597
-------------	-----------

interoffice

MEMORANDUM

to: Jerry Slucher
from: Edd Frazier 
subject: Stack test review
date: June 15, 2000

Re: Gallatin Steel
21-077-00018/5

Please review the attached test report. This test was performed on May 4, 2000, and the NO_x and SO₂ emissions from the baghouse for the EAF were determined. Please inform me of your findings when your review is done.

cc: Dan Gray

attachment



June 14, 2000

Mr. Daniel Gray, Manager
Permit Review Branch
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601-1403

RE: Air Emissions Performance Testing – May 2000
Gallatin Steel Company, Warsaw, Kentucky
I.D. # 079-1380-0018, Permit # F-96-009

Dear Mr. Gray:

Enclosed is the test report prepared by Ambient Air Services, Inc. for the air emissions performance testing conducted at Gallatin Steel Company on May 4, 2000 for SO₂ and NO_x.

Data sheets for the baghouse pressure drops, furnace shell pressures, fan amperes and damper positions are included in Appendix F of the report with the production data. The sulfur content of the charge carbon used during the test was 0.57%.

If you have any questions regarding this report, please feel free to contact me at (606) 567-3141.

Sincerely yours,

Valerie A. Hudson, P.E.
Process Manager – Environmental Systems



**EMISSIONS TEST REPORT FOR
SULFUR DIOXIDE AND OXIDES OF NITROGEN**

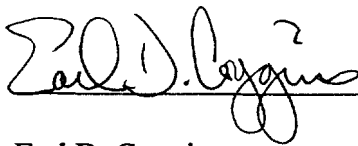
**GALLATIN STEEL COMPANY
GHENT, KENTUCKY
(PERMIT NUMBER F-96-009 REVISION 1)**

MAY 4, 2000

**AMBIENT AIR SERVICES, INC.
106 AMBIENT AIR WAY
STARKE, FLORIDA 32091
(904) 964-8440**

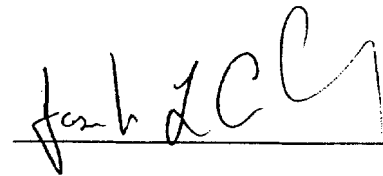
Ambient Air Services, Inc. of Starke, Florida, has completed the testing described in this report for the Gallatin Steel Company, Ghent, Kentucky facility. To the best of our knowledge and abilities we certify that all information, facts and test data are true and correct. Information supplied to AASI for use in this report from Gallatin Steel is perceived to be accurate and is used as such where necessary.

Test Team Leader:

A handwritten signature in black ink, appearing to read "Earl D. Coggins", is written over a horizontal line.

Earl D. Coggins

Project Manager:

A handwritten signature in black ink, appearing to read "Joe L. Cooksey", is written over a horizontal line.

Joseph L. Cooksey

1.0 EXECUTIVE SUMMARY

On May 4, 2000 emission tests were conducted at the Gallatin Steel mill located in Warsaw, Kentucky. The emission testing was conducted in accordance with the requirements listed in the Kentucky Department of Environmental Protection, Division of Air Quality, PSD Permit F-96-009. In accordance with Permit F-96-009 (Revision 1) Gallatin Steel was required to test for NO_x and SO_x emissions. Based on results from testing conducted in the previous 2 years (1998 and 1999) testing was not required for VOC, PM, CO and lead emissions. The results from this test indicate compliance with the NO_x and SO_x permit limitations. Table 1 summarizes the results of these testing efforts.

TABLE 1

SUMMARY OF EMISSION TEST RESULTS			
GALLATIN STEEL COMPANY - WARSAW, KENTUCKY MILL GHENT, KENTUCKY			
May 4, 2000			
EMISSION POINT	PARAMETER	TEST RESULTS	PERMIT LIMIT
EAF/CASTER LMF Baghouse Emission Point El (01)	Sulfur Dioxide(SO ₂)	0.10 lbs/ton 18.6 lbs/hr.	0.20 lbs/ton 40 lbs/hr.
	Oxides of Nitrogen	0.19 lbs/ton 36.1 lbs/hr.	0.51 lbs/ton 102.0 lbs/hr.

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2.0 INTRODUCTION

On May 4, 2000 Ambient Air Services, Inc. conducted air emission testing at Gallatin Steel Company's, Ghent, Kentucky mill. Prior to starting these tests, Kentucky Department of Environmental Protection personnel were notified of the testing schedule and provided a testing protocol for review. A copy of the Notification Letter is included in the Appendix section of this report.

Testing methods and time duration are summarized in Table 2.

TABLE 2

SUMMARY OF TESTING METHODS		
GALLATIN STEEL COMPANY		
GHENT, KENTUCKY		
MAY 4, 2000		
POLLUTANT-SOURCE	EPA REFERENCE METHOD	TIME DURATION
Sulfur Dioxide - E1 (01)	Method 6C	3 runs, 3 heats each, 2 compartments tested simultaneously per run
Oxides of Nitrogen - E1 (01)	Method 7E	3 runs, 3 heats each All tests conducted in Compartment 7

3.0 PROCESS DESCRIPTION

At the Ghent, Kentucky facility of Gallatin Steel, the overall objective is to reclaim scrap steel of various forms, refining this material to create rolled steel coils. This type of mill is commonly referred to as a "mini" mill. The particular aspect of this mill examined by these testing efforts were the Electric Arc Furnace (EAF) operations. The EAF by introducing heat primarily in the form of an electric arc provides the energy necessary to melt the scrap steel. Once melted and refined, the furnace is tapped and the product is transferred to the caster/tunnel furnace to be formed into rolled steel. To control the amount of particulate escaping from the melt shop building, during all operations, a baghouse filter system is employed. This system exhausts the furnace directly through fourth hole and canopy hood ducts.

4.0 GASEOUS EMISSION SAMPLING

4.1 Methodology

Continuous instruments were used to measure SO₂ and NO_x emissions. The arc furnace shop sample was obtained from the baghouse. A dilution extraction system was utilized to convey the sample gas to the sulfur dioxide analytical instruments. A fully extractive system was utilized for the NO_x instrument. The sample was obtained from a representative middle point among the bag filter banks on the clean side of the baghouse. The sample probe for the NO_x instrument was positioned in Compartment 7 of the baghouse for the duration of the test. The probe for the SO₂ sample was positioned in 6 different compartments, 2 per test run.

Gaseous emission sampling consisted of three runs, each run covering three furnace "heats". Utilizing the flow rates (SCFM) measured during each run, mass emissions were calculated in lbs/hr. and in lbs/ton.

As described in the test protocol, in order to sample a maximum number of compartments per test run, two SO₂ instruments were utilized. The sample probe for each instrument was positioned in separate compartments. Thus, a total of six compartments were tested for three heats each over the test period. The compartments were selected so that one inner and one outer compartment were sampled during each run. The compartments were randomly selected.

Historically all SO₂ measurements were conducted in Compartment Number 7. This originated at the request of the State of Kentucky. Compartment 7 was selected by the State due to the location of the installed CEMS probe. Through a baghouse consultant, Gallatin learned that the sulfur dioxide

may be different in concentration in different compartments within the baghouse. This stratification is due in part to the design of the duct work and fan configuration.

As can be seen in the results summary, SO₂ concentrations vary considerably from compartment to compartment within the baghouse. In order to achieve a more statistically valid average, compartments were selected so that one "inner" and one "outer" compartment were sampled per test run. The inner and outer compartments were selected to achieve a cross-sectional average of all compartments based on engineering judgements.

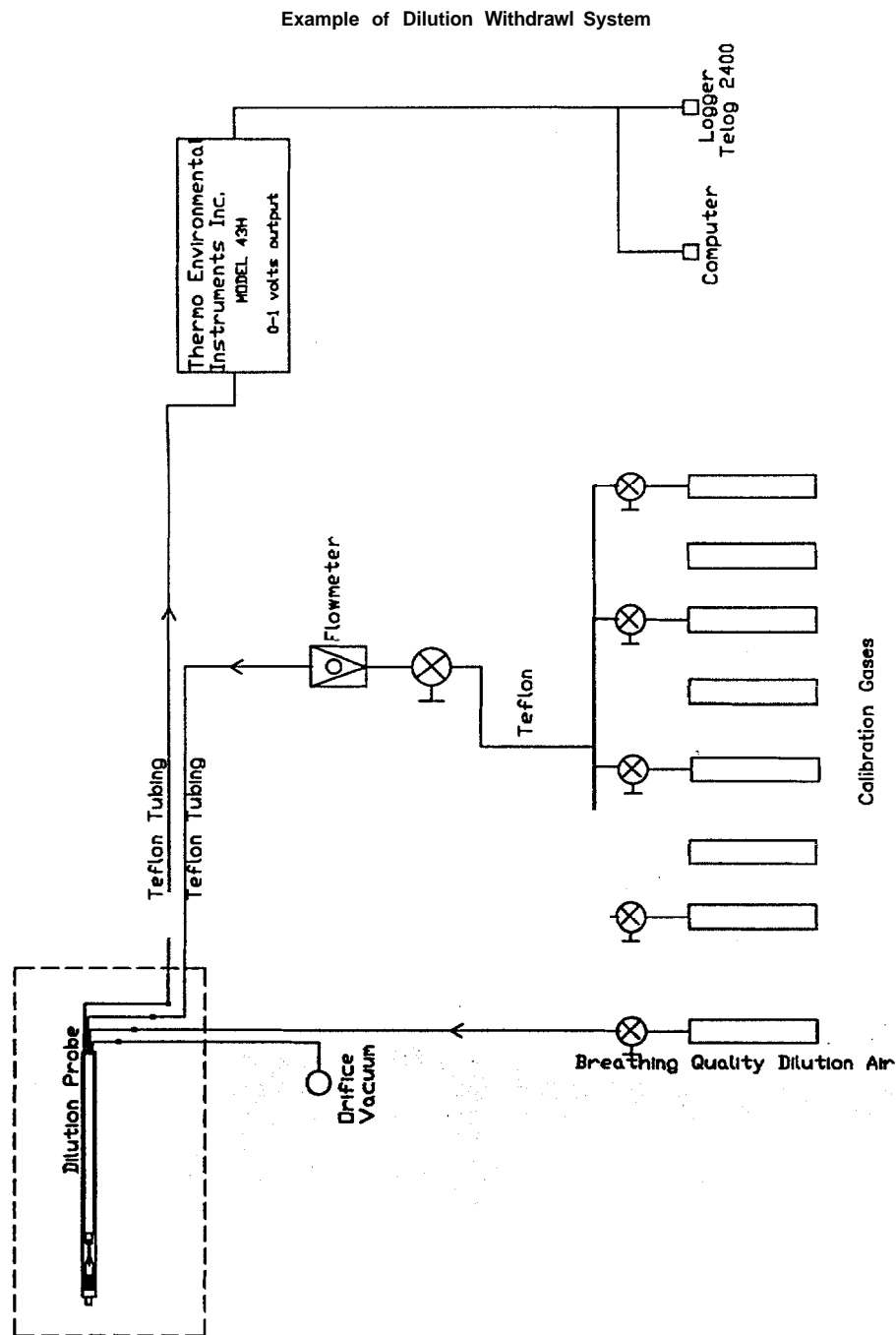


FIGURE 4-1

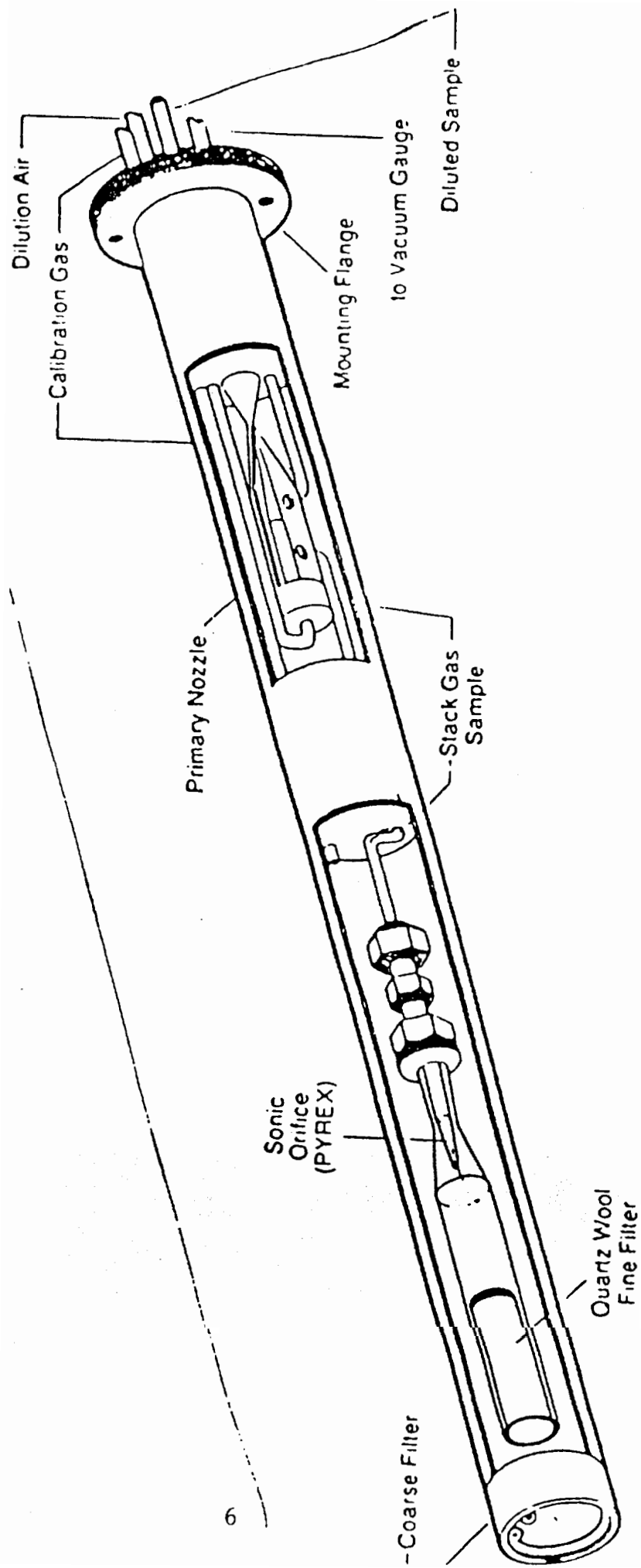


FIGURE 4-2

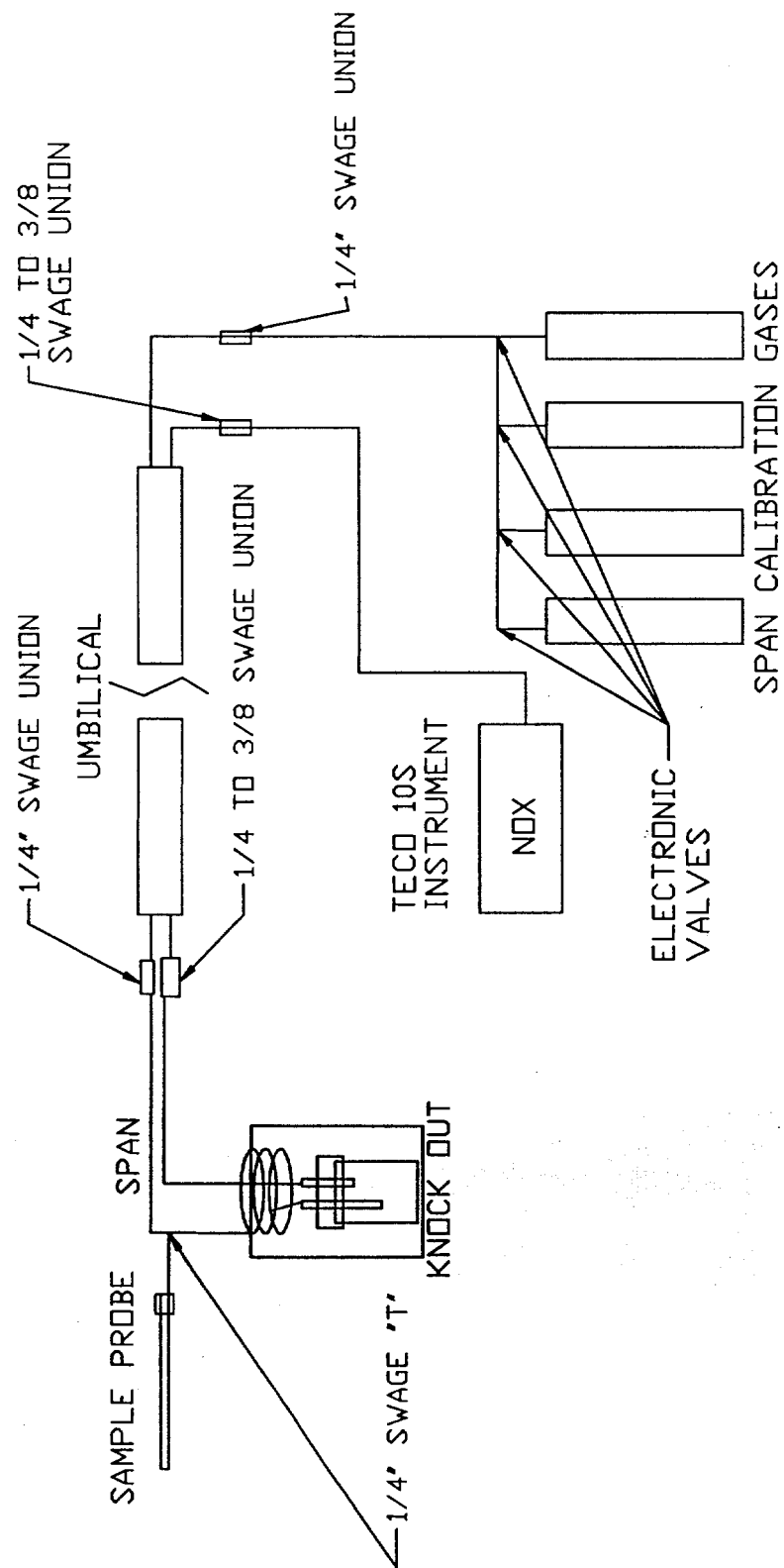


FIGURE 4-3

FULLY EXTRACTIVE WITHDRAWAL SYSTEM - NOx

Data Recording;

The primary data recorder was a Telog Model 2400 electronic data recorder which is based on micro-processor technology. This recorder interrogates each analytical instrument signal on a **once-every-one-second** basis and for this test was instructed to accumulate 60 of these one-second readings and store the average into recorder memory. The data bank consists of a series of one minute averages. In retrieving the data from the computerized database, scaling factors were entered to reflect the appropriate calibrations which occurred immediately before and after collecting the data set of current interest. The analysis of SO₂, gaseous species was carried out as follows:

Sulfur Dioxide

Sulfur Dioxide concentrations were determined by EPA Method 6C. Two Thermo Environmental Instruments (TEI) Model **43H** instruments were used. EPA protocol calibration gases of SO₂, in air were used at nominal levels of 0, 12.5, and 25.0 ppm (**instrument range 0-25 ppm**). Calibrations were performed before and after each test run. EPA Method **6C** required correction factors were applied to the data based on the results of the calibrations.

Table 4-1 summarizes the TEI Model **43H** versus those required by Method 6C.



TABLE 4-1

SULFUR DIOXIDE SYSTEM PERFORMANCE SPECIFICATIONS METHOD 6C VS THERMO ENVIRONMENTAL INSTRUMENTS MODEL 43H		
	METHOD 6C	TECO 43H
Calibration error zero, mid and high gases	Less than *2% span	±1% of full scale
Sampling system bias for zero, mid and high gases	Less than ±5% span	±1% of full scale
Interference Check	Less than ±7% of Method 6 result	NO < 3 ppb M-Xylene < 2 ppb H2O < 2% of reading
Calibration Drift	Less than *3% of span over the run period	±1% of full scale

Oxides of Nitrogen - Oxides of Nitrogen were measured using EPA Method 7E. Table 4-2 relates the required performance specifications of Method 7E to those presented by the manufacturer of the **TEI** Model 10S used in these tests. The instrument was calibrated over a nominal range of 0-50 ppm.

Results from the test are expressed in mass per unit time with all NO, converted to the species NO_x.

At the beginning and end of each test series zero gas plus two calibration gases were used to perform calibration checks. At intermediate periods between the three runs, zero gas plus one calibration gas was used as a calibration check.

TABLE 4-2

OXIDES OF NITROGEN SYSTEM PERFORMANCE SPECIFICATIONS METHOD 7E VS THERMO ENVIRONMENTAL INSTRUMENTS MODEL 10S		
	METHOD 7E	TECO 10S
Calibration error zero, mid and high gases	Less than $\pm 2\%$ span	$\pm 1\%$ of full scale
Sampling system bias for zero, mid and high gases	Less than $\pm 5\%$ span	$\pm 1\%$ of full scale
Zero Drift	Less than $\pm 3\%$ of span over the run period	Negligible
Calibration Drift	Less than $\pm 3\%$ of span over the run period	$\pm 1\%$ of full scale

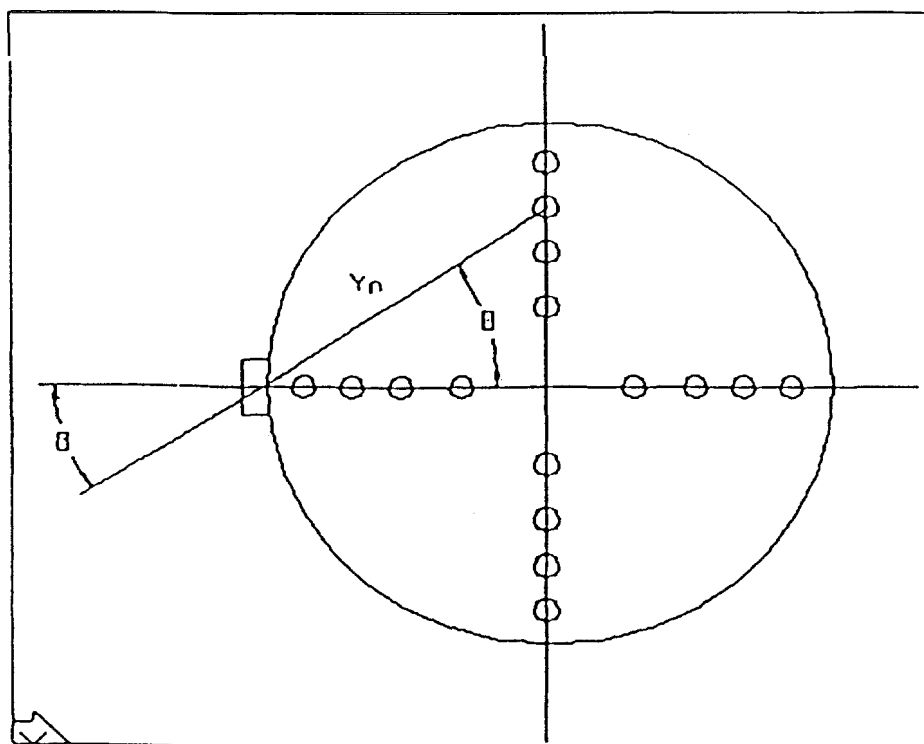
Flow, Moisture, Oxveen and Carbon Dioxide - In order to convert concentration values of parts per million NO, and SO, into pounds per hour it was necessary to determine the effluent flow rate. The effluentflow rate was determined in accordance with EPA Methods **1-4**.

Since the **baghouse** exhaust does not meet the criteria of Method 1, the flow was determined on the **baghouse** inlet. Specifically, there are three inlet ducts to the baghouse. Flow was measured on each of the inlet ducts and added together to get the total flow. **All** fresh air inlets to the compartments tested were blocked during the test. This prevented the influence of dilution air on the gas emission concentrations. Figures 4-4 and 4-5 depict the traverse points used.

In addition to the traverse data, moisture runs were conducted in accordance with EPA Method 4.

Oxygen and carbon dioxide levels were confirmed to be essentially ambient air (**0% CO₂, 20.9% O₂**), using Method 3. A **fyrite** type analyzer was used for this purpose.

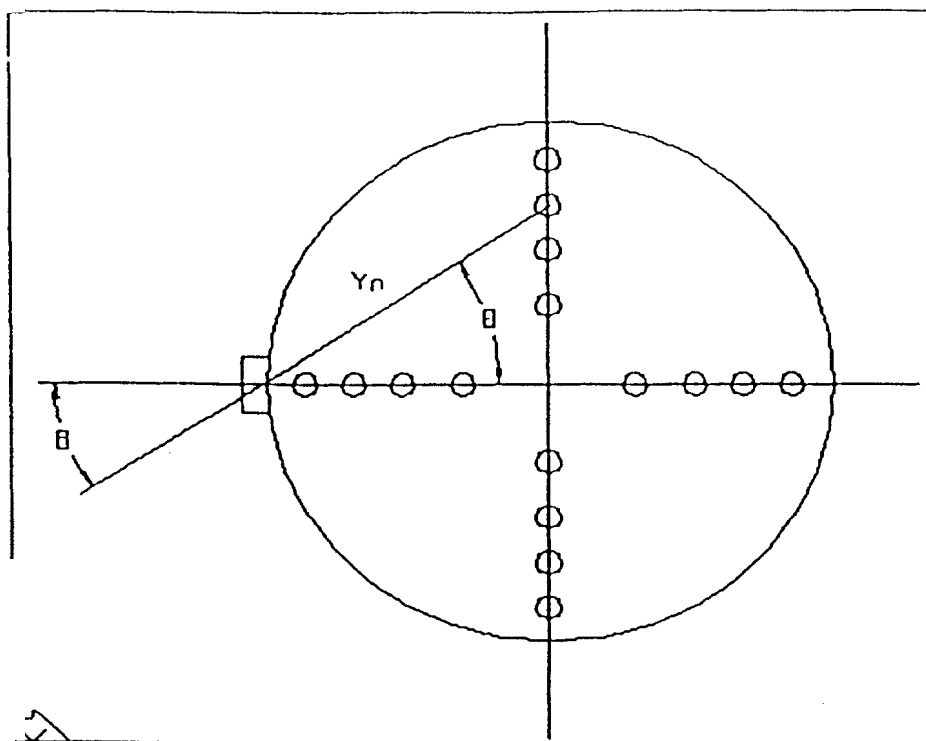
NO. 1 DUCT -- DIAMETER = 192", 16 TRAVERSE POINTS



VERTICAL TRAVERSE		HORIZONTAL TRAVERSE		
POINT	DIST. FROM WALL	POINT	Θ	Y_n
1	6.1"	1	43.0°	131.0"
2	20.2"	2	38.0°	122.0"
3	37.2"	3	31.5°	112.6"
4	62.0"	4	20.0°	101.8"
5	130.0"	5	-20.0°	101.8"
6	154.8"	6	-31.5°	112.6"
7	171.8"	7	-38.0°	122.0"
8	185.6"	8	-43.0°	131.0"

FIGURE 4-4

NO. 2 AND HOT DUCT -- DIAMETER = 120", 16 TRAVERSE POINTS



VERTICAL TRAVERSE		HORIZONTAL TRAVERSE		
POINT	DIST. FROM WALL	POINT	θ	Y_n
1	3.84	1	43.1	82.2
2	12.6	2	38.3	76.5
3	23.3	3	31.5	70.3
4	38.76	4	19.5	63.6
5	81.24	5	-19.5	63.6
6	96.72	6	-31.5	70.3
7	107.4	7	-38.3	76.5
8	116.16	8	-43.1	82.2

FIGURE 4-5

4.2 Test Results

The results of the instrumental testing for gaseous emissions are as follows:

TABLE 4-3

SUMMARY OF OXIDES OF NITROGEN EMISSION MEASUREMENTS						
GALLATIN STEEL COMPANY GHENT, KENTUCKY						
EAF/LMF/CASTER BAGHOUSE May 4, 2000						
RUN NUMBER	HEAT NUMBERS	PRODUCTION	TEST TIME	OXIDES OF NITROGEN (as NO _x)		
		TONS PER HOUR	Minutes	ppm	Lbs/hr.	Lbs/ton
1	A13562, C13217, A13563	182	180	6.4	52.0	0.29
2	A13564, C13219, A13565	198	165	3.4	28.0	0.14
3	A13566, C13221, A13567	199	148	3.4	27.4	0.14
Averages ¹		193	493	4.4	36.1	0.19

¹ Time Weighted Average

Notes: PPM = Parts per Million V.V

Lbs/Hr = Pounds per Hour

Lbs/Ton = Pounds per ton cast

All emissions measurements taken in compartment number 7 (per prior agreement/request from State of Kentucky)

TABLE 4-4

SUMMARY OF SULFUR DIOXIDE EMISSION MEASUREMENTS

GALLATIN STEEL COMPANY
GHENT, KENTUCKY

EAF/LMF/CASTER BAGHOUSE

May 4, 2000

RUN NUMBER	HEAT NUMBERS	PRODUCTION	TEST TIME	OUTER COMPARTMENT SO ₂		INNER COMPARTMENT SO ₂		AVERAGE	
		TONS PER HOUR	Minutes	ppm	Lb/Hr	ppm	Lb/Hr	Lb/Hr	Lb/Ton
1	A13562, C13217, A13563	182	180	1.3	14.5	0.9	10.5	12.5	0.07
2	A13564, C13219, A13565	198	165	1.8	20.8	0.5	5.9	13.4	0.07
3	A13566, C13221, A13567	199	148	2.9	32.2	2.7	30.0	31.1	0.16
Averages ¹		193	493	2.0	22.2	1.3	14.9	18.6	0.10

¹ Time Weighted Average

Notes: PPM = Parts per Million V.V
 Lb/Hr = Pounds per Hour
 Lb/Ton = Pounds per ton cast

Run 1 = Compartments 2 (outer) and 14 (inner)
 Run 2 = Compartments 4 (outer) and 16 (inner)
 Run 3 = Compartments 19 (outer) and 7 (inner)

4.3 Testing Compromises

In the test protocol/notification letter dated March 31,2000 it was proposed to conduct 4 test runs of 3 heats each. The logic was to obtain the most representative average SO₂ data possible from the baghouse. After discussing this with Mr. Gerald Slucher on site it was decided that three test runs of three heats each would be acceptable.

Three test runs were conducted over a total of nine heats.

A second compromise - approximately 20 minutes prior to the end of the ninth heat the plant encountered a problem. The problem resulted in an undetermined amount of down time. Again, Mr. Slucher was consulted and he suggested that a representative portion of the heat had been sampled and suggested that we end the test run at that point.

APPENDICES

APPENDIX A - Sample Calculations - Gaseous Emissions

APPENDIX B - Instrument Calibration Data - **Baghouse** Testing

APPENDIX C - Gaseous Emission Data - **Baghouse** Testing

APPENDIX D - Flow Rates

APPENDIX E - Field Data Sheets

APPENDIX F - Production Data, Test Notification Letter

APPENDIX G - Project Participants

APPENDIX A

SAMPLE CALCULATIONS

Gaseous Emissions Sample Calculations

I. Concentrations as calculated from method 6c

A. Co, Average of initial and final system calibration bias check responses for the zero gas, ppm.

Run 1, SO2

$$Co = (.037 + .078)/2 = 0.057$$

B. Cm, Average of initial and final system calibration bias check responses for the upscale calibration gas.

Run 1, SO2

$$Cm = (8.876 + 8.937)/2 = 8.907$$

C. Cma, Actual concentration of the upscale calibration gas ppm.

Run 1, SO2

$$Cma = 8.95$$

D. Cgas, Effluent gas concentration, dry basis, ppm.

Run 1, SO2

$$C_{gas} = (C_{bar} - Co)(Cma / (Cm - Co))$$

A. SO2 Emissions

$$lb/hr. = \frac{(ppm) * (Mol. Wt.)}{385e6} * (flowrate)(60 \text{ min/hr})$$

Example: Mol. Wt. = 64, ppm = 2.15, flowrate = 1145162 SCFMD

$$lb/hr \text{ SO}_2 = 24.56$$

IV. Emission Rates (lb/ton)

$$Lb/ton = (lb/hr)/(lb/ton)$$

Ambient Air Services, Inc.
Environmental Consultants

106 Ambient Air Way
Starke, Florida 32091

(904) 964 - 8440
(904) 964 - 6675 fax

EXAMPLE CALCULATIONS

Plant	Gallatin Steel
Location	Ghent, Kentucky
Stack	Cold Duct No. 1
Run Date	8-25-99
Run Number	1

1. Stack Pressure, PS

Where: PB = Barometric Pressure, inches Hg
PG = Static Pressure, stack, inches
H2O

$$PS = PB + (PG \div 13.6)$$

$$PB = 29.54$$

$$PG = -3.2$$

$$PS = 29.3$$

2. Molecular Weight of stack
gas, dry, MD

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

$$CO_2 = 0.0$$

$$O_2 = 21.0$$

$$N_2 = 79.0$$

$$CO = 0.0$$

$$MD = 28.84$$

3. Molecular weight of stack
gas, stack conditions, MS

Where: MD = See equation 2
W = 0.037
FDA = 1 - W

$$MS = (MD \times FDA) + (18 \times W)$$

$$MD = 28.84$$

$$FDA = 0.9627039$$

$$W = 0.037$$

$$MS = 28.44$$

Ambient Air Services, Inc.
Environmental Consultants

106 Ambient Air Way
Starke, Florida 32091

(904) 964 - 8440
(904) 964 - 6675 fax

EXAMPLE CALCULATIONS - CONTINUED

Plant	Gallatin Steel
Location	Ghent, Kentucky
Stack	Cold Duct No. 1
Run Date	8-25-99
Run Number	1

4. Specific Gravity of Gas,
relative to air, GS

Where: MS = See equation 3

$$GS = MS \div 28.99$$

$$GS = 0.981$$

5. Velocity of stack gas, feet
per minute, U

Where:

CP = Pitot Coefficient, **0.84**
H = Average of the square roots of
the velocity heads, in. **H20**
TS = Temperature of the stack,
degrees Rankin
PS = See equation 1
GS = See equation 4

$$U = 174 \times CP \times H \times \frac{TS \times 29.92}{GS \times PS}$$

$$U = 5106.9 \text{ FPM}$$

6. Stack Gas Flow Rate,
Stack conditions, cfm, QS

Where:

AS = Cross sectional area of stack
at sampling location, **sq.ft.**
U = See equation 5

$$QS = U \times AS$$

$$QS = 1026804 \text{ ACFM}$$

APPENDIX B

INSTRUMENT CALIBRATION DATA

- **Calibration Gas Certificates**

**24.9 ppm NO,
54.2 ppm NO,
12.5 ppm SO,
24.01 ppm SO,**

- **Calibration Drift/Error**

**NO, Compartment 7
SO, Inner Compartments
SO, Outer Compartments**

- **Field Test Log**



SPECTRA GASES INC.

3434 Route 22 West • Branchburg, NJ 08876 USA Tel (908) 252-9300 • (800) 932-0624 • Fax (908) 252-0811
Shipped From 80 Industrial Drive • Alpha, NJ 08865



CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE

PROCEDURE #: G1

CUSTOMER: Gallatin Steel Company
SGI ORDER #: 144936
ITEM#: 2
P.O.#: 72399-1

CYLINDER #: CC109962
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 8110199
EXPIRATION DATE: 811012001

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Monoxide	8/2/99	24.97 ppm	25 1 ppm	±1%
	8110199	25 13 ppm		
Nitric Oxide	8/2/99	24.79 ppm	24 8 ppm	+/- 1%
	8110/99	24 88 ppm		
NOx			24 9 ppm	Reference Value Only

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Monoxide	NTRM-81679	CC88366	97 4 ppm
Nitric Oxide	NTRM-81684	CC79984	98 6 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Carbon Monoxide	Hortba VIA-510	570423011	NDIR	7/23/99
Nitric Oxide	Teco 10	10AR-34979-249	Cheml	7/20/99

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

ANALYST:

FRED PIKULA

DATE: 8110199



SPECTRA GASES INC.

3434 Route 22 West • Branchburg, NJ 08876 USA Tel.: (908) 252-9300 • (800) 932-0624 • Fax: (908) 252-0811
Shipped From: 80 Industrial Drive • Alpha, NJ 08865



CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE

PROCEDURE #: G1

CUSTOMER: Gallatin Steel Company
SGI ORDER #: 144936
ITEM#: 4
P.O.#: 72399-1

CYLINDER #: CC110128
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 8/10/99
EXPIRATION DATE: 8/10/2001

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Monoxide	8/2/99	54.69 ppm	54.7 ppm	+/- 1%
	8/10/99	54.70 ppm		
Nitric Oxide	8/2/99	53.74 ppm	53.9 ppm	+/- 1%
	8/10/99	54.15 ppm		
NOx			54.2 ppm	Reference Value Only

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Monoxide	NTRM-81679	CC88366	97.4 ppm
Nitric Oxide	NTRM-81684	CC79984	98.6 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Carbon Monoxide	Horiba VIA-510	570423011	NDIR	7/23/99
Nitric Oxide	Teco 10	10AR-34979-249	Cheml	7/20/99

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

ANALYST:

FRED PIKULA

DATE: 8/10/99

Airgas

Specialty Gases

1 Hamilton Blvd.

Odore, AL 36582

P.O. Box 190969

Mobile, AL 36619

Phone: (334) 653-2500

FAX: (334) 653-2530

Certificate of Analysis: E.P.A. Protocol Gas Mixture

Cylinder No : CC13785
Cylinder Pressure: 2000 PSIG
Certification Date 3/31/00

Order No. 382975
Expiration Date: 9/30/00
Laboratory: ASG-MOBILE

Reference Standard Information.

<u>Type</u>	<u>Component</u>	<u>Cyl. Number</u>	<u>Concentration</u>
NTRM81661	SULFUR DIOXIDE	CC31252	494.4PPM

Instrumentation:

Instrument/Model/Serial No.
SIEMENS ULTRAMAT 5E K3-685

Analytical Principle
NDIR

Analytical Methodology does not require correction for analytical interferences.

Certified Concentrations:

<u>Component</u>	<u>Concentration</u>	<u>Accuracy</u>	<u>Procedure</u>
SULFUR DIOXIDE	12.50 PPM	+/-1%	G1
NITROGEN	Balance		

Analytical Results:

1st Component:

SULFUR DIOXIDE

1st Analysis Date: 3/24/00

R	<u>494.0</u>	S	<u>12.50</u>	Z	<u>0.000</u>	Conc	<u>12.51</u>
S	<u>12.50</u>	Z	<u>0.000</u>	R	<u>494.5</u>	Conc	<u>12.50</u>
Z	<u>0.000</u>	R	<u>494.5</u>	S	<u>12.50</u>	Conc	<u>12.50</u>
						AVG:	<u>12.50</u>

2nd Analysis Date: 3/31/00

R	<u>494.5</u>	S	<u>12.50</u>	Z	<u>0.000</u>	Conc	<u>12.50</u>
S	<u>12.50</u>	Z	<u>0.000</u>	R	<u>494.5</u>	Conc	<u>12.50</u>
Z	<u>0.000</u>	R	<u>494.5</u>	S	<u>12.50</u>	Conc	<u>12.50</u>
						AVG:	<u>12.50</u>

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed.

Do not use cylinder below 150 psig.

Bridget M. Richardson
Approved for Release

Certificate of Analysis: E.P.A. Protocol Gas Mixture

Cylinder No :	<u>CC13853</u>	Order No.	<u>382975</u>
Cylinder Pressure:	<u>2000 PSIG</u>	Expiration Date:	<u>9/30/00</u>
Certification Date	<u>3/31/00</u>	Laboratory:	<u>ASG-MOBILE</u>

Reference Standard Information:

<u>Type</u>	<u>Component</u>	<u>Cvl. Number</u>	<u>Concentration</u>
NTRM81661	SULFUR DIOXIDE	CC31252	494.4PPM

Instrumentation:

<u>Instrument/Model/Serial No.</u>	<u>Analytical Principle</u>
SIEMENS ULTRAMAT 5E K3-685	NDIR

Analytical Methodology does not require correction for analytical interferences.

Certified Concentrations:

<u>Component</u>	<u>Concentration</u>	<u>Accuracy</u>	<u>Procedure</u>
SULFUR DIOXIDE	24.01 PPM	+/-1%	G1
NITROGEN	Balance		

Analytical Results:

1st Component: SULFUR DIOXIDE

1st Analysis Date:	<u>3/24/00</u>				
R	<u>494.0</u>	S	<u>24.00</u>	Z	<u>0.000</u>
S	<u>24.00</u>	Z	<u>0.000</u>	R	<u>494.5</u>
Z	<u>0.000</u>	R	<u>494.5</u>	S	<u>24.00</u>
				Conc	<u>24.02</u>
				Conc	<u>24.00</u>
				Conc	<u>24.00</u>
				AVG:	<u>24.01</u>

2nd Analysis Date:	<u>3/31/00</u>				
R	<u>494.5</u>	S	<u>24.00</u>	Z	<u>0.000</u>
S	<u>24.00</u>	Z	<u>0.000</u>	R	<u>494.5</u>
Z	<u>0.000</u>	R	<u>494.5</u>	S	<u>24.00</u>
				Conc	<u>24.00</u>
				Conc	<u>24.00</u>
				Conc	<u>24.00</u>
				AVG:	<u>24.00</u>

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed.

Do not use cylinder below 150 psig.

Bridget M. Richardson
Approved for Release

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF OXIDES OF NITROGEN INSTRUMENT CALIBRATIONS

4-May-00

INSTRUMENT RANGE, PPM		60		
CALIBRATION GAS PPM	INITIAL CALIBRATION	END RUN 1	END RUN 2	END RUN 3
0.0	0.0	0.1	0.0	-0.1
24.9	24.8	24.5	24.3	25.6
54.2	54.2	N/A	N/A	54.4
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	0.0	0.2	0.0	-0.2
24.9	-0.2	-0.7	-1.0	1.2
54.2	0.0	#VALUE!	#VALUE!	0.3
CALIBRATION DRIFT ((FINAL CALIBRATION -INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.2	-0.2	-0.2
24.9	N/A	-0.5	-0.3	2.2
54.2	N/A	#VALUE!	#VALUE!	#VALUE!
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGEX100		
SAMPLE ZERO	DIRECT ZERO	BIAS		
0.0	0.0	0.0	INITIAL	
-0.1	-0.1	0.0	FINAL	
CALIBRATION BIAS CHECKS				
CALIBRATION GAS, PPM	54.2			
SAMPLE	DIRECT	BIAS		
54.1	54.2	-0.2	INITIAL	
54.4	54.5	-0.2	FINAL	

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF SULFUR DIOXIDE CALIBRATIONS

51412000 - INNER COMPARTMENTS

INSTRUMENT RANGE, PPM		25		
CALIBRATION GAS PPM	INITIAL CALIBRATION	END RUN 1	END RUN 2	END RUN 3
0.0	0.1	0.1	0.1	0.1
12.5	12.2	12.3	12.2	12.4
24.0	24.2	N/A	N/A	23.9
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	0.4	0.4	0.4	0.3
12.5	-1.2	-0.8	-1.2	-0.4
24.0	0.8	#VALUE!	#VALUE!	-0.4
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.0	0.0	-0.1
12.5	N/A	0.4	-0.4	0.8
24.0	N/A	#VALUE!	#VALUE!	#VALUE!
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGEX100		
SAMPLE ZERO	DIRECT ZERO	BIAS		DILUTION PROBE USED ALL CAL
N/A	N/A	#VALUE!	INITIAL	
N/A	N/A	#VALUE!	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED TO PROBE TIP ONLY		
CALIBRATION GAS, PPM	N/A			
SAMPLE	DIRECT	BIAS		
N/A	N/A	#VALUE!	INITIAL	
N/A	N/A	#VALUE!	FINAL	

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF SULFUR DIOXIDE CALIBRATIONS

5/4/2000 - OUTER COMPARTMENTS

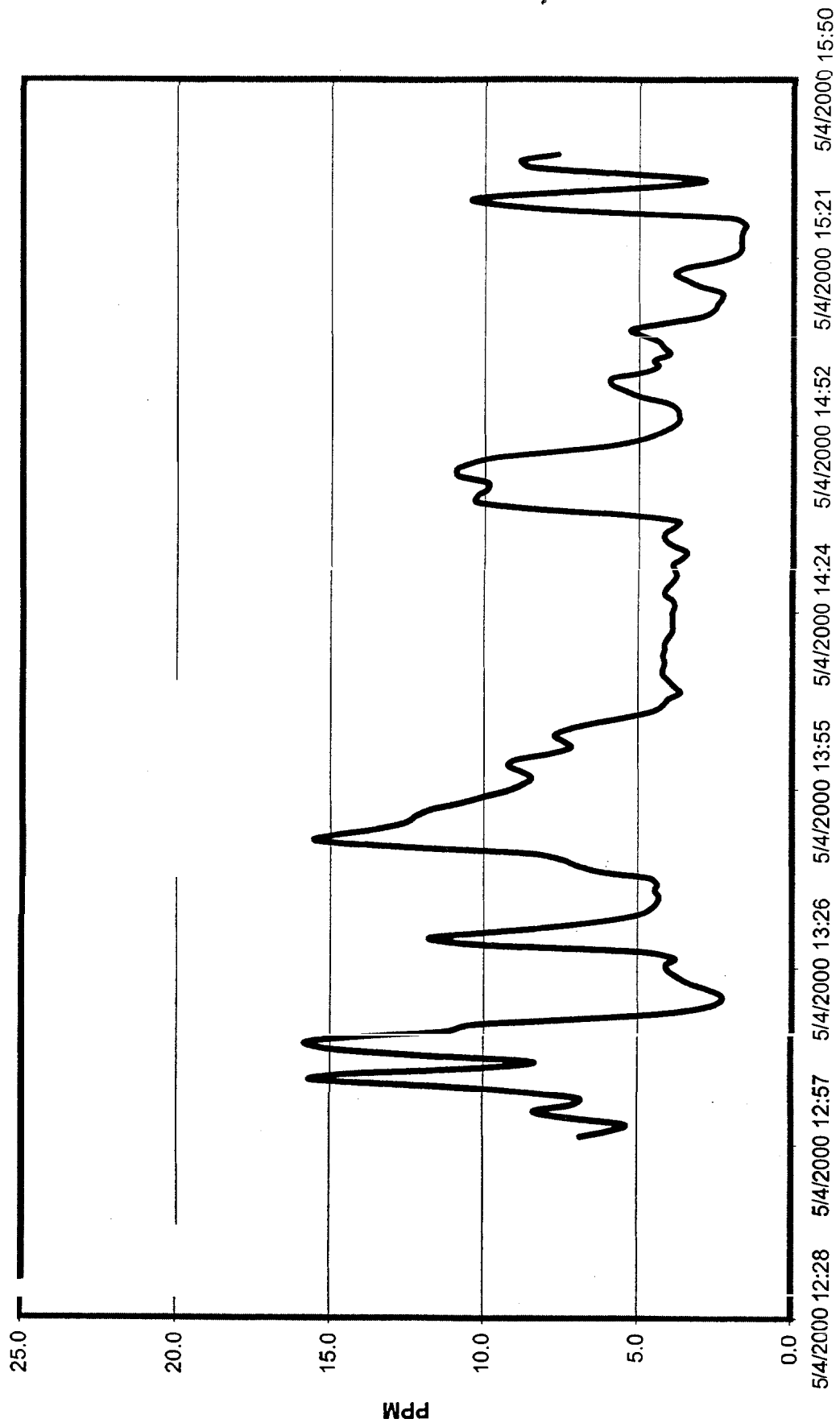
INSTRUMENT RANGE, PPM		30		
CALIBRATION GAS PPM	INITIAL CALIBRATION	END RUN 1	END RUN 2	END RUN 3
0.0	0.0	0.1	0.1	0.0
12.5	12.4	12.7	12.5	13.2
24.0	24.1	N/A	N/A	24.9
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	0.0	0.3	0.2	-0.1
12.5	-0.3	0.7	0.0	2.3
24.0	0.3	#VALUE!	#VALUE!	3.0
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.3	-0.1	-0.3
12.5	N/A	1.0	-0.7	2.3
24.0	N/A	#VALUE!	#VALUE!	#VALUE!
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGEX100		
SAMPLE ZERO	DIRECT ZERO	BIAS		DILUTION PROBE USED ALL CAL
N/A	N/A	#VALUE!	INITIAL	
N/A	N/A	#VALUE!	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED		
CALIBRATION GAS, PPM	N/A	TO PROBE TIP ONLY		
SAMPLE	DIRECT	BIAS		
N/A	N/A	#VALUE!	INITIAL	
N/A	N/A	#VALUE!	FINAL	

APPENDIX C

GASEOUS EMISSION DATA SO, and NO,

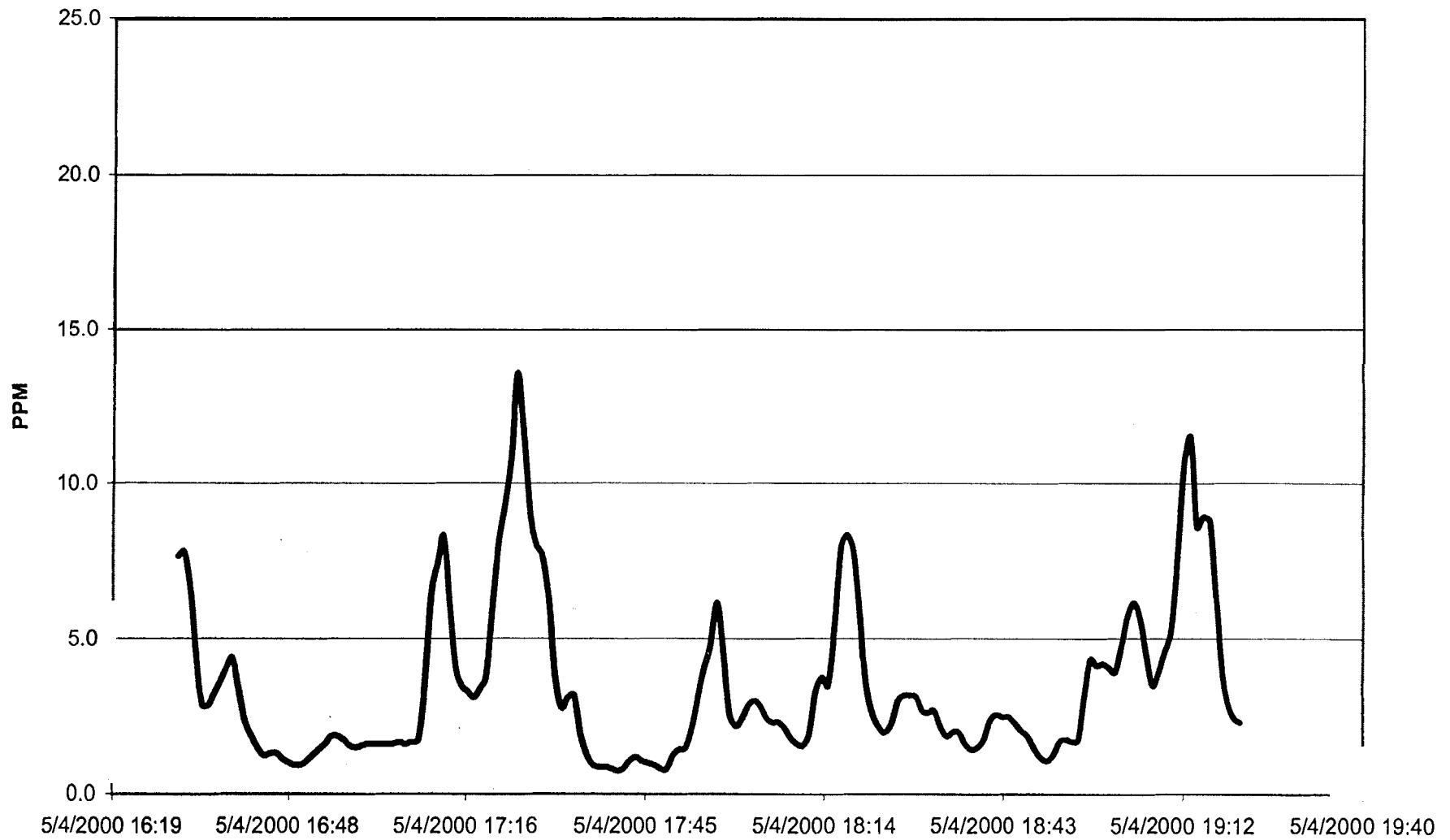
- **DATAGRAPHS**
 - NO, - Run 1, Run 2, Run 3**
 - SO, - Run 1, Run 2, Run 3**
- **DATASUMMARY**
 - 5/4/00 1:00 - 5/5/00 0:03**

GALLATIN STEEL OXIDES OF NITROGEN TEST RUN 1



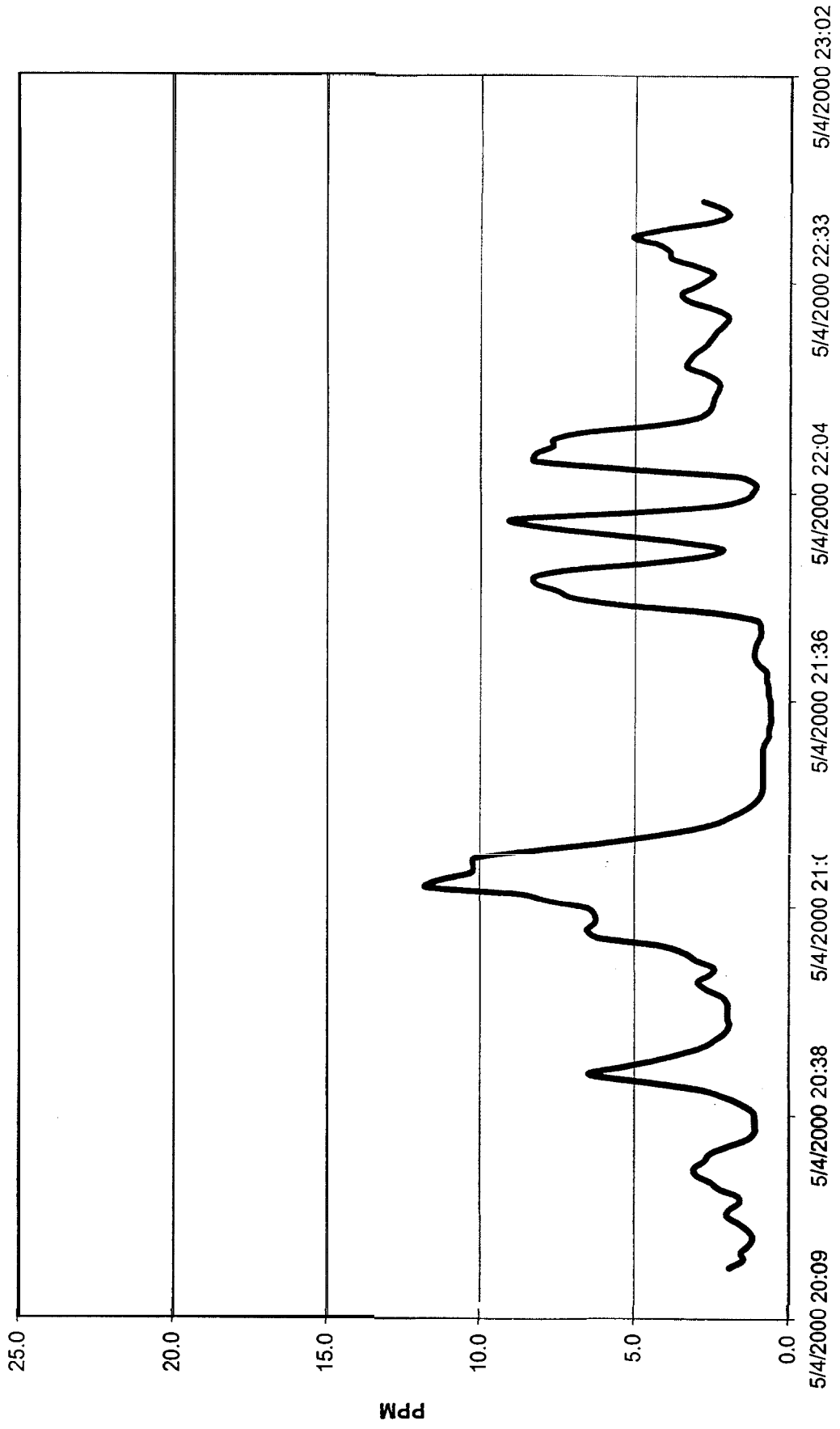
— NOX COMPARTMENT 7

GALLATIN STEEL OXIDES OF NITROGEN TEST RUN 2



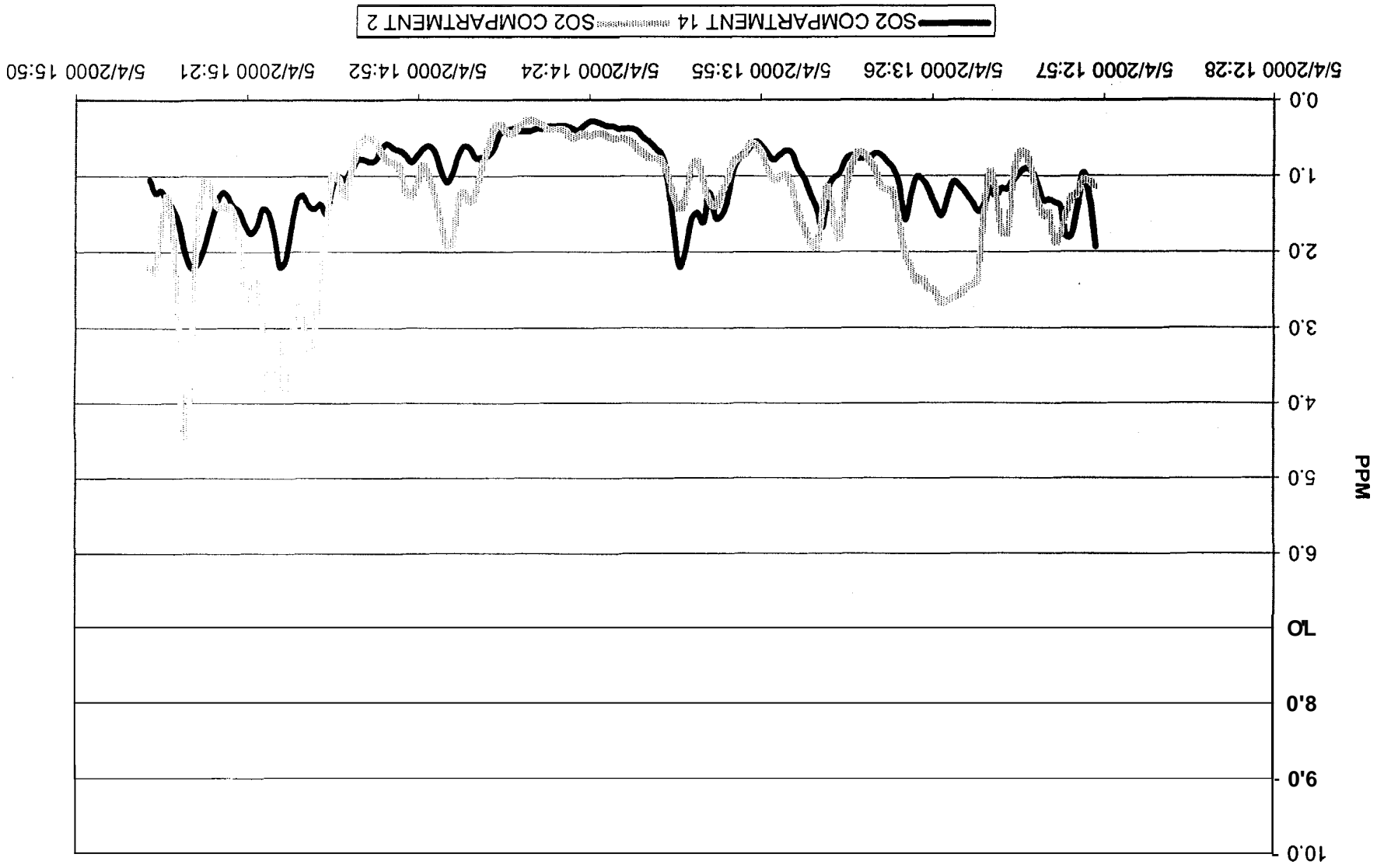
N O X COMPARTMENT 7

GALLATIN STEEL OXIDES OF NITROGEN TEST RUN 3

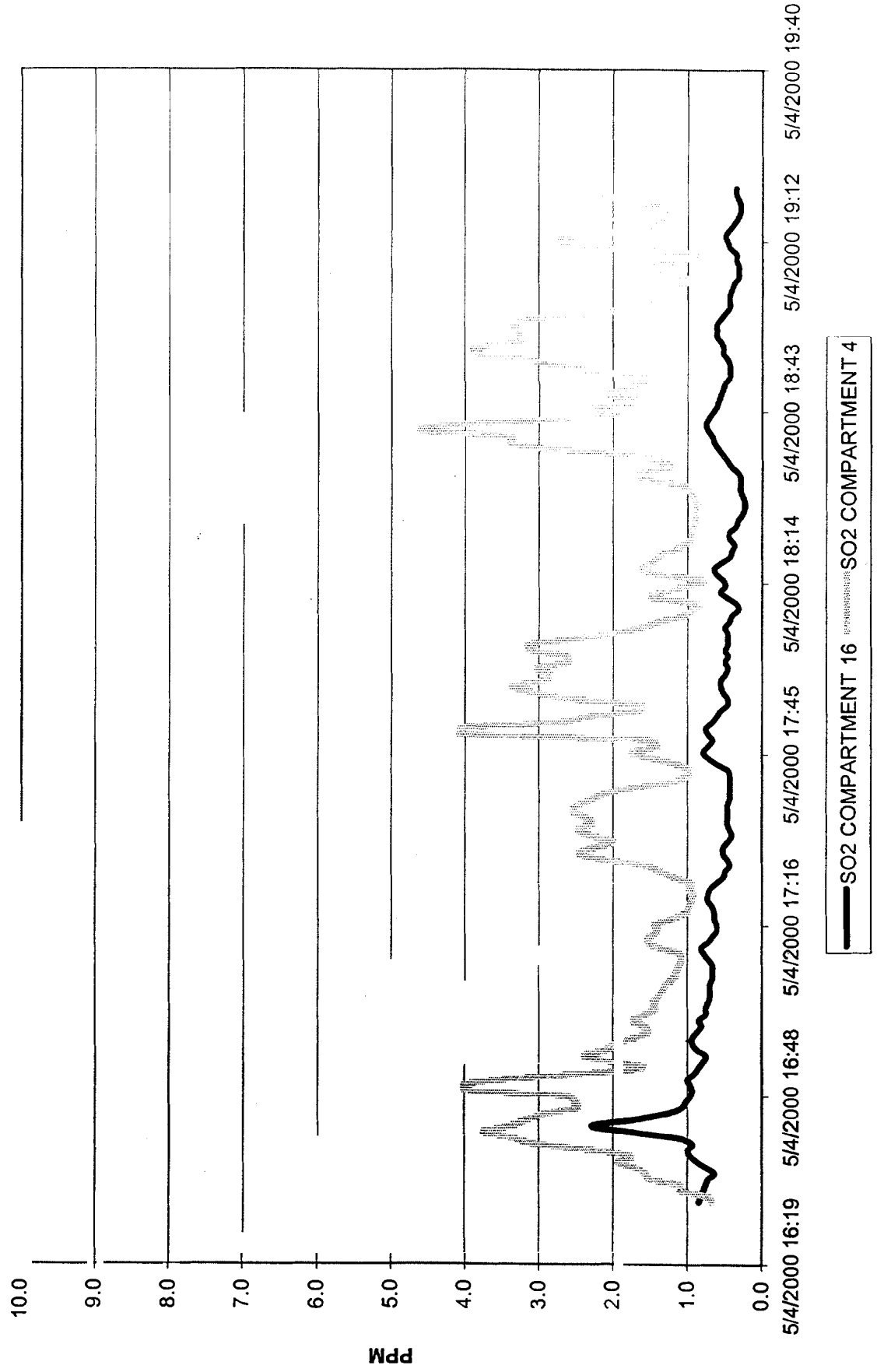


— NOX COMPARTMENT 7

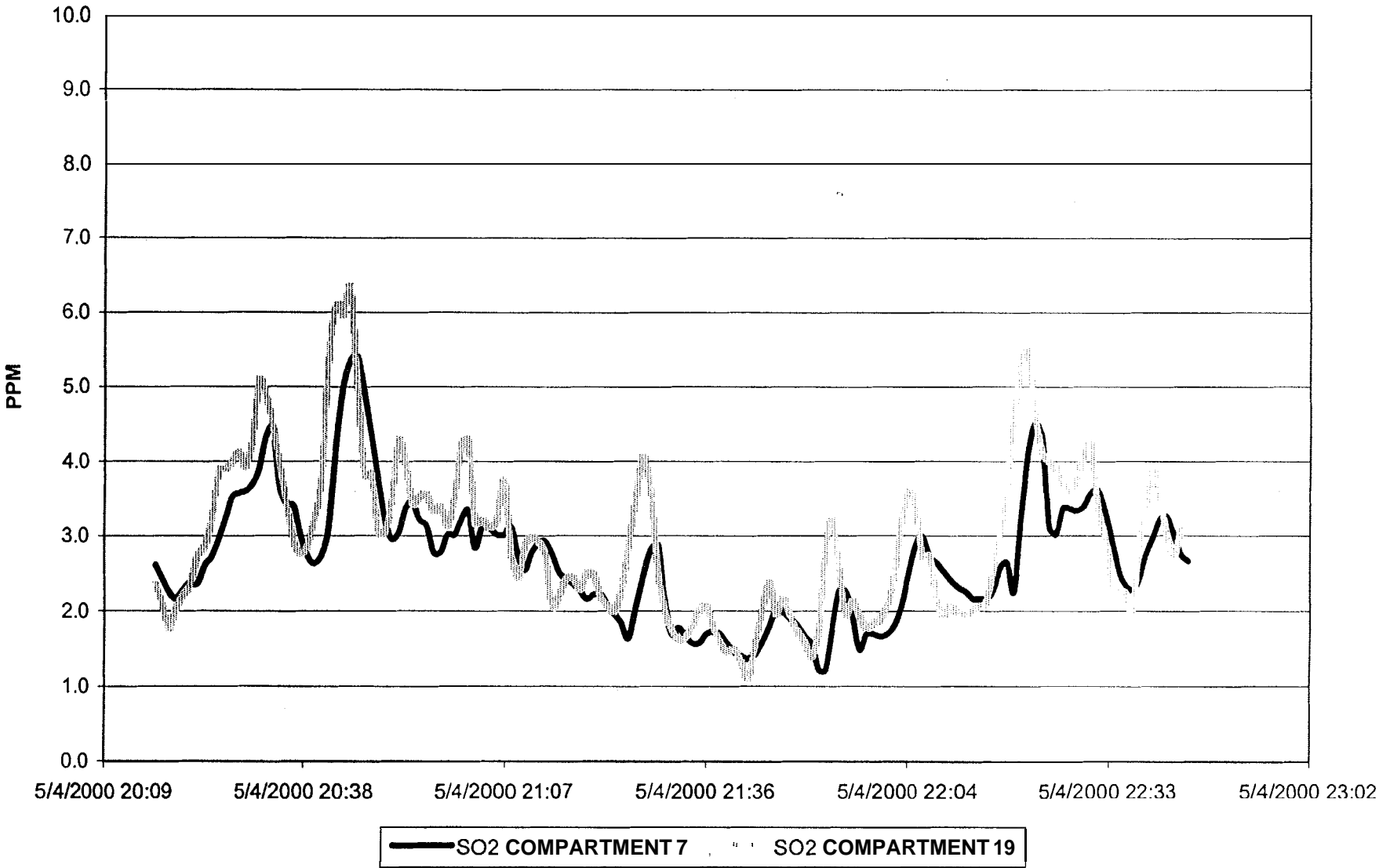
GALLATIN STEEL SULFUR DIOXIDE TEST RUN 1



GALLATIN STEEL SULFUR DIOXIDE TEST RUN 2



GALLATIN STEEL SULFUR DIOXIDE TEST RUN 3



GALLATIN STEEL SO2/NOX COMPLIANCE TEST

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS			CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS			EMISSION FACTOR			
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN	SO2 OUT	NOX - 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON	
5/4/2000 11:00	28.9	1.3	1.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	1.1	1.3	833791	74919	225540	1134250					
5/4/2000 11:01	30.6	1.3	1.6	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	1.1	1.6	833791	74919	225540	1134250					
5/4/2000 11:02	40.7	1.2	1.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	1.1	1.6	833791	74919	225540	1134250					
5/4/2000 11:03	54.7	1.1	1.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	54.3	1.0	1.4	833791	74919	225540	1134250				
5/4/2000 11:04	28.3	1.1	1.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	28.1	1.0	1.3	833791	74919	225540	1134250				
5/4/2000 11:05	0.4	1.0	1.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.8	1.4	833791	74919	225540	1134250				
5/4/2000 11:06	0.2	1.0	1.6	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.2	0.8	1.5	833791	74919	225540	1134250				
5/4/2000 11:07	0.0	1.0	1.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.1	0.9	1.3	833791	74919	225540	1134250				
5/4/2000 11:08	0.1	0.9	1.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.2	0.8	1.1	833791	74919	225540	1134250				
5/4/2000 11:09	0.2	0.9	1.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.2	0.7	1.1	833791	74919	225540	1134250				
5/4/2000 11:10	0.3	0.6	1.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.3	0.7	1.0	833791	74919	225540	1134250				
5/4/2000 11:11	0.4	0.9	1.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.4	0.8	0.9	833791	74919	225540	1134250				
5/4/2000 11:12	0.4	0.9	1.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.4	0.8	1.1	833791	74919	225540	1134250				
5/4/2000 11:13	0.4	0.8	1.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.7	1.0	833791	74919	225540	1134250				
5/4/2000 11:14	0.4	0.8	1.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.7	0.9	833791	74919	225540	1134250				
5/4/2000 11:15	0.4	0.9	0.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.7	0.8	833791	74919	225540	1134250				
5/4/2000 11:16	0.4	0.9	0.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.7	0.7	833791	74919	225540	1134250				
5/4/2000 11:17	0.5	0.8	0.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.7	0.6	833791	74919	225540	1134250				
5/4/2000 11:18	0.5	0.7	0.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.5	0.6	0.8	833791	74919	225540	1134250				
5/4/2000 11:19	0.7	0.7	0.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.8	0.5	0.7	833791	74919	225540	1134250				
5/4/2000 11:20	8.1	0.6	0.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.1	0.5	0.8	833791	74919	225540	1134250				
5/4/2000 11:21	8.2	0.6	0.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.2	0.5	0.4	833791	74919	225540	1134250				
5/4/2000 11:22	6.5	0.7	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.5	0.5	0.3	833791	74919	225540	1134250				
5/4/2000 11:23	8.8	0.8	0.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.8	0.7	0.5	833791	74919	225540	1134250				
5/4/2000 11:24	6.5	1.0	1.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.5	0.9	0.9	833791	74919	225540	1134250				
5/4/2000 11:25	6.5	1.2	1.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.5	1.1	1.2	833791	74919	225540	1134250				
5/4/2000 11:26	6.0	1.2	1.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.0	1.1	1.2	833791	74919	225540	1134250				
5/4/2000 11:27	5.6	1.2	1.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	5.8	1.1	1.0	833791	74919	225540	1134250				
5/4/2000 11:28	14.1	1.3	1.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	14.0	1.3	0.8	833791	74919	225540	1134250				
5/4/2000 11:29	14.3	1.4	1.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	14.2	1.3	1.4	833791	74919	225540	1134250				
5/4/2000 11:30	6.1	1.4	1.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	6.1	1.3	1.7	833791	74919	225540	1134250				
5/4/2000 11:31	4.1	1.3	1.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.1	1.2	1.8	833791	74919	225540	1134250				
5/4/2000 11:32	3.6	1.2	3.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.6	1.1	3.0	833791	74919	225540	1134250				
5/4/2000 11:33	18.0	1.2	3.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	17.9	1.1	3.2	833791	74919	225540	1134250				
5/4/2000 11:34	61.6	1.4	2.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	61.1	1.3	2.6	833791	74919	225540	1134250				
5/4/2000 11:35	37.4	1.4	1.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	37.1	1.3	1.7	833791	74919	225540	1134250				
5/4/2000 11:36	42.2	1.4	1.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	41.9	1.3	1.5	833791	74919	225540	1134250				
5/4/2000 11:37	53.5	1.3	2.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	53.4	1.1	2.6	833791	74919	225540	1134250				
5/4/2000 11:38	53.6	1.4	4.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	53.4	1.3	3.9	833791	74919	225540	1134250				
5/4/2000 11:39	54.3	1.6	4.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	53.9	1.7	4.3	833791	74919	225540	1134250				
5/4/2000 11:40	54.2	1.6	3.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	53.8	1.7	4.2	833791	74919	225540	1134250				
5/4/2000 11:41	54.1	1.6	2.6	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	53.7	1.5	2.7	833791	74919	225540	1134250				
5/4/2000 11:42	46.6	1.4	2.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	46.5	1.3	1.9	833791	74919	225540	1134250				
5/4/2000 11:43	22.8	1.3	2.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	22.7	1.1	2.2	833791	74919	225540	1134250				
5/4/2000 11:44	24.4	1.2	1.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	24.3	1.1	1.8	833791	74919	225540	1134250				
5/4/2000 11:45	24.8	1.6	2.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	24.7	1.5	2.9	833791	74919	225540	1134250				
5/4/2000 11:46	25.4	2.3	3.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	25.2	2.2	2.6	833791	74919	225540	1134250				
5/4/2000 11:47	5.5	2.6	2.6	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	5.5	2.8	2.5	833791	74919	225540	1134250				
5/4/2000 11:48	0.2	2.4	1.7	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.2	2.4	1.6	833791	74919	225540	1134250				
5/4/2000 11:49	0.0	1.7	1.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.1	1.8	1.3	833791	74919	225540	1134250				

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS				CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				M/J/S EMISSIONS			EMISSION FACTOR		
	NOX COMP 7	SO2 M	SO2 OUT		NOX 7	SO2 M	SO2 OUT	NOX -7	SO2 M	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/MR	SO2 IN LBS/MR	SO2 OUT LBS/MR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON	
5/4/2000 11:50	0.0	1.5	2.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.1	833791	74919	225540	1134250						
5/4/2000 11:51	0.0	1.5	3.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.1	833791	74919	225540	1134250						
5/4/2000 11:52	0.0	1.4	2.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.1	833791	74919	225540	1134250						
5/4/2000 11:53	0.2	1.7	4.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.2	833791	74919	225540	1134250						
5/4/2000 11:54	0.1	1.8	8.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.2	833791	74919	225540	1134250						
5/4/2000 11:55	0.0	1.7	1.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.0	833791	74919	225540	1134250						
5/4/2000 11:56	0.8	1.5	0.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	0.8	833791	74919	225540	1134250						
5/4/2000 11:57	3.2	1.4	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.2	833791	74919	225540	1134250						
5/4/2000 11:58	4.8	1.2	0.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.8	833791	74919	225540	1134250						
5/4/2000 11:59	4.8	1.0	0.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.5	833791	74919	225540	1134250						
5/4/2000 12:00	4.4	1.0	0.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.5	833791	74919	225540	1134250						
5/4/2000 12:01	4.3	1.2	0.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.3	833791	74919	225540	1134250						
5/4/2000 12:02	4.5	1.3	0.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.5	833791	74919	225540	1134250						
5/4/2000 12:03	4.8	1.3	0.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.9	833791	74919	225540	1134250						
5/4/2000 12:04	5.1	1.1	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	5.1	833791	74919	225540	1134250						
5/4/2000 12:05	5.0	1.1	0.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	5.0	833791	74919	225540	1134250						
5/4/2000 12:06	4.8	1.1	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.8	833791	74919	225540	1134250						
5/4/2000 12:07	4.8	1.4	0.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.8	833791	74919	225540	1134250						
5/4/2000 12:08	4.3	1.3	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.3	833791	74919	225540	1134250						
5/4/2000 12:09	4.0	1.2	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						
5/4/2000 12:10	3.9	1.2	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:11	3.8	1.2	0.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:12	3.7	1.0	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.7	833791	74919	225540	1134250						
5/4/2000 12:13	3.8	1.0	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:14	3.8	1.1	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:15	3.8	1.5	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:16	3.8	1.7	0.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:17	3.7	1.7	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.7	833791	74919	225540	1134250						
5/4/2000 12:18	3.9	1.7	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						
5/4/2000 12:19	4.1	1.5	0.2	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.1	833791	74919	225540	1134250						
5/4/2000 12:20	4.0	1.5	5.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						
5/4/2000 12:21	3.8	1.7	18.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						
5/4/2000 12:22	3.9	2.0	22.4	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:23	3.9	2.1	23.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:24	3.9	2.1	23.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:25	3.9	1.9	24.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:26	3.8	1.5	24.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:27	3.8	1.4	24.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:28	3.9	1.8	24.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:29	4.0	1.5	24.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						
5/4/2000 12:30	3.9	1.3	21.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:31	3.8	1.0	18.3	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:32	3.8	0.9	13.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:33	3.8	0.8	12.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:34	3.8	0.8	12.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:35	3.9	2.3	12.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:36	3.7	9.2	8.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.7	833791	74919	225540	1134250						
5/4/2000 12:37	3.8	11.8	4.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	833791	74919	225540	1134250						
5/4/2000 12:38	3.7	12.1	2.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.7	833791	74919	225540	1134250						
5/4/2000 12:39	3.7	12.2	1.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:40	3.9	12.6	1.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	833791	74919	225540	1134250						
5/4/2000 12:41	4.1	18.4	1.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.1	833791	74919	225540	1134250						
5/4/2000 12:42	4.2	7.2	1.5	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.2	833791	74919	225540	1134250						
5/4/2000 12:43	3.9	3.3	1.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						
5/4/2000 12:44	4.0	18.7	0.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	833791	74919	225540	1134250						

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS			CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR		
	NOX COMP 7	SO2 M	SO2 OUT		NOX 7	SO2 M	SO2 OUT	NOX 7	SO2 M	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON	
5/4/2000 12:45	4.1	22.3	0.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	50.4	55.1	16.2	182	0.28	0.20	
5/4/2000 12:46	4.2	23.5	0.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	52.5	7.1	18.0	182	0.29	0.07	
5/4/2000 12:47	4.9	23.9	0.8	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	87.4	2.3	15.4	182	0.48	0.05	
5/4/2000 12:48	8.2	24.0	0.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	99.6	0.9	14.0	182	0.64	0.05	
5/4/2000 12:49	12.0	24.1	0.9	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	74.8	0.6	12.9	182	0.41	0.04	
5/4/2000 12:50	13.0	24.2	1.0	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	81.6	16.7	12.9	182	0.34	0.06	
5/4/2000 12:51	9.5	18.3	1.1	CALS	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	55.5	20.8	11.8	182	0.30	0.09	
5/4/2000 12:52	8.2	4.9	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	47.9	13.3	11.1	182	0.26	0.07	
5/4/2000 12:53	8.5	0.6	1.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	44.4	9.5	10.7	182	0.24	0.06	
5/4/2000 12:54	10.8	0.3	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	59.6	14.6	12.9	182	0.33	0.06	
5/4/2000 12:55	14.5	0.3	1.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	67.7	19.1	13.6	182	0.37	0.09	
5/4/2000 12:56	12.3	0.2	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	56.0	14.6	19.0	182	0.31	0.09	
5/4/2000 12:57	9.2	0.2	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	70.2	13.9	20.1	182	0.39	0.09	
5/4/2000 12:58	7.6	1.6	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	86.5	13.6	15.8	182	0.52	0.08	
5/4/2000 12:59	6.8	1.9	1.1	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	126.5	13.6	16.2	182	0.89	0.06	
5/4/2000 13:00	5.9	1.3	1.1	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	116.3	11.2	13.6	182	0.64	0.07	
5/4/2000 13:01	5.5	1.0	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	80.8	9.1	9.3	182	0.44	0.05	
5/4/2000 13:02	7.3	1.4	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	68.2	8.8	6.8	182	0.37	0.04	
5/4/2000 13:03	8.3	1.6	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	96.6	9.5	6.8	182	0.53	0.04	
5/4/2000 13:04	7.1	1.8	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	120.9	10.5	10.0	182	0.66	0.06	
5/4/2000 13:05	6.9	1.4	1.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	128.0	11.9	18.7	182	0.70	0.08	
5/4/2000 13:06	8.7	1.3	1.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	115.3	11.9	18.3	182	0.63	0.06	
5/4/2000 13:07	11.8	1.3	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	91.5	12.9	12.2	182	0.50	0.07	
5/4/2000 13:08	15.6	1.3	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	84.9	11.9	9.7	182	0.47	0.06	
5/4/2000 13:09	14.4	1.1	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	56.5	14.6	16.5	182	0.32	0.09	
5/4/2000 13:10	10.0	0.9	0.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	34.2	15.3	25.5	182	0.19	0.11	
5/4/2000 13:11	8.4	0.9	0.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	23.1	13.9	26.6	182	0.13	0.11	
5/4/2000 13:12	11.9	1.0	0.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	19.0	12.6	27.0	182	0.10	0.11	
5/4/2000 13:13	14.9	1.0	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	19.0	11.5	28.0	182	0.10	0.11	
5/4/2000 13:14	15.8	1.2	1.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	22.6	10.9	28.4	182	0.12	0.11	
5/4/2000 13:15	14.2	1.2	1.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	27.1	13.6	28.8	182	0.15	0.12	
5/4/2000 13:16	11.3	1.2	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	30.2	16.0	29.1	182	0.17	0.12	
5/4/2000 13:17	10.5	1.2	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	32.7	14.3	27.3	182	0.18	0.11	
5/4/2000 13:18	7.2	1.4	1.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	33.2	11.9	27.0	182	0.16	0.11	
5/4/2000 13:19	4.2	1.5	2.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	31.2	10.5	25.5	182	0.17	0.10	
5/4/2000 13:20	2.8	1.3	2.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	40.3	10.2	25.9	182	0.22	0.10	
5/4/2000 13:21	2.3	1.2	2.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	81.4	13.3	23.7	182	0.45	0.10	
5/4/2000 13:22	2.3	1.1	2.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	96.5	16.7	21.6	182	0.52	0.11	
5/4/2000 13:23	2.7	1.1	2.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	78.8	11.2	17.2	182	0.43	0.08	
5/4/2000 13:24	3.3	1.3	2.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	61.6	8.8	12.9	182	0.34	0.06	
5/4/2000 13:25	3.7	1.5	2.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	48.4	7.8	12.2	182	0.27	0.05	
5/4/2000 13:26	4.0	1.4	2.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	40.3	6.7	11.8	182	0.22	0.05	
5/4/2000 13:27	4.1	1.2	2.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	37.3	6.4	9.3	182	0.20	0.04	
5/4/2000 13:28	3.6	1.0	2.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	35.7	7.1	7.9	182	0.20	0.04	
5/4/2000 13:29	4.9	1.0	2.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	35.2	7.1	6.8	182	0.19	0.04	
5/4/2000 13:30	10.0	1.3	2.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.2	7.1	6.8	182	0.20	0.04	
5/4/2000 13:31	11.8	1.6	2.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.2	7.1	6.8	182	0.20	0.04	
5/4/2000 13:32	9.7	1.1	1.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.2	7.1	6.8	182	0.19	0.04	
5/4/2000 13:33	7.8	0.9	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.2	7.1	6.8	182	0.19	0.04	
5/4/2000 13:34	8.0	0.8	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.2	7.1	6.8	182	0.19	0.04	
5/4/2000 13:35	4.9	0.7	1.1	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.2	7.1					

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS						CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS			EMISSION FACTOR		
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7		SO2 IN		SO2 OUT		NOX - 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON
					0.0	24.9	0.0	12.5	0.0	12.5													
5/4/2000 13:40	4.4	0.7	0.9	RUN 1	4.1	25.1	0.2	12.3	0.1	12.6	4.4	0.6	0.8	833791	74919	225540	1134250	35.7	6.7	8.6	182	0.20	0.04
5/4/2000 13:41	4.8	0.8	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.6	0.7	1.1	833791	74919	225540	1134250	37.8	7.4	12.5	182	0.21	0.05
5/4/2000 13:42	8.2	1.0	1.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	6.2	0.8	1.7	833791	74919	225540	1134250	50.4	9.5	19.4	182	0.28	0.06
5/4/2000 13:43	7.0	1.0	1.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.0	0.9	1.5	833791	74919	225540	1134250	56.5	10.2	17.2	182	0.31	0.08
5/4/2000 13:44	7.5	1.2	1.1	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.5	1.1	1.0	833791	74919	225540	1134250	60.6	11.9	11.8	182	0.33	0.07
5/4/2000 13:45	8.5	1.7	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	8.4	1.8	1.4	833791	74919	225540	1134250	68.7	17.7	15.4	182	0.38	0.09
5/4/2000 13:46	12.7	1.4	1.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	12.7	1.3	1.8	833791	74919	225540	1134250	103.1	15.0	20.8	182	0.57	0.10
5/4/2000 13:47	15.4	1.2	1.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	15.4	1.1	1.8	833791	74919	225540	1134250	124.9	12.6	20.1	182	0.69	0.09
5/4/2000 13:48	14.8	1.0	1.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	14.7	0.9	1.6	833791	74919	225540	1134250	119.9	10.2	18.0	182	0.66	0.08
5/4/2000 13:49	13.4	0.9	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	13.4	0.8	1.4	833791	74919	225540	1134250	108.7	8.8	15.8	182	0.60	0.07
5/4/2000 13:50	12.6	0.7	1.1	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	12.5	0.8	1.0	833791	74919	225540	1134250	101.6	6.4	11.8	182	0.56	0.05
5/4/2000 13:51	12.2	0.7	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	12.2	0.5	0.9	833791	74919	225540	1134250	99.1	6.1	10.0	182	0.54	0.04
5/4/2000 13:52	11.7	0.7	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	11.7	0.6	0.9	833791	74919	225540	1134250	95.0	6.7	10.4	182	0.52	0.05
5/4/2000 13:53	10.8	0.8	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	10.8	0.7	1.0	833791	74919	225540	1134250	87.4	7.4	10.7	182	0.48	0.05
5/4/2000 13:54	10.0	0.7	0.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	10.0	0.8	0.8	833791	74919	225540	1134250	81.4	6.4	8.9	182	0.45	0.04
5/4/2000 13:55	9.2	0.8	0.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	9.2	0.5	0.8	833791	74919	225540	1134250	74.8	5.4	6.8	182	0.41	0.03
5/4/2000 13:56	8.7	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	8.7	0.4	0.5	833791	74919	225540	1134250	70.7	4.7	5.7	182	0.39	0.03
5/4/2000 13:57	8.5	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	8.4	0.5	0.5	833791	74919	225540	1134250	68.7	5.4	5.3	182	0.38	0.03
5/4/2000 13:58	8.8	0.7	0.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	8.8	0.8	0.8	833791	74919	225540	1134250	71.2	6.4	6.8	182	0.39	0.04
5/4/2000 13:59	9.2	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	9.2	0.6	0.7	833791	74919	225540	1134250	74.8	7.1	7.5	182	0.41	0.04
5/4/2000 14:00	9.0	0.9	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	8.9	0.8	0.7	833791	74919	225540	1134250	72.7	9.1	8.2	182	0.40	0.05
5/4/2000 14:01	7.9	1.3	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.9	1.2	1.0	833791	74919	225540	1134250	64.1	13.6	10.7	182	0.35	0.07
5/4/2000 14:02	7.2	1.5	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.2	1.4	1.1	833791	74919	225540	1134250	58.5	16.0	12.9	182	0.32	0.06
5/4/2000 14:03	7.4	1.5	1.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.4	1.4	1.3	833791	74919	225540	1134250	60.1	16.3	14.7	182	0.33	0.09
5/4/2000 14:04	7.7	1.2	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.7	1.1	1.2	833791	74919	225540	1134250	62.6	12.6	14.0	182	0.34	0.07
5/4/2000 14:05	7.3	1.8	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.3	1.5	1.0	833791	74919	225540	1134250	59.1	17.0	10.7	182	0.32	0.06
5/4/2000 14:06	8.5	1.5	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	8.5	1.4	0.7	833791	74919	225540	1134250	52.5	15.7	7.9	182	0.29	0.06
5/4/2000 14:07	5.4	1.6	0.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	5.4	1.5	0.8	833791	74919	225540	1134250	43.8	16.7	8.9	182	0.24	0.07
5/4/2000 14:08	4.5	2.0	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.5	1.9	1.2	833791	74919	225540	1134250	36.8	21.5	13.6	182	0.20	0.10
5/4/2000 14:09	4.2	2.2	1.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.2	2.1	1.3	833791	74919	225540	1134250	34.2	23.9	15.1	182	0.19	0.11
5/4/2000 14:10	4.0	1.7	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	1.6	1.2	833791	74919	225540	1134250	32.7	18.4	13.3	182	0.18	0.09
5/4/2000 14:11	3.8	1.0	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	0.9	0.9	833791	74919	225540	1134250	29.7	10.5	10.0	182	0.16	0.06
5/4/2000 14:12	3.8	0.7	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	3.8	0.6	0.7	833791	74919	225540	1134250	31.2	6.7	7.9	182	0.17	0.04
5/4/2000 14:13	4.0	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	0.5	0.7	833791	74919	225540	1134250	32.7	5.7	7.5	182	0.18	0.04
5/4/2000 14:14	4.2	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.2	0.4	0.7	833791	74919	225540	1134250	34.2	4.7	7.5	182	0.19	0.03
5/4/2000 14:15	4.2	0.5	0.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.2	0.4	0.6	833791	74919	225540	1134250	34.2	4.0	6.8	182	0.19	0.03
5/4/2000 14:16	4.1	0.4	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.1	0.3	0.5	833791	74919	225540	1134250	33.7	3.0	6.1	182	0.19	0.02
5/4/2000 14:17	4.2	0.4	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.2	0.2	0.4	833791	74919	225540	1134250	34.2	2.6	5.0	182	0.19	0.02
5/4/2000 14:18	4.1	0.4	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.1	0.2	0.4	833791	74919	225540	1134250	33.7	2.6	4.6	182	0.19	0.02
5/4/2000 14:19	4.1	0.4	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.1	0.2	0.4	833791	74919	225540	1134250	33.7	2.6	4.6	182	0.19	0.02
5/4/2000 14:20	4.0	0.3	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.0	0.2	0.4	833791	74919	225540	1134250	32.7	2.3	4.6	182	0.18	0.02
5/4/2000 14:21	3.9	0.3	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	0.2	0.4	833791	74919	225540	1134250	31.7	2.3	4.3	182	0.17	0.02
5/4/2000 14:22	3.9	0.3	0.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	0.2	0.3	833791	74919	225540	1134250	31.7	1.9	3.9	182	0.17	0.02
5/4/2000 14:23	3.9	0.3	0.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	3.9	0.1	0.3	833791	74919	225540	1134250	31.7	1.6	3.9	182	0.17	0.02
5/4/2000 14:24	3.9	0.3																					

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS			CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR		
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN	SO2 OUT	NOX - 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONSHR	NOX	SO2 LBS/TON	
5/4/2000 14:35	3.8	0.4	0.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	31.7	3.0	2.1	182	0.17	0.01	
5/4/2000 14:36	4.1	0.4	0.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	33.7	3.0	2.8	182	0.19	0.02	
5/4/2000 14:37	4.1	0.4	0.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	33.7	2.6	3.9	182	0.19	0.02	
5/4/2000 14:38	3.8	0.4	0.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	31.2	3.0	3.5	182	0.17	0.02	
5/4/2000 14:39	3.7	0.4	0.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	30.2	3.3	2.5	182	0.17	0.02	
5/4/2000 14:40	5.4	0.6	0.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	43.8	5.7	3.2	182	0.24	0.02	
5/4/2000 14:41	6.5	0.7	0.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	66.2	6.7	6.1	182	0.38	0.04	
5/4/2000 14:42	10.3	0.8	0.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	83.4	7.1	8.9	182	0.46	0.04	
5/4/2000 14:43	10.2	0.8	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	82.9	7.1	12.9	182	0.46	0.05	
5/4/2000 14:44	9.9	0.8	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	80.3	5.7	14.0	182	0.44	0.05	
5/4/2000 14:45	9.9	0.8	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	80.3	5.4	12.5	182	0.44	0.05	
5/4/2000 14:46	10.9	0.7	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	87.9	6.7	14.0	182	0.48	0.06	
5/4/2000 14:47	10.9	1.0	1.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	88.4	9.5	20.1	182	0.49	0.06	
5/4/2000 14:48	10.5	1.1	1.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	84.9	10.9	20.5	182	0.47	0.09	
5/4/2000 14:49	9.7	0.9	1.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	78.3	9.1	17.2	182	0.43	0.07	
5/4/2000 14:50	7.8	0.7	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	63.1	8.4	13.3	182	0.35	0.05	
5/4/2000 14:51	8.0	0.6	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	48.9	5.4	10.4	182	0.27	0.04	
5/4/2000 14:52	5.0	0.6	0.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	40.8	5.7	8.8	182	0.22	0.04	
5/4/2000 14:53	4.4	0.7	1.1	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	35.7	6.7	11.1	182	0.20	0.05	
5/4/2000 14:54	3.9	0.8	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	32.2	7.8	13.3	182	0.18	0.06	
5/4/2000 14:55	3.7	0.7	1.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	30.2	8.7	12.2	182	0.17	0.05	
5/4/2000 14:56	3.7	0.7	0.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	30.2	6.1	8.9	182	0.17	0.04	
5/4/2000 14:57	3.8	0.6	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	30.7	5.7	8.2	182	0.17	0.04	
5/4/2000 14:58	4.1	0.6	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	33.2	5.0	7.9	182	0.16	0.04	
5/4/2000 14:59	4.9	0.6	0.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	40.3	5.7	6.8	182	0.22	0.03	
5/4/2000 15:00	5.5	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	44.4	7.4	5.3	182	0.24	0.04	
5/4/2000 15:01	5.9	0.8	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	47.9	7.8	4.3	182	0.26	0.03	
5/4/2000 15:02	5.9	0.8	0.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	47.9	7.4	4.6	182	0.26	0.03	
5/4/2000 15:03	4.9	0.8	0.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.8	7.4	6.1	182	0.22	0.04	
5/4/2000 15:04	4.4	0.9	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	35.7	9.1	9.7	182	0.20	0.05	
5/4/2000 15:05	4.5	1.0	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	36.8	10.5	13.3	182	0.20	0.07	
5/4/2000 15:06	4.0	1.0	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	34.2	10.2	10.7	182	0.18	0.06	
5/4/2000 15:07	4.2	1.1	1.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	34.2	11.5	10.0	182	0.19	0.06	
5/4/2000 15:08	4.4	1.5	1.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	35.7	15.7	18.0	182	0.20	0.09	
5/4/2000 15:09	4.9	1.4	2.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	39.8	14.3	27.3	182	0.22	0.11	
5/4/2000 15:10	5.3	1.4	3.0	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	42.8	15.0	33.4	182	0.24	0.13	
5/4/2000 15:11	4.1	1.4	3.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	33.2	14.6	37.0	182	0.18	0.14	
5/4/2000 15:12	2.9	1.3	2.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	24.1	12.9	31.3	182	0.13	0.12	
5/4/2000 15:13	2.8	1.3	2.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	21.0	13.6	28.8	182	0.12	0.12	
5/4/2000 15:14	2.4	1.6	3.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	20.0	17.4	35.6	182	0.11	0.15	
5/4/2000 15:15	2.3	2.1	3.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	19.0	22.9	43.5	182	0.10	0.18	
5/4/2000 15:16	2.3	2.2	3.2	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	19.0	23.9	34.9	182	0.10	0.16	
5/4/2000 15:17	3.0	1.8	3.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	24.6	19.1	39.2	182	0.14	0.16	
5/4/2000 15:18	3.4	1.5	3.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	28.1	15.7	42.8	182	0.15	0.16	
5/4/2000 15:19	3.6	1.4	2.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	31.2	15.0	31.6	182	0.17	0.13	
5/4/2000 15:20	3.4	1.7	2.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	28.1	17.7	28.2	182	0.15	0.12	
5/4/2000 15:21	2.4	1.6	2.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	20.0	16.7	27.7	182	0.11	0.13	
5/4/2000 15:22	1.9	1.6	2.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	15.5	17.4	28.8	182	0.08	0.13	
5/4/2000 15:23	1.7	1.5	1.8	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	13.9	15.3	19.8	182	0.08	0.10	
5/4/2000 15:24	1.7	1.4	1.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	13.9	14.6	15.8	182	0.08	0.08	
5/4/2000 15:25	1.7	1.3	1.4	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	833791	74919	225540	1134250	13.9	12.9	14.7	182	0.06	0.08	
5/4/2000 15:26	1.8	1.2	1.4	RUN 1	-0.1																

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS						CORRECTED PPM VALUES			FLOW MWURMENTS SCFM				MASS EMISSIONS			EMISSION FACTOR		
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN		SO2 OUT		NOX 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON	
						0.0	24.9	0.0	12.5														0.0
5/4/2000 15:30	9.3	2.2	1.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	9.3	2.1	1.5	833791	74919	225540	1134250	75.3	23.5	17.2	182	0.41	0.11
5/4/2000 15:31	10.4	2.2	3.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	10.4	2.1	3.8	833791	74919	225540	1134250	84.4	23.9	42.5	182	0.46	0.18
5/4/2000 15:32	7.8	2.0	4.5	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	7.9	1.9	4.4	833791	74919	225540	1134250	64.1	21.5	49.7	182	0.35	0.20
5/4/2000 15:33	4.4	1.6	2.9	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	4.4	1.5	2.8	833791	74919	225540	1134250	35.7	17.0	31.3	182	0.20	0.13
5/4/2000 15:34	2.9	1.4	1.6	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	2.9	1.3	1.8	833791	74919	225540	1134250	23.6	15.0	17.6	182	0.13	0.09
5/4/2000 15:35	5.5	1.3	1.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	5.5	1.2	1.2	833791	74919	225540	1134250	44.9	13.6	13.3	182	0.25	0.07
5/4/2000 15:36	6.5	1.2	1.7	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	6.5	1.1	1.8	833791	74919	225540	1134250	69.2	12.2	18.3	182	0.38	0.08
5/4/2000 15:37	6.6	1.2	2.3	RUN 1	-0.1	25.1	0.2	12.3	0.1	12.6	6.6	1.1	2.2	833791	74919	225540	1134250	71.7	12.6	24.4	182	0.39	0.10
5/4/2000 15:38	7.6	1.0	2.2	CALS	4.1	25.1	0.2	12.3	0.1	12.6	RUN 1 AVERAGE			833791	74919	225540	1134250	RUN 1 AVERAGE			0.29	0.07	
5/4/2000 15:39	6.9	0.8	2.1	CALS	4.1	25.2	0.1	12.3	0.1	12.6	6.4	0.9	1.3					52.0	10.5	14.5			
5/4/2000 15:40	6.9	0.7	1.8	CALS	4.1	25.2	0.1	12.3	0.1	12.6	7.7	0.6	1.4	833791	74919	225540	1134250						
5/4/2000 15:41	7.7	0.7	1.8	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	8.3	0.9	4.0	833791	74919	225540	1134250						
5/4/2000 15:42	6.3	1.0	4.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	6.5	1.0	1.0	833791	74919	225540	1134250						
5/4/2000 15:43	6.5	1.1	1.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	6.9	0.8	0.2	833791	74919	225540	1134250						
5/4/2000 15:44	9.0	0.8	0.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	9.0	0.6	0.0	833791	74919	225540	1134250						
5/4/2000 15:45	9.0	0.7	0.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	7.3	0.6	0.0	833791	74919	225540	1134250						
5/4/2000 15:46	7.3	0.7	0.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	5.2	0.7	0.9	833791	74919	225540	1134250						
5/4/2000 15:47	5.1	0.8	1.0	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	3.8	1.0	7.8	833791	74919	225540	1134250						
5/4/2000 15:48	3.8	1.1	7.0	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.7	0.8	11.5	833791	74919	225540	1134250						
5/4/2000 15:49	2.8	0.9	11.6	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.2	0.6	12.3	833791	74919	225540	1134250						
5/4/2000 15:50	2.1	0.7	12.4	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.2	0.6	12.5	833791	74919	225540	1134250						
5/4/2000 15:51	2.1	0.8	12.6	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.2	0.8	12.6	833791	74919	225540	1134250						
5/4/2000 15:52	2.1	0.8	12.7	US	-0.1	25.2	0.1	12.3	0.1	12.6	2.0	0.6	12.6	833791	74919	225540	1134250						
5/4/2000 15:53	1.9	0.8	12.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.6	0.6	8.7	833791	74919	225540	1134250						
5/4/2000 15:54	1.8	0.8	8.6	US	-0.1	25.2	0.1	12.3	0.1	12.6	1.3	0.6	1.9	833791	74919	225540	1134250						
5/4/2000 15:55	1.2	0.8	2.0	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.2	0.5	0.5	833791	74919	225540	1134250						
5/4/2000 15:56	1.1	0.8	0.8	W	-0.1	25.2	0.1	12.3	0.1	12.6	1.3	0.5	0.3	833791	74919	225540	1134250						
5/4/2000 15:57	1.2	0.6	0.4	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.5	0.5	0.2	833791	74919	225540	1134250						
5/4/2000 15:58	1.4	0.8	0.3	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.6	0.6	0.2	833791	74919	225540	1134250						
5/4/2000 15:59	1.5	0.8	0.3	W	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	0.6	1.0	833791	74919	225540	1134250						
5/4/2000 16:00	1.3	0.7	1.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.1	0.2	1.8	833791	74919	225540	1134250						
5/4/2000 16:01	1.1	0.3	1.9	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.0	0.0	1.4	833791	74919	225540	1134250						
5/4/2000 16:02	0.9	0.1	1.5	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.0	0.0	1.5	833791	74919	225540	1134250						
5/4/2000 16:03	0.9	0.1	1.6	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.1	4.8	2.0	833791	74919	225540	1134250						
5/4/2000 16:04	1.1	4.5	2.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.3	10.7	2.8	833791	74919	225540	1134250						
5/4/2000 16:05	1.2	10.5	2.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	12.1	2.7	833791	74919	225540	1134250						
5/4/2000 16:06	1.4	11.8	2.6	W	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	12.4	2.7	833791	74919	225540	1134250						
5/4/2000 16:07	1.4	12.1	2.8	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	12.5	2.7	833791	74919	225540	1134250						
5/4/2000 16:08	1.3	12.3	2.8	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	11.9	2.2	833791	74919	225540	1134250						
5/4/2000 16:09	1.4	11.7	2.3	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	1.2	4.9	2.2	833791	74919	225540	1134250						
5/4/2000 16:10	1.1	4.8	2.3	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	12.5	1.7	2.1	833791	74919	225540	1134250						
5/4/2000 16:11	12.6	1.7	2.2	W	-0.1	25.2	0.1	12.3	0.1	12.6	24.8	1.0	1.8	833791	74919	225540	1134250						
5/4/2000 16:12	25.1	1.1	1.9	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	25.1	0.9	1.8	833791	74919	225540	1134250						
5/4/2000 16:13	25.4	0.9	1.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	25.2	0.9	1.5	833791	74919	225540	1134250						
5/4/2000 16:14	25.4	1.0	1.6	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	24.8	0.9	1.4	833791	74919	225540	1134250						
5/4/2000 16:15	24.9	1.0	1.5	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	3.7	1.0	1.4	833791	74919	225540	1134250						
5/4/2000 16:16	3.8	1.1	1.5	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	0.0	1.2	1.3	833791	74919	225540	1134250						
5/4/2000 16:17	-0.1	1.2	1.4	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	0.0	1.1	1.2	833791	74919	225540	1134250						
5/4/2000 16:18	-0.1	1.2	1.3	W	-0.1	25.2	0.1	12.3	0.1	12.6	4.5	1.0	1.1	833791	74919	225540	1134250						
5/4/2000 16:19	4.5	1.1	1.2	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	3.4	1.0	1.0	833791	74919	225540	1134250						
5/4/2000 16:20	3.4	1.0	1.1	W	-0.1	25.2	0.1	12.3	0.1	12.6	2.5	1.0	1.0	833791	74919	225540	1134250						
5/4/2000 16:21	2.4	1.0	1.1	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.4	1.0	0.8	833791	74919	225540	1134250						
5/4/2000 16:22	2.3	1.0	1.0	W	-0.1	25.2	0.1	12.3	0.1	12.6	2.2	0.9	0.7	833791	74919	225540	1134250						
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TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS				CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR			
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON						
5/4/2000 16:25	2.2	0.8	0.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.3	0.8	0.6	833791	74919	225540	1134250	53.6	8.0	11.1	198	0.27	0.05
5/4/2000 16:26	2.3	0.6	0.6	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.4	0.7	0.7	833791	74919	225540	1134250	36.4	7.6	11.4	198	0.18	0.05
5/4/2000 16:27	2.7	0.7	0.6	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.7	0.8	0.7	833791	74919	225540	1134250	23.8	7.3	15.7	198	0.12	0.06
5/4/2000 16:28	4.3	0.7	0.8	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	4.4	0.6	0.7	833791	74919	225540	1134250	26.9	7.6	16.2	198	0.14	0.07
5/4/2000 16:29	8.5	0.6	0.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	6.5	0.7	0.6	833791	74919	225540	1134250	29.9	9.0	20.8	198	0.15	0.08
5/4/2000 16:30	7.8	0.6	0.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	7.6	0.8	0.6	833791	74919	225540	1134250	33.4	10.0	18.6	198	0.17	0.07
5/4/2000 16:31	7.8	0.6	0.7	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	7.8	0.7	1.0	833791	74919	225540	1134250	35.9	10.4	24.7	198	0.18	0.08
5/4/2000 16:32	6.6	0.8	1.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	6.8	0.7	1.0	833791	74919	225540	1134250	28.4	9.7	33.3	198	0.14	0.11
5/4/2000 16:33	4.4	0.6	1.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	4.5	0.6	1.4	833791	74919	225540	1134250	19.8	11.7	38.9	198	0.10	0.12
5/4/2000 16:34	2.9	0.7	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	2.9	0.6	1.4	833791	74919	225540	1134250	15.8	19.2	41.2	198	0.08	0.15
5/4/2000 16:35	3.3	0.8	1.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	3.8	0.8	1.6	833791	74919	225540	1134250	12.8	25.4	36.9	198	0.06	0.16
5/4/2000 16:36	2.8	0.6	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	2.9	0.7	1.5	833791	74919	225540	1134250	10.7	18.9	34.4	198	0.05	0.13
5/4/2000 16:37	3.6	0.9	1.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	3.7	0.8	1.8	833791	74919	225540	1134250	11.2	13.8	26.9	198	0.06	0.11
5/4/2000 16:38	4.1	1.0	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	4.1	0.9	1.8	833791	74919	225540	1134250	9.7	10.7	27.2	198	0.05	0.10
5/4/2000 16:39	4.4	1.0	2.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	4.4	0.9	2.2	833791	74919	225540	1134250	8.7	10.0	28.3	198	0.04	0.10
5/4/2000 16:40	3.4	0.9	3.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	3.5	0.9	2.9	833791	74919	225540	1134250	8.2	9.7	44.1	198	0.04	0.14
5/4/2000 16:41	2.4	1.1	3.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	2.4	1.0	3.3	833791	74919	225540	1134250	9.2	10.0	44.1	198	0.04	0.14
5/4/2000 16:42	1.9	1.6	3.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.9	1.7	3.6	833791	74919	225540	1134250	10.7	9.3	24.3	198	0.05	0.12
5/4/2000 16:43	1.5	2.3	3.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.8	2.2	3.3	833791	74919	225540	1134250	12.3	8.7	18.8	198	0.06	0.06
5/4/2000 16:44	1.2	1.7	3.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.3	1.7	2.8	833791	74919	225540	1134250	13.8	8.0	22.2	198	0.07	0.08
5/4/2000 16:45	1.3	1.3	2.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	1.2	2.4	833791	74919	225540	1134250	15.8	7.6	25.8	198	0.08	0.08
5/4/2000 16:46	1.3	1.1	2.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.4	1.0	2.4	833791	74919	225540	1134250	14.8	9.0	22.5	198	0.08	0.08
5/4/2000 16:47	1.1	1.0	2.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.2	0.9	2.4	833791	74919	225540	1134250	13.3	9.7	18.2	198	0.07	0.07
5/4/2000 16:48	1.0	1.0	2.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.1	0.9	2.5	833791	74919	225540	1134250	12.8	9.0	16.1	198	0.06	0.06
5/4/2000 16:49	0.9	0.9	4.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.0	0.9	3.9	833791	74919	225540	1134250	13.8	8.7	18.8	198	0.06	0.06
5/4/2000 16:50	0.9	1.0	4.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.0	0.9	3.9	833791	74919	225540	1134250	15.8	7.6	25.8	198	0.08	0.08
5/4/2000 16:51	1.1	1.0	3.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.1	0.9	3.2	833791	74919	225540	1134250	14.8	9.7	21.1	198	0.07	0.08
5/4/2000 16:52	1.2	0.9	2.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.3	0.8	2.2	833791	74919	225540	1134250	13.8	8.7	18.8	198	0.07	0.07
5/4/2000 16:53	1.4	0.8	1.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.5	0.8	1.5	833791	74919	225540	1134250	15.8	7.6	25.8	198	0.08	0.08
5/4/2000 16:54	1.6	0.8	2.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.7	2.0	833791	74919	225540	1134250	13.8	8.0	22.2	198	0.07	0.08
5/4/2000 16:55	1.8	0.8	2.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.9	0.8	2.0	833791	74919	225540	1134250	12.8	9.0	22.5	198	0.06	0.06
5/4/2000 16:56	1.9	0.9	2.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.8	0.9	1.9	833791	74919	225540	1134250	13.8	7.6	15.4	198	0.07	0.06
5/4/2000 16:57	1.7	0.9	2.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.6	0.9	1.6	833791	74919	225540	1134250	14.3	6.9	13.9	198	0.07	0.05
5/4/2000 16:58	1.6	0.9	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.6	0.9	1.6	833791	74919	225540	1134250	13.8	7.6	15.4	198	0.07	0.06
5/4/2000 16:59	1.5	0.9	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.6	0.9	1.4	833791	74919	225540	1134250	13.8	6.9	13.2	198	0.07	0.06
5/4/2000 17:00	1.8	0.8	1.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.6	0.7	1.5	833791	74919	225540	1134250	14.3	6.6	12.1	198	0.07	0.05
5/4/2000 17:01	1.8	0.8	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.8	1.6	833791	74919	225540	1134250	14.8	6.6	11.8	198	0.07	0.05
5/4/2000 17:02	1.6	0.8	1.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.7	1.5	833791	74919	225540	1134250	13.8	7.6	15.4	198	0.07	0.06
5/4/2000 17:03	1.6	0.8	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.6	1.4	833791	74919	225540	1134250	14.3	6.9	13.9	198	0.07	0.05
5/4/2000 17:04	1.6	0.7	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.6	1.3	833791	74919	225540	1134250	13.8	6.9	14.7	198	0.07	0.06
5/4/2000 17:05	1.6	0.7	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.6	1.2	833791	74919	225540	1134250	14.3	6.9	13.9	198	0.07	0.05
5/4/2000 17:06	1.7	0.7	1.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.6	1.2	833791	74919	225540	1134250	13.8	6.9	13.2	198	0.07	0.05
5/4/2000 17:07	1.6	0.7	1.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.7	0.6	1.1	833791	74919	225540	1134250	14.3	6.6	12.1	198	0.07	0.05
5/4/2000 17:08	1.7	0.7	1.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.8	0.6	1.0	833791	74919	225540	1134250	14.8	6.6	11.8	198	0.07	0.05
5/4/2000 17:09	1.7	0.7	1.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	1.8	0.6	1.0	833791	74919	225540	1134250	28.4	6.6	11.4	198	0.14	0.05
5/4/2000 17:10	3.4	0																					

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS				CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR			
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN	SO2 OUT	NOX -1	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON			
5/4/2000 17:20	3.8	0.7	1.0	RUN 2	-0.1	25.2	0.1	12.3	3.9	0.6	0.8	833781	74819	225540	1134250	31.4	6.6	10.0	198	0.16	0.04		
5/4/2000 17:21	6.1	0.7	1.0	RUN 2	-0.1	25.2	0.1	12.3	6.2	0.6	0.8	833781	74819	225540	1134250	50.0	7.3	9.6	198	0.25	0.04		
5/4/2000 17:22	8.1	0.7	0.9	RUN 2	-0.1	25.2	0.1	12.3	8.1	0.6	0.8	833781	74819	225540	1134250	65.7	7.3	9.3	198	0.33	0.04		
5/4/2000 17:23	9.3	0.7	1.0	RUN 2	-0.1	25.2	0.1	12.3	9.3	0.6	0.9	833781	74819	225540	1134250	75.7	6.9	10.0	198	0.38	0.04		
5/4/2000 17:24	10.9	0.8	1.0	RUN 2	-0.1	25.2	0.1	12.3	10.9	0.5	0.8	833781	74819	225540	1134250	88.3	5.9	9.6	198	0.45	0.04		
5/4/2000 17:25	13.6	0.5	1.2	RUN 2	-0.1	25.2	0.1	12.3	13.5	0.4	1.1	833781	74819	225540	1134250	105.3	4.9	12.1	198	0.55	0.04		
5/4/2000 17:26	11.5	0.5	1.4	RUN 2	-0.1	25.2	0.1	12.3	11.4	0.4	1.3	833781	74819	225540	1134250	92.9	4.6	14.3	198	0.47	0.05		
5/4/2000 17:27	9.0	0.4	1.8	RUN 2	-0.1	25.2	0.1	12.3	9.0	0.3	1.5	833781	74819	225540	1134250	73.2	3.9	16.4	198	0.37	0.05		
5/4/2000 17:28	8.0	0.5	2.1	RUN 2	-0.1	25.2	0.1	12.3	8.0	0.4	2.0	833781	74819	225540	1134250	65.1	4.2	22.2	198	0.33	0.07		
5/4/2000 17:29	7.6	0.5	2.4	RUN 2	-0.1	25.2	0.1	12.3	7.6	0.4	2.3	833781	74819	225540	1134250	62.1	4.9	26.5	198	0.31	0.08		
5/4/2000 17:30	6.3	0.5	2.3	RUN 2	-0.1	25.2	0.1	12.3	6.3	0.4	2.2	833781	74819	225540	1134250	51.5	4.9	24.7	198	0.26	0.07		
5/4/2000 17:31	3.9	0.5	2.0	RUN 2	-0.1	25.2	0.1	12.3	3.9	0.4	1.9	833781	74819	225540	1134250	31.9	4.2	21.5	198	0.16	0.06		
5/4/2000 17:32	2.6	0.4	2.3	RUN 2	-0.1	25.2	0.1	12.3	2.6	0.3	2.2	833781	74819	225540	1134250	23.3	3.5	24.7	198	0.12	0.07		
5/4/2000 17:33	3.1	0.4	2.5	RUN 2	-0.1	25.2	0.1	12.3	3.2	0.3	2.4	833781	74819	225540	1134250	25.9	3.9	26.9	198	0.13	0.08		
5/4/2000 17:34	3.2	0.5	2.3	RUN 2	-0.1	25.2	0.1	12.3	3.2	0.4	2.2	833781	74819	225540	1134250	26.4	4.2	24.7	198	0.13	0.07		
5/4/2000 17:35	1.9	0.5	2.4	RUN 2	-0.1	25.2	0.1	12.3	1.9	0.4	2.3	833781	74819	225540	1134250	16.3	4.2	25.8	198	0.08	0.06		
5/4/2000 17:36	1.2	0.5	2.5	RUN 2	-0.1	25.2	0.1	12.3	1.3	0.4	2.4	833781	74819	225540	1134250	10.7	4.2	27.6	198	0.05	0.08		
5/4/2000 17:37	0.9	0.5	2.5	RUN 2	-0.1	25.2	0.1	12.3	1.0	0.4	2.4	833781	74819	225540	1134250	8.2	4.2	26.9	198	0.04	0.06		
5/4/2000 17:38	0.9	0.4	2.3	RUN 2	-0.1	25.2	0.1	12.3	0.9	0.3	2.2	833781	74819	225540	1134250	7.7	3.9	24.7	198	0.04	0.07		
5/4/2000 17:39	0.9	0.4	2.1	RUN 2	-0.1	25.2	0.1	12.3	0.9	0.3	2.0	833781	74819	225540	1134250	7.7	3.9	22.9	198	0.04	0.07		
5/4/2000 17:40	0.8	0.4	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.8	0.3	1.8	833781	74819	225540	1134250	7.2	3.9	18.6	198	0.04	0.06		
5/4/2000 17:41	0.7	0.4	1.2	RUN 2	-0.1	25.2	0.1	12.3	0.8	0.3	1.1	833781	74819	225540	1134250	6.7	3.9	12.5	198	0.03	0.04		
5/4/2000 17:42	0.8	0.4	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.8	0.3	0.9	833781	74819	225540	1134250	7.2	3.9	10.3	198	0.04	0.04		
5/4/2000 17:43	1.1	0.5	1.0	RUN 2	-0.1	25.2	0.1	12.3	1.1	0.4	0.9	833781	74819	225540	1134250	9.2	4.2	10.0	198	0.05	0.04		
5/4/2000 17:44	1.2	0.8	1.1	RUN 2	-0.1	25.2	0.1	12.3	1.3	0.5	1.0	833781	74819	225540	1134250	10.2	5.9	11.8	198	0.05	0.04		
5/4/2000 17:45	1.1	0.7	1.5	RUN 2	-0.1	25.2	0.1	12.3	1.1	0.6	1.4	833781	74819	225540	1134250	9.2	7.3	15.7	198	0.05	0.06		
5/4/2000 17:46	1.0	0.8	1.7	RUN 2	-0.1	25.2	0.1	12.3	1.0	0.6	1.3	833781	74819	225540	1134250	8.7	8.0	16.6	198	0.04	0.07		
5/4/2000 17:47	0.9	0.7	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.9	0.6	1.3	833781	74819	225540	1134250	8.2	7.3	14.7	198	0.04	0.06		
5/4/2000 17:48	0.8	0.7	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.9	0.6	1.4	833781	74819	225540	1134250	7.2	6.6	16.1	198	0.04	0.06		
5/4/2000 17:49	0.8	0.7	4.1	RUN 2	-0.1	25.2	0.1	12.3	0.9	0.6	4.0	833781	74819	225540	1134250	7.2	7.3	44.8	198	0.04	0.13		
5/4/2000 17:50	1.2	0.8	4.1	RUN 2	-0.1	25.2	0.1	12.3	1.3	0.7	4.0	833781	74819	225540	1134250	10.7	7.6	44.8	198	0.05	0.13		
5/4/2000 17:51	1.4	0.7	2.7	RUN 2	-0.1	25.2	0.1	12.3	1.5	0.6	2.8	833781	74819	225540	1134250	12.3	6.6	29.7	198	0.06	0.09		
5/4/2000 17:52	1.5	0.8	2.3	RUN 2	-0.1	25.2	0.1	12.3	1.6	0.5	2.2	833781	74819	225540	1134250	12.8	5.9	25.4	198	0.06	0.08		
5/4/2000 17:53	2.1	0.6	1.8	RUN 2	-0.1	25.2	0.1	12.3	2.2	0.5	1.5	833781	74819	225540	1134250	17.8	5.2	17.5	198	0.09	0.06		
5/4/2000 17:54	3.1	0.5	1.8	RUN 2	-0.1	25.2	0.1	12.3	3.1	0.4	1.5	833781	74819	225540	1134250	25.3	4.2	17.2	198	0.13	0.05		
5/4/2000 17:55	4.0	0.5	2.6	RUN 2	-0.1	25.2	0.1	12.3	4.0	0.4	2.5	833781	74819	225540	1134250	32.9	4.2	28.6	198	0.17	0.08		
5/4/2000 17:56	4.8	0.5	3.1	RUN 2	-0.1	25.2	0.1	12.3	4.8	0.4	3.0	833781	74819	225540	1134250	39.0	4.9	33.7	198	0.20	0.10		
5/4/2000 17:57	8.1	0.8	3.4	RUN 2	-0.1	25.2	0.1	12.3	6.2	0.5	3.3	833781	74819	225540	1134250	50.0	5.2	36.9	198	0.25	0.11		
5/4/2000 17:58	4.7	0.8	2.9	RUN 2	-0.1	25.2	0.1	12.3	4.7	0.5	2.8	833781	74819	225540	1134250	38.4	5.2	31.9	198	0.19	0.09		
5/4/2000 17:59	2.8	0.5	2.9	RUN 2	-0.1	25.2	0.1	12.3	2.7	0.4	2.6	833781	74819	225540	1134250	21.8	4.6	31.2	198	0.11	0.09		
5/4/2000 18:00	2.2	0.5	3.0	RUN 2	-0.1	25.2	0.1	12.3	2.3	0.4	2.9	833781	74819	225540	1134250	18.3	4.2	33.0	198	0.09	0.09		
5/4/2000 18:01	2.4	0.5	2.8	RUN 2	-0.1	25.2	0.1	12.3	2.5	0.4	2.5	833781	74819	225540	1134250	20.3	4.6	28.3	198	0.10	0.08		
5/4/2000 18:02	2.9	0.5	2.6	RUN 2	-0.1	25.2	0.1	12.3	2.9	0.4	2.5	833781	74819	225540	1134250	23.8	4.2	28.6	198	0.12	0.08		
5/4/2000 18:03	3.0	0.5	3.1	RUN 2	-0.1	25.2	0.1	12.3	3.1	0.4	3.0	833781	74819	225540	1134250	24.8	4.6	34.0	198	0.13	0.10		
5/4/2000 18:04	2.8	0.5	3.1	RUN 2	-0.1	25.2	0.1	12.3	2.9	0.4	3.0	833781	74819	225540	1134250	23.3	4.2	34.4	198	0.12	0.10		
5/4/2000 18:05	2.4	0.5	2.5	RUN 2	-0.1	25.2	0.1	12.3	2.5	0.4	2.4	833781	74819	225540	1134250	20.3	4.2	27.2	198	0.10	0.08		
5/4/2000 18:06	2.3	0.5	2.0	RUN 2	-0.1	25.2	0.1	12.3	2.4	0.4	1.9	833781	74819	225540	1134250	19.3	4.2	21.5	198	0.10	0.06		
5/4/2000 18:07	2.3	0.5	1.6	RUN 2	-0.1	25.2	0.1	12.3	2.4	0.4	1.5	833781	74819	225540	1134250	17.8	3.9	16.8	198	0.10	0.05		
5/4/2000 18:08	2.1	0.4																					

TIME	OBSERVED CONCENTRATION PPM			CALIBRATION CORRECTIONS				CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR	
	NOX COMP 7	SO2 M	SO2 OUT	COMMENTS	NOX 7	SO2 IN	SO2 OUT	NOX - 7	SO2 M	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON
5/4/2000 16:15	3.5	0.5	0.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	28.9	4.9	7.8	198	0.15	0.03
5/4/2000 16:16	5.4	0.8	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	44.0	5.9	14.7	198	0.22	0.05
5/4/2000 16:17	8.0	0.6	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	64.6	6.3	17.2	198	0.33	0.06
5/4/2000 16:18	8.3	0.6	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	67.7	5.2	15.4	198	0.34	0.05
5/4/2000 16:19	7.8	0.4	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	63.6	3.9	14.7	198	0.32	0.05
5/4/2000 16:20	8.0	0.4	1.2	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	48.5	3.5	12.5	198	0.25	0.04
5/4/2000 16:21	3.8	0.4	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	29.9	3.2	10.7	198	0.15	0.04
5/4/2000 16:22	2.6	0.4	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	21.8	3.9	9.6	198	0.11	0.03
5/4/2000 16:23	2.2	0.4	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	16.3	3.9	9.6	198	0.09	0.03
5/4/2000 16:24	2.0	0.3	0.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	16.8	2.9	9.3	198	0.08	0.03
5/4/2000 16:25	2.2	0.3	0.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	18.8	2.5	8.9	198	0.09	0.03
5/4/2000 16:26	3.0	0.3	0.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	24.8	1.8	8.9	198	0.13	0.03
5/4/2000 16:27	3.2	0.2	0.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	26.4	1.5	8.6	198	0.13	0.03
5/4/2000 16:28	3.2	0.2	0.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	26.4	1.5	8.9	198	0.13	0.03
5/4/2000 16:29	3.1	0.3	0.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	25.9	1.8	9.3	198	0.13	0.03
5/4/2000 16:30	2.7	0.3	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	22.3	2.2	10.0	198	0.11	0.03
5/4/2000 16:31	2.8	0.3	1.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	21.8	2.2	11.1	198	0.11	0.03
5/4/2000 16:32	2.7	0.3	1.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	22.3	2.2	17.2	198	0.11	0.05
5/4/2000 16:33	2.2	0.3	1.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	18.3	2.5	17.2	198	0.09	0.05
5/4/2000 16:34	1.9	0.4	1.2	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	15.8	3.5	12.9	198	0.06	0.04
5/4/2000 16:35	2.0	0.5	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	16.8	4.2	14.3	198	0.08	0.05
5/4/2000 16:36	2.0	0.5	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	16.8	4.9	18.8	198	0.08	0.06
5/4/2000 16:37	1.8	0.8	2.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	13.8	5.6	31.5	198	0.07	0.09
5/4/2000 16:38	1.4	0.8	3.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	12.3	6.3	37.3	198	0.06	0.11
5/4/2000 16:39	1.5	0.7	3.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	12.8	6.6	38.9	198	0.06	0.11
5/4/2000 16:40	1.7	0.7	4.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	14.8	7.3	50.9	198	0.07	0.15
5/4/2000 16:41	2.4	0.8	4.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	21.3	7.3	44.8	198	0.10	0.13
5/4/2000 16:42	2.8	0.7	2.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	20.8	6.6	29.7	198	0.11	0.09
5/4/2000 16:43	2.5	0.7	1.9	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	20.8	6.6	20.4	198	0.11	0.07
5/4/2000 16:44	2.5	0.8	2.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	20.8	5.9	24.3	198	0.11	0.06
5/4/2000 16:45	2.3	0.8	2.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	19.3	5.6	17.9	198	0.10	0.06
5/4/2000 16:46	2.1	0.8	2.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	17.3	5.2	21.8	198	0.09	0.07
5/4/2000 16:47	1.9	0.5	1.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	15.8	4.9	19.7	198	0.08	0.06
5/4/2000 16:48	1.5	0.5	1.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	12.8	4.6	17.5	198	0.06	0.06
5/4/2000 16:49	1.2	0.4	1.6	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	10.2	3.9	16.8	198	0.05	0.05
5/4/2000 16:50	1.1	0.4	2.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	9.2	3.9	24.3	198	0.05	0.07
5/4/2000 16:51	1.2	0.4	2.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	10.7	3.9	30.4	198	0.05	0.09
5/4/2000 16:52	1.7	0.5	3.2	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	14.3	4.2	35.1	198	0.07	0.10
5/4/2000 16:53	1.7	0.5	3.8	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	14.3	4.9	42.6	198	0.07	0.12
5/4/2000 16:54	1.7	0.8	3.2	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	14.8	5.2	35.5	198	0.07	0.10
5/4/2000 16:55	1.7	0.8	3.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	26.4	5.9	35.8	198	0.13	0.11
5/4/2000 16:56	3.2	0.8	3.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	35.4	5.9	35.8	198	0.18	0.11
5/4/2000 16:57	4.3	0.8	3.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	33.9	5.9	36.5	198	0.17	0.11
5/4/2000 16:58	4.2	0.6	3.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	33.4	5.2	33.3	198	0.17	0.10
5/4/2000 16:59	4.1	0.5	2.2	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	32.4	4.6	23.6	198	0.17	0.07
5/4/2000 19:00	3.9	0.4	1.7	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	39.0	3.9	17.9	198	0.16	0.05
5/4/2000 19:01	4.8	0.4	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	46.5	3.9	14.7	198	0.20	0.05
5/4/2000 19:02	5.7	0.4	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	50.0	3.5	15.0	198	0.23	0.05
5/4/2000 19:03	6.1	0.4	1.4	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	45.5	3.2	10.7	198	0.23	0.04
5/4/2000 19:04	5.6	0.4	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	36.4	2.5	10.7	198	0.18	0.03
5/4/2000 19:05	4.0	0.3	1.0	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	28.9	2.5	13.2	198	0.15	0.04
5/4/2000 19:06	3.5	0.3	1.3	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	32.4	2.5	15.7	198	0.16	0.05
5/4/2000 19:08	3.9	0.3	1.5	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250	37.4	2.9	11.4	198	0.19	0.04
5/4/2000 19:09	4.6	0.3	1.1	RUN 2	-0.1	25.2	0.1	12.3	0.1	12.6	833791	74919	225540	1134250						

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS			CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR	
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON			
5/4/2000 21:00	3.0	3.0	3.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	24.7	33.8	38.7	199	0.12	0.18
5/4/2000 21:01	3.4	3.2	4.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	27.7	36.2	46.0	199	0.14	0.21
5/4/2000 21:02	4.2	3.3	4.3	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	34.2	37.5	46.7	199	0.17	0.21
5/4/2000 21:03	6.1	2.8	3.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	49.7	31.8	34.5	199	0.25	0.17
5/4/2000 21:04	6.5	3.1	3.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	52.7	35.2	34.8	199	0.27	0.18
5/4/2000 21:05	6.3	3.1	3.1	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	50.7	34.8	33.8	199	0.25	0.17
5/4/2000 21:06	6.3	3.0	3.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	50.7	33.8	34.8	199	0.25	0.17
5/4/2000 21:07	6.5	3.0	3.7	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	52.7	33.8	40.8	199	0.27	0.19
5/4/2000 21:08	7.8	3.1	2.7	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	62.8	34.8	29.6	199	0.32	0.16
5/4/2000 21:09	6.7	2.7	2.4	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	70.3	30.4	26.4	199	0.35	0.14
5/4/2000 21:10	11.7	2.5	2.9	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	94.3	28.4	31.3	199	0.47	0.15
5/4/2000 21:11	11.3	2.8	3.0	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	90.8	31.1	32.4	199	0.46	0.16
5/4/2000 21:12	10.3	2.9	2.9	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	82.8	32.4	31.7	199	0.42	0.16
5/4/2000 21:13	10.2	2.9	2.8	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	82.3	32.8	29.9	199	0.41	0.16
5/4/2000 21:14	10.2	2.8	2.1	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	81.8	30.7	22.2	199	0.41	0.13
5/4/2000 21:15	6.5	2.5	2.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	68.8	28.0	23.6	199	0.35	0.13
5/4/2000 21:16	6.4	2.4	2.4	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	51.7	27.0	26.1	199	0.26	0.13
5/4/2000 21:17	4.7	2.4	2.4	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	38.2	26.3	26.4	199	0.19	0.13
5/4/2000 21:18	3.3	2.3	2.3	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	26.7	25.3	24.7	199	0.13	0.13
5/4/2000 21:19	2.4	2.2	2.5	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	19.7	23.9	27.1	199	0.10	0.13
5/4/2000 21:20	1.9	2.2	2.5	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	15.7	24.6	26.8	199	0.08	0.13
5/4/2000 21:21	1.4	2.2	2.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	12.2	24.6	23.6	199	0.06	0.12
5/4/2000 21:22	1.1	2.1	2.1	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	9.7	22.9	22.2	199	0.05	0.11
5/4/2000 21:23	0.9	2.0	2.0	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	8.2	21.5	21.5	199	0.04	0.11
5/4/2000 21:24	0.9	1.8	2.3	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.7	20.2	24.7	199	0.04	0.11
5/4/2000 21:25	0.9	1.6	2.8	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.7	17.8	31.0	199	0.04	0.12
5/4/2000 21:26	0.9	2.0	3.5	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.7	22.6	38.3	199	0.04	0.15
5/4/2000 21:27	0.9	2.5	4.1	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.7	27.3	44.3	199	0.04	0.18
5/4/2000 21:28	0.9	2.8	3.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.7	31.4	39.4	199	0.04	0.18
5/4/2000 21:29	0.9	2.9	2.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.7	32.1	27.8	199	0.04	0.15
5/4/2000 21:30	0.8	2.1	2.0	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	7.2	22.9	21.5	199	0.04	0.11
5/4/2000 21:31	0.7	1.7	1.7	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	6.2	18.5	18.7	199	0.03	0.09
5/4/2000 21:32	0.7	1.8	1.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	6.2	19.5	17.3	199	0.03	0.09
5/4/2000 21:33	0.6	1.7	1.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	5.7	18.1	17.7	199	0.03	0.08
5/4/2000 21:34	0.6	1.6	1.8	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	5.7	17.1	19.4	199	0.03	0.08
5/4/2000 21:35	0.6	1.6	2.0	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	5.7	17.1	21.5	199	0.03	0.10
5/4/2000 21:36	0.6	1.7	2.1	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	5.7	18.5	22.2	199	0.03	0.10
5/4/2000 21:37	0.7	1.7	1.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	6.2	18.8	19.4	199	0.03	0.10
5/4/2000 21:38	0.7	1.8	1.5	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	6.2	18.5	17.0	199	0.03	0.09
5/4/2000 21:39	0.7	1.5	1.5	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	6.7	17.1	15.6	199	0.03	0.08
5/4/2000 21:40	0.7	1.5	1.3	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	6.7	15.8	15.9	199	0.03	0.08
5/4/2000 21:41	1.0	1.4	1.3	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	8.7	15.1	14.2	199	0.04	0.07
5/4/2000 21:42	1.1	1.4	1.1	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	9.7	14.7	11.7	199	0.05	0.07
5/4/2000 21:43	1.1	1.4	1.8	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	9.7	15.4	16.6	199	0.05	0.08
5/4/2000 21:44	1.1	1.6	2.0	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	9.2	17.1	21.5	199	0.05	0.10
5/4/2000 21:45	0.9	1.8	2.4	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	8.2	19.5	25.7	199	0.04	0.11
5/4/2000 21:46	0.9	2.0	2.0	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	9.2	21.9	23.3	199	0.05	0.11
5/4/2000 21:47	1.1	2.0	2.2	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	20.7	20.9	20.8	199	0.10	0.10
5/4/2000 21:48	2.4	1.8	1.9	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	43.2	19.8	18.7	199	0.22	0.10
5/4/2000 21:49	5.3	1.8	1.7	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	56.7	18.1	17.0	199	0.29	0.09
5/4/2000 21:50	7.0	1.7	1.6	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	60.8	16.8	14.9	199	0.31	0.08
5/4/2000 21:51	7.5	1.5	1.4	RUN3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250	66.3	13.0	19.1	199	0.	

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS						CORRECTED PPM VALUES			FLOW MEASUREMENTSSCFM				MASS EMISSIONS			EMISSION FACTOR		
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7		SO2 IN		SO2 OUT		NOX - 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON
					0.0	24.9	0.0	12.5	0.0	12.5													
5/4/2000 21:55	4.5	2.3	2.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	4.5	2.2	2.5	833791	74919	225540	1134250	36.7	24.9	27.8	199	0.18	0.13
5/4/2000 21:56	2.7	2.3	2.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.7	2.2	1.9	833791	74919	225540	1134250	22.2	24.9	21.2	199	0.11	0.12
5/4/2000 21:57	2.2	2.0	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.2	1.9	2.0	833791	74919	225540	1134250	18.2	21.5	22.9	199	0.09	0.11
5/4/2000 21:58	3.7	1.5	1.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.7	1.4	1.8	833791	74919	225540	1134250	30.2	16.1	20.8	199	0.15	0.09
5/4/2000 21:59	6.0	1.7	1.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	6.0	1.6	1.7	833791	74919	225540	1134250	48.7	18.5	19.1	199	0.24	0.09
5/4/2000 22:00	8.1	1.7	1.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	8.0	1.6	1.7	833791	74919	225540	1134250	65.3	18.5	19.8	199	0.33	0.10
5/4/2000 22:01	9.0	1.7	1.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	8.9	1.6	1.8	833791	74919	225540	1134250	72.3	18.1	20.5	199	0.36	0.10
5/4/2000 22:02	5.3	1.7	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	5.3	1.6	2.0	833791	74919	225540	1134250	42.7	18.5	22.6	199	0.21	0.10
5/4/2000 22:03	2.4	1.8	2.5	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	1.8	2.4	833791	74919	225540	1134250	19.7	19.8	27.1	199	0.10	0.12
5/4/2000 22:04	1.4	2.1	3.2	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.5	2.0	3.1	833791	74919	225540	1134250	12.2	22.9	34.8	199	0.06	0.15
5/4/2000 22:05	1.2	2.5	3.6	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.3	2.4	3.5	833791	74919	225540	1134250	10.2	27.7	39.0	199	0.05	0.17
5/4/2000 22:06	1.1	2.9	3.4	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.2	2.8	3.3	833791	74919	225540	1134250	9.7	32.1	36.9	199	0.05	0.17
5/4/2000 22:07	1.7	3.0	2.7	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	3.0	2.6	833791	74919	225540	1134250	14.2	33.5	29.6	199	0.07	0.16
5/4/2000 22:08	5.3	2.7	2.7	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	5.3	2.7	2.6	833791	74919	225540	1134250	43.2	30.4	29.6	199	0.22	0.15
5/4/2000 22:09	8.3	2.8	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	8.2	2.6	2.0	833791	74919	225540	1134250	66.8	29.4	22.9	199	0.34	0.13
5/4/2000 22:10	8.2	2.5	1.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	8.2	2.5	1.8	833791	74919	225540	1134250	66.3	28.0	20.8	199	0.33	0.12
5/4/2000 22:11	7.8	2.4	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	7.6	2.4	2.0	833791	74919	225540	1134250	61.8	26.6	22.2	199	0.31	0.12
5/4/2000 22:12	7.6	2.3	2.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	7.6	2.3	1.9	833791	74919	225540	1134250	61.8	25.6	21.2	199	0.31	0.12
5/4/2000 22:13	6.6	2.3	2.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	6.6	2.2	1.9	833791	74919	225540	1134250	53.7	24.9	21.2	199	0.27	0.12
5/4/2000 22:14	4.4	2.2	2.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	4.4	2.1	1.9	833791	74919	225540	1134250	35.7	23.9	21.5	199	0.18	0.11
5/4/2000 22:15	3.1	2.2	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.1	2.1	2.0	833791	74919	225540	1134250	25.2	23.9	22.2	199	0.13	0.12
5/4/2000 22:16	2.8	2.2	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.7	2.1	2.0	833791	74919	225540	1134250	21.7	23.9	22.9	199	0.11	0.12
5/4/2000 22:17	2.5	2.3	2.6	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.5	2.2	2.5	833791	74919	225540	1134250	20.7	25.3	27.8	199	0.10	0.13
5/4/2000 22:18	2.4	2.8	3.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.5	2.5	2.9	833791	74919	225540	1134250	20.2	28.7	33.1	199	0.10	0.16
5/4/2000 22:19	2.3	2.6	3.6	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	2.6	3.5	833791	74919	225540	1134250	19.2	29.4	39.7	199	0.10	0.17
5/4/2000 22:20	2.3	2.3	4.6	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	2.2	4.4	833791	74919	225540	1134250	19.2	24.9	50.3	199	0.10	0.19
5/4/2000 22:21	2.7	3.3	5.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.7	3.3	5.1	833791	74919	225540	1134250	22.2	36.9	58.0	199	0.11	0.24
5/4/2000 22:22	3.3	4.1	5.5	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.3	4.1	5.3	833791	74919	225540	1134250	27.2	46.7	59.7	199	0.14	0.27
5/4/2000 22:23	3.3	4.5	4.6	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.3	4.5	4.5	833791	74919	225540	1134250	26.7	51.1	50.6	199	0.13	0.26
5/4/2000 22:24	3.1	4.3	4.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.1	4.3	4.0	833791	74919	225540	1134250	25.2	48.8	45.0	199	0.13	0.24
5/4/2000 22:25	2.7	3.1	4.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.8	3.1	3.9	833791	74919	225540	1134250	22.7	35.2	43.6	199	0.11	0.20
5/4/2000 22:26	2.8	3.0	3.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.8	3.0	3.8	833791	74919	225540	1134250	21.2	33.8	42.5	199	0.11	0.19
5/4/2000 22:27	2.4	3.4	3.7	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	3.3	3.6	833791	74919	225540	1134250	19.7	37.9	40.4	199	0.10	0.20
5/4/2000 22:28	2.1	3.4	3.6	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.2	3.3	3.5	833791	74919	225540	1134250	17.7	37.9	39.0	199	0.09	0.19
5/4/2000 22:29	2.0	3.3	3.7	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.1	3.3	3.6	833791	74919	225540	1134250	16.7	37.5	40.8	199	0.08	0.20
5/4/2000 22:30	2.4	3.4	4.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.5	3.4	3.9	833791	74919	225540	1134250	20.2	38.2	44.6	199	0.10	0.21
5/4/2000 22:31	3.3	3.6	4.2	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.3	3.6	4.1	833791	74919	225540	1134250	26.7	40.3	46.0	199	0.13	0.22
5/4/2000 22:32	3.5	3.6	3.4	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.5	3.6	3.3	833791	74919	225540	1134250	28.7	40.6	36.9	199	0.14	0.19
5/4/2000 22:33	3.1	3.3	3.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.1	3.3	2.9	833791	74919	225540	1134250	25.2	37.5	32.4	199	0.13	0.18
5/4/2000 22:34	2.7	2.9	2.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.7	2.9	2.2	833791	74919	225540	1134250	22.2	32.8	25.4	199	0.11	0.15
5/4/2000 22:35	2.5	2.5	2.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.5	2.5	2.2	833791	74919	225540	1134250	20.7	28.0	24.7	199	0.10	0.13
5/4/2000 22:36	3.1	2.3	2.2	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.1	2.3	2.1	833791	74919	225540	1134250	25.2	26.0	24.0	199	0.13	0.13
5/4/2000 22:37	3.8	2.3	2.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.8	2.2	1.9	833791	74919	225540	1134250	31.2	25.3	21.5	199	0.16	0.12
5/4/2000 22:38	3.9	2.4	2.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.8	2.4	2.8	833791	74919	225540	1134250	31.7	27.0	31.3	199	0.16	0.15
5/4/																							

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS			CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR		
	NOX CDMPT	SO2 IN	SO2 OUT		NOX-7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON				
5/4/2000 22:50	3.3	3.0	3.9	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:51	3.3	3.0	3.2	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:52	3.5	2.7	1.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:53	3.4	2.1	0.4	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:54	3.4	2.2	0.2	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:55	3.3	2.1	0.2	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:56	3.3	2.1	0.1	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:57	3.5	2.1	0.1	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:58	3.7	2.0	0.1	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 22:59	3.8	2.1	0.0	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:00	3.7	2.1	0.0	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:01	3.9	2.0	0.0	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:02	4.0	2.0	4.7	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:03	3.9	2.0	11.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:04	3.8	2.0	12.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:05	3.7	1.9	12.9	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:06	3.7	1.7	13.1	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:07	3.7	1.5	13.1	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:08	3.6	1.5	13.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:09	3.6	1.5	13.2	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:10	3.8	1.5	13.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:11	3.7	1.5	10.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:12	3.7	1.5	2.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:13	3.4	1.5	0.6	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:14	3.1	1.4	0.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:15	2.9	1.3	0.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:16	2.5	1.2	0.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:17	1.7	1.2	0.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:18	1.2	1.1	5.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:19	0.9	1.0	20.8	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:20	0.9	0.9	24.8	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:21	0.9	0.8	25.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:22	1.0	0.9	25.6	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:23	1.0	0.8	25.2	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:24	1.0	0.8	25.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:25	1.0	0.8	25.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:26	0.9	0.7	18.9	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:27	0.9	0.7	4.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:28	0.9	0.7	1.1	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:29	0.9	0.6	0.6	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:30	0.9	0.7	0.9	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:31	0.9	1.0	1.4	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:32	0.9	0.3	1.0	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:33	0.9	0.1	0.8	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:34	0.9	0.1	0.7	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:35	0.9	0.1	0.6	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:36	0.9	0.1	0.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:37	0.9	2.8	0.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:38	0.9	17.8	0.4	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:39	0.9	22.7	0.4	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:40	0.9	23.5	0.4	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:41	0.9	23.8	0.5	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:42	0.9	23.9	0.6	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:43	0.9	23.7	0.8	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								
5/4/2000 23:44	0.9	16.6	1.3	-0.1	25.3	0.1	12.3	0.1	12.9	833791	74919	225540	1134250								

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS						CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS			EMISSION FACTOR		
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7		SO2 IN		SO2 OUT		OX 7	SO IN	SO OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2N LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON
					0.0	24.9	0.0	12.5	0.0	12.5													
5/4/2000 23:45	0.9	12.9	1.7		-0.1	25.3	0.1	12.3	0.1	12.9	0.9	13.1	1.6	833791	74919	225540	1134250						
5/4/2000 23:46	0.9	12.4	1.9		-0.1	25.3	0.1	12.3	0.1	12.9	0.9	12.6	1.8	833791	74919	225540	1134250						
5/4/2000 23:47	0.9	12.4	1.8		-0.1	25.3	0.1	12.3	0.1	12.9	0.9	12.6	1.7	833791	74919	225540	1134250						
5/4/2000 23:48	0.9	12.4	1.7		-0.1	25.3	0.1	12.3	0.1	12.9	1.0	12.6	1.6	833791	74919	225540	1134250						
5/4/2000 23:49	1.0	10.3	1.5		-0.1	25.3	0.1	12.3	0.1	12.9	1.1	10.4	1.4	833791	74919	225540	1134250						
5/4/2000 23:50	0.4	3.9	0.6		-0.1	25.3	0.1	12.3	0.1	12.9	0.5	3.9	0.6	833791	74919	225540	1134250						
5/4/2000 23:51	-0.1	2.4	0.1		-0.1	25.3	0.1	12.3	0.1	12.9	0.0	2.4	0.0	833791	74919	225540	1134250						
5/4/2000 23:52	-0.1	1.8	0.0		-0.1	25.3	0.1	12.3	0.1	12.9	0.0	1.8	-0.1	833791	74919	225540	1134250						
5/4/2000 23:53	2.6	0.9	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	2.7	0.8	-0.1	833791	74919	225540	1134250						
5/4/2000 23:54	18.2	1.4	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	17.9	1.4	-0.1	833791	74919	225540	1134250						
5/4/2000 23:55	25.4	3.7	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	25.0	3.7	-0.1	833791	74919	225540	1134250						
5/4/2000 23:56	25.7	3.8	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	25.3	3.8	-0.1	833791	74919	225540	1134250						
5/4/2000 23:57	25.9	3.8	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	25.5	3.8	-0.1	833791	74919	225540	1134250						
5/4/2000 23:58	26.4	3.4	0.0		-0.1	25.3	0.1	12.3	0.1	12.9	26.0	3.4	-0.1	833791	74919	225540	1134250						
5/4/2000 23:59	51.7	3.3	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	50.8	3.3	-0.1	833791	74919	225540	1134250						
5/5/2000 0:00	55.6	3.4	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	54.8	3.4	-0.1	833791	74919	225540	1134250						
5/5/2000 0:01	53.5	3.8	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	52.6	3.8	-0.1	833791	74919	225540	1134250						
5/5/2000 0:02	54.2	3.9	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	53.2	3.9	-0.1	833791	74919	225540	1134250						
5/5/2000 0:03	54.3	4.0	-0.1		-0.1	25.3	0.1	12.3	0.1	12.9	53.4	4.0	-0.1	833791	74919	225540	1134250						

Gallatin Steel 5-4-00

Comp 7 Ch 1 NOx
Ch 4 NOx b.u.

0811 injecting 12.5 ppm
0815 reading 13.7 ppm Ch 2 SO₂ comp 14
0828 injecting zero gas Ch 2 inner 0.026 volts
0830 injecting zero gas Ch 3 outer 0.026 volts
" " " Ch 4 backup NOx 0.0510 volts
0835 injecting 24.01 ppm SO₂ Ch 3 outer (comp ~~14~~ 2)
0843 reading 0.8300 v SO₂ Ch 3 outer (comp ~~14~~ 2)
0843 injecting 12.5 ppm SO₂ Ch ~~3~~ ~~outer~~ (comp ~~14~~ 2)
0851 reading 0.450 v SO₂ Ch 3 outer (comp ~~14~~ 2)
0852 injecting 24.01 ppm SO₂ Ch 2 inner (comp 2)
0859 reading 0.858 v SO₂ Ch 2 inner (comp 2)
0901 injecting 12.5 ppm SO₂ Ch 2 inner (comp 2)
0906 reading 0.461 v SO₂ Ch 2 inner (comp 2)

... CH2 slope 28.8562
... intercept -0.7672
... CH3 slope 29.8558
... intercept -0.8272

0910 on line

1138 inject 54.2 ppm NOx Ch 1 comp 7 1750psi Tank # CC110128 expires 8-10-2001
1141 reading 0.865 volts ✓ (54.2)
1143 injecting 24.9 ppm NOx Ch 1 comp 7 1750psi Tank # CC109962 expires 8-10-2001
1145 reading 0.397 volts ✓ (24.8)
1146 injecting 0.00 NOx Ch 1 comp 7
1151 reading 0.003 volts ✓ (0.0)

Gallatin Steel 5-4-00

- 1152 injecting 0.0 Ch3 comp14 SO2 inner
- 1152 injecting 0.0 Ch4 comp14 NOx backup
- 034 1201 reading 0.028v Ch3 comp14 SO2 inner (0.1 ppm)
- 1201 ✓ reading 0.050 volts Ch4 comp14 NOx backup (0.1 ppm)
- 1201 injecting 54.2 NOx Ch4 comp14 NOx backup
- 1205 reading 1.002 volts Ch4 comp14 NOx backup
- 1205 injecting 24.9 ppm NOx Ch4 comp14 NOx backup
- 1209 reading 0.535 volts Ch4 comp14 NOx backup
- 1210 injecting 54.2 NOx Ch4 comp14 NOx backup
- 1215 ✓ change to read 0.920 volts Ch4 comp14 NOx backup (54.3 ppm)
- 1216 injecting 24.9 ppm NOx Ch4 comp14 NOx backup
- 1218 ✓ reading 0.445 volts NOx Ch4 comp14 NOx backup (24.7 ppm)
- 1220 injecting 24.01 ppm SO2 Ch3 comp2 SO2 outer
- injecting 24.61 ppm SO2 Ch4 comp14 NOx backup
- 784 1229 reading 0.785 volts SO2 Ch3 comp2 SO2 outer (24.1 ppm)
- reading 0.053 volts zero Ch4 NOx Backup
- 1230 injecting 12.5 ppm SO2 Ch3 comp2 outer
- 419 1234 reading 0.416 volts SO2 Ch3 comp2 outer (12.4 ppm)
- 1235 injecting 12.5 ppm SO2 Ch2 comp14 inner, Ch3 outer on line
- 037 1239 reading 0.436 volts SO2 Ch2 comp14 inner (12.2 ppm)
- 1240 injecting 24.01 ppm SO2 Ch2 comp14 inner
- ✓ 1249 reading 0.845 volts SO2 Ch2 comp14 inner (24.2 ppm)
- 1250 injecting zero ppm SO2 Ch2 comp14 inner
- ✓ 1257 reading 0.020 volts SO2 Ch2 comp14 inner (0.2 ppm)
- 1258 on line

$$\begin{aligned} \text{ppm} &= \frac{\text{volts} \times 1000}{\text{S.F.}} \\ &= \frac{0.028 \times 1000}{0.275} \\ &= 101.8 \end{aligned}$$

END RUN 1 1538

5/4/00 GAL STEEL

POST RUN 1 CAL CHECKS

1540 OUT COMP #2

Zero ppm	SO ₂	OUT (comp 2)	0.028 v	(0.1 ppm)	1546
"	NO _x	OUT (comp 2)	0.050 v	(0.1 ppm)	1545
12.5 ppm	SO ₂	OUT (comp 2)	0.426 v	(12.7 ppm)	1553
0 ppm	NO _x	OUT (comp 2)	0.050 v		1553
—	SO ₂		NA		
24.9 ppm	NO _x		0.442 v	(24.5 ppm)	1559

In Comp #14

Zero	SO ₂	0.026 v	(0.1)	1602
12.5	SO ₂	0.442 v	(12.3)	1608

NO_x Comp 7

Zero ppm	NO _x	0.001 v	(-0.1)	1618
24.9 ppm	NO _x	0.405 v	(25.3)	1613

ON LINE 1620 - WAIT FOR NEXT HEAT

		SLOPE	INTCP	lv	ov
Run 1	CH1	62.8687	-0.1429	62.7	-0.14
	CH2	29.3875	-0.6527	28.7	-0.653
	CH3	31.7216	-0.8253	30.90	-0.8253
	CH4	62.2783	-3.0079	59.27	-3.007

APPROX AVG FOR RUN 1

CH1	6.3 ppm
2	1.1 ppm
3	1.4 ppm

START RUN 2 16:30 Heat 1
 17:24 Heat 2
 18:18 Heat 3
 END RUN 2 19:21

1924 inject 0.0 ~~Ch 3 comp 4~~ ~~Ch 1 comp 7~~ (10s) SO₂
 Ch 4 comp 4 b.v. NO_x backup
 1931 reading 0.063 ppm Ch 3 comp 4 SO₂ outer
 0.106 Ch 4 comp 4 NO_x outer Backup
 1931 inj 12.5 ppm SO₂ Ch 3 comp 4 SO₂ outer
 1941 reading 12.5 ppm SO₂ Ch 3 comp 4 SO₂ outer
 1941 injecting 24.9 ppm NO_x Ch 4 comp 4 NO_x outer backup
 1946 reading 24.3 ppm NO_x Ch 4 comp 4 NO_x outer backup
 1946 injecting 24.3 ppm NO_x Ch 1 comp 7 NO_x compliance NO_x
 1950 reading 25.0 ppm NO_x Ch 1 comp 7 NO_x compliance NO_x
 1951 injecting 0.0 ppm NO_x Ch 1 comp 7 NO_x compliance NO_x
 1956 reading 0.11 ppm NO_x Ch 1 comp 7 NO_x compliance
 1957 injecting 0.0 ppm Ch 2 comp 16 SO₂ inner
 2001 reading 0.11 ppm Ch 2 comp 16 SO₂ inner
 2002 injecting 12.5 ppm Ch 2 comp 16 SO₂ inner
 2009 reading 12.2 ppm Ch 2 comp 16 SO₂ inner
 2016 online
 2017 Start Run 3 Heat 1 ~ 2115 START HEAT 2

Run 2 Results

1 NO_x #7 = 3.4
 2 SO₂ #16 = 0.6
 3 SO₂ #4 = 1.9

1045 Plant down - End run 3

1050 inject 3.00 gas ch3 SO₂ out comp 19
ch4 NO_x out comp 19

1100 reading 0.03 ppm ch3 SO₂ out comp 19
0.106 ppm ch4 NO_x out comp 19

1101 injecting 12.5 ppm SO₂ ch3 SO₂ out comp 19

1109 reading 13.2 ppm SO₂ ch3 SO₂ out comp 19

1112 injecting 24.9 ppm NO_x ch4 NO_x out comp 19

1116 reading 24.6 ppm NO_x ch4 NO_x out comp 19

1117 injecting 24.01 ppm SO₂ ch3 SO₂ out comp 19

1124 reading 25 ppm SO₂ ch3 SO₂ out comp 19

1124 injecting 54.2 NO_x ch4 out comp 19

1129 reading 53.8 ppm NO_x ch4 out comp 19

1129 injecting ~~3.00~~ zero ppm SO₂ ch2 SO₂ in comp 7

1136 reading 0.08 ppm SO₂ ch2 SO₂ in comp 7

1137 injecting 24.01 ppm SO₂ ch2 SO₂ in comp 7

1142 reading 23.9 ppm SO₂ ch2 SO₂ in comp 7

1142 injecting 12.5 ppm SO₂ ch2 SO₂ in comp 7

1148 reading 12.4 ppm SO₂ ch2 SO₂ in comp 7

1149 injecting 3.00 ppm NO_x ch1 (10s) in comp 7

1151 reading 0.14 ppm NO_x ch1 (10s) in comp 7

1152 injecting 24.9 ppm NO_x ch1 (10s) in comp 7

1156 reading 25.6 ppm NO_x ch1 (10s) in comp 7

1157 injecting 54.2 NO_x ch1 (10s) in comp 7

1202 reading 54.4 NO_x ch1 (10s) in comp 7

End of Calibrations / END OF TEST

APPENDIX D

FLOW RATES

EPA METHODS 1-4

**GALLATIN STEEL SO, TEST
FLOW AVERAGES**

Cold Duct 1		ACFM	SCFMD	SCFMW
	R1	952974.	834555.	846113.
	R2	962283.	834826.	851927.
	R3	<u>932043.</u>	<u>831991.</u>	<u>848086.</u>
	Avg.	949100.	833791.	848709.
Cold Duct 2		ACFMD	SCFMD	SCFMW
	R1	93541.	77357.	78428.
	R2	76467.	69720.	71148.
	R3	<u>83826.</u>	<u>77680.</u>	<u>79183.</u>
	Avg.	84611.	74919.	76253.
Hot Duct		ACFM	SCFMD	SCFMW
	R1	395103.	219690.	222732.
	R2	402313.	219601.	224099.
	R3	<u>378720.</u>	<u>237330.</u>	<u>241921.</u>
	Avg.	392045.	225540.	229584.
Total Flow		ACFM	SCFMD	SCFMW
		1,425,756.	1,134,250.	1,154,546.

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106 Ambient Air Way
Starke, Florida 32091(904) 964 - **8440**
(904) 964 - 6675 fax**Volumetric Air-Flow Rates**

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-4-00		
Run Number	1	Volume Metered	31.4
Start Time	0	Meter Temp (Deg R)	545.6
Finish Time	0	Orsat CO2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	12	Condensate Volume	9
Avg of SQRT of V.H.	1.3231	Delta H (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.80
Pitot Correction Factor	0.84	Stack Temp (Deg R)	592.3

=====

Moisture in stack gas, volume fraction	0.0136598
Dry Stack Gas, volume fraction	0.9863402
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.69
Specific gravity of Stack Gas Relative to Air	0.990
Excess Air (%)	
Average Stack Velocity, FPM	4739.7
Actual Stack Gas Flow Rate, ACFM	952974
Actual Stack Gas Flow Rate, (Dry) ACFMD	939957
Stack Gas Flow Rate (Standard conditions), SCFMD	834555
Stack Gas Flow Rate (Standard conditions), SCFMW	846112.73

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Starke, Florida 32091

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-4-00		
Run Number	2	Volume Metered	31.79
Start Time	0	Meter Temp (Deg R)	549.0
Finish Time	0	Orsat CO2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	12	Condensate Volume	13.4
Avg of SQRT of V.H.	1.3321	Delta H (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.85
Pitot Correction Factor	0.84	Stack Temp (Deg R)	595

=====

Moisture in stack gas, volume fraction	0.0200732
Dry Stack Gas, volume fraction	0.9799268
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.62
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	4786.0
Actual Stack Gas Flow Rate, ACFM	962283
Actual Stack Gas Flow Rate, (Dry) ACFMD	942967
Stack Gas Flow Rate (Standard conditions), SCFMD	834826
Stack Gas Flow Rate (Standard conditions), SCFMW	851926.87

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Environmental Consultants

106 Ambient Air Way
Starke, Florida 32091(904) 964 - 8440
(904) 964 - 6675 fax**Volumetric Air-Flow Rates**

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-4-00		
Run Number	3	Volume Metered	31.196
Start Time	0	Meter Temp (Deg R)	546.0
Finish Time	0	Orsat CO2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	12	Condensate Volume	12.5
Avg of SQRT of V.H.	1.3087	Delta H (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.87
Pitot Correction Factor	0.84	Stack Temp (Deg R)	579.3

=====

Moisture in stack gas, volume fraction	0.0189781
Dry Stack Gas, volume fraction	0.9810219
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.63
Specific gravity of Stack Gas Relative to Air	0.988
Excess Air (%)	
Average Stack Velocity, FPM	4635.6
Actual Stack Gas Flow Rate, ACFM	932043
Actual Stack Gas Flow Rate, (Dry) ACFMD	914355
Stack Gas Flow Rate (Standard conditions), SCFMD	831991
Stack Gas Flow Rate (Standard conditions), SCFMW	848086.1

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(904) 964 - 6675 fax**Volumetric Air-Flow Rates**

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 2		
Run Date	5-4-00		
Run Number	1	Volume Metered	31.4
Start Time	0	Meter Temp (Deg R)	545.6
Finish Time	0	Orsat CO ₂ %	0
Barometric Pressure	30.03	Orsat O ₂ %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	9
Avg of SQRT of V.H.	0.3231	Delta H (inches H ₂ O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.88
Pitot Correction Factor	0.84	Stack Temp (Deg R)	628.9

=====

Moisture in stack gas, volume fraction	0.0136598
Dry Stack Gas, volume fraction	0.9863402
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.69
Specific gravity of Stack Gas Relative to Air	0.990
Excess Air (%)	
Average Stack Velocity, FPM	1191.0
Actual Stack Gas Flow Rate, ACFM	93541
Actual Stack Gas Flow Rate, (Dry) ACFMD	92263
Stack Gas Flow Rate (Standard conditions), SCFMD	77357
Stack Gas Flow Rate (Standard conditions), SCFMW	78428.315

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 2		
Run Date	5-4-00		
Run Number	2	Volume Metered	31.79
Start Time	0	Meter Temp (Deg R)	549.0
Finish Time	0	Orsat CO2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	13.4
Avg of SQRT of V.H.	0.2778	Delta H (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.89
Pitot Correction Factor	0.84	Stack Temp (Deg R)	566.9

=====

Moisture in stack gas, volume fraction	0.0200732
Dry Stack Gas, volume fraction	0.9799268
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.62
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	973.6
Actual Stack Gas Flow Rate, ACFM	76467
Actual Stack Gas Flow Rate, (Dry) ACFMD	74932
Stack Gas Flow Rate (Standard conditions), SCFMD	69720
Stack Gas Flow Rate (Standard conditions), SCFMW	71148.169

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Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 2		
Run Date	5-4-00		
Run Number	3	Volume Metered	31.196
Start Time	0	Meter Temp (Deg R)	546.0
Finish Time	0	Orsat CO2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	12.5
Avg of SQRT of V.H.	0.3070	Delta H (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.89
Pitot Correction Factor	0.84	Stack Temp (Deg R)	558.4

=====

Moisture in stack gas, volume fraction	0.0189781
Dry Stack Gas, volume fraction	0.9810219
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.63
Specific gravity of Stack Gas Relative to Air	0.988
Excess Air (%)	
Average Stack Velocity, FPM	1067.3
Actual Stack Gas Flow Rate, ACFM	83826
Actual Stack Gas Flow Rate, (Dry) ACFMD	82235
Stack Gas Flow Rate (Standard conditions), SCFMD	77680
Stack Gas Flow Rate (Standard conditions), SCFMW	79182.742

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Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Hot Duct		
Run Date	5-4-00		
Run Number	1	Volume Metered	31.4
Start Time	0	Meter Temp (Deg R)	545.6
Finish Time	0	Orsat C O2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	9
Avg of SQRT of V.H.	1.1190	Delta H (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.68
Pitot Correction Factor	0.84	Stack Temp (Deg R)	929.1

=====

Moisture in stack gas, volume fraction	0.0136598
Dry Stack Gas, volume fraction	0.9863402
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.69
Specific gravity of Stack Gas Relative to Air	0.990
Excess Air (%)	
Average Stack Velocity, FPM	5030.6
Actual Stack Gas Flow Rate, ACFM	395103
Actual Stack Gas Flow Rate, (Dry) ACFMD	389706
Stack Gas Flow Rate (Standard conditions), SCFMD	219690
Stack Gas Flow Rate (Standard conditions), SCFMW	222732.48

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Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Hot Duct		
Run Date	5-4-00		
Run Number	2	Volume Metered	31.79
Start Time	0	Meter Temp (Deg R)	549.0
Finish Time	0	Orsat CO2 %	0
Barometric Pressure	30.03	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	13.4
Avg of SQRT of V.H.	1.1309	Delta ti (inches H2O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.63
Pitot Correction Factor	0.84	Stack Temp (Deg R)	938.7

=====

Moisture in stack gas, volume fraction	0.0200732
Dry Stack Gas, volume fraction	0.9799268
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.62
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	5122.4
Actual Stack Gas Flow Rate, ACFM	402313
Actual Stack Gas Flow Rate, (Dry) ACFMD	394237
Stack Gas Flow Rate (Standard conditions), SCFMD	219601
Stack Gas Flow Rate (Standard conditions), SCFMW	224099.38

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(904) 964 - 6675 fax**Volumetric Air-Flow Rates**

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Hot Duct		
Run Date	5-4-00		
Run Number	3	Volume Metered	31.196
Start Time	0	Meter Temp (Deg R)	546.0
Finish Time	0	Orsat C O ₂ %	0
Barometric Pressure	30.03	Orsat O ₂ %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	12.5
Avg of SQRT of V.H.	1.1406	Delta H (inches H ₂ O)	1.5
Meter Correction (Y)	1	Stack Pressure	29.57
Pitot Correction Factor	0.84	Stack Temp (Deg R)	816.9

=====

Moisture in stack gas, volume fraction	0.0189781
Dry Stack Gas, volume fraction	0.9810219
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.63
Specific gravity of Stack Gas Relative to Air	0.988
Excess Air (%)	
Average Stack Velocity, FPM	4822.0
Actual Stack Gas Flow Rate, ACFM	378720
Actual Stack Gas Flow Rate, (Dry) ACFMD	371533
Stack Gas Flow Rate (Standard conditions), SCFMD	237330
Stack Gas Flow Rate (Standard conditions), SCFMW	241921.22

APPENDIX E

- MOISTURE RUN DATA SHEETS**
- FLOW TRAVERSE DATA SHEETS**
- PITOT TUBES - POST TEST CALIBRATION CHECK**
- THERMOCOUPLE - POST TEST CALIBRATION CHECK**
- GAS METER POST TEST CALIBRATION**

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Plant Callatin Steel source Boghosian

Plant Location Ghent, Kentucky

Type of Sampling Train EPA Method 14

Type of Samples Moisture

Date 5-4-00 Run No. 2

Time Start 1651 Time End 1731

Sample Time 5.0 min/pt Total Min

Bar. Pressure 30.1 "Hg Stack Pressure NA "Hg

Assumed Moisture Overcast Temperature 70 °F

Water Box No. 3 ΔH 1.5 y 1.0

Monograph Cl NA Pitot Corr. Factor 0.84

Nozzle Calibration NA Effective NA ft²

Stack Dimensions Moel-Thomson Steels

Stack Area NA

Stack Height Approx 40 ft

Stack Diameter: Upstream NA Downstream NA

Port Size NA in nipple length NA

Cord Length 100

Remarks

TEST ID

PAGE

OF

1

Met'l Processing Rate

Gas Meter Readings: Final 105.608

Initial 73.818

Net 31.790

Impingers Vol. Gain 8

Silical Gel No. BH-2 Wt. Gain 5.4

Filter No. NA Total Condensate 13.4

ORSAT

% CO₂

% O₂

% CO

% H₂

Leak Checks: Meter Box/Pump OK

Orsat Bag NA Gas Sample System NA

Orsat Analyzer TYRTE (Ambient)

Pre-Test 0.007 CFM 10 "Hg Post-Test 0.006 CFM 8 "Hg

Box Operator COBBINS Probe Holder REITER

Pycnometer No. 3 Pitot Tube No. NA

Pitot Tube Leak Check: Pre-Test 0.0 @ 3" @ 15 SEC

Post-Test (+) OK 3" H₂O 15 SEC

Post-Test (-) OK 3" H₂O 15 SEC

PORT AND TRAVERSE POINT NUMBER	DISTANCE FROM INSIDE STACK WALL (IN)	CLOCK TIME	GAS METER READING (FT ³)	STACK VELOCITY HEAD	METER ORIFICE PRESS. DIFF		STACK GAS TEMP. (°F)	SAMPLE BOX TEMP. (°F)	LAST IMPINGER TEMP. (°F)	DRY GAS METER TEMP. (°F)	VACUUM ON SAMPLE TRAIL ("Hg)
					CALC.	ACTUAL					
		5.0	77.8	—	—	1.5	—	—	66	79	7
		10.0	81.9	—	—	1.5	—	—	64	84	7
		15.0	85.9	—	—	1.5	—	—	61	87	7
		20.0	89.6	—	—	1.5	—	—	60	89	7
		25.0	93.4	—	—	1.5	—	—	58	91	7
		30.0	97.7	—	—	1.5	—	—	58	92	7
		35.0	101.7	—	—	1.5	—	—	56	95	7
		40.0	105.608	—	—	1.5	—	—	57	95	7

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ENVIRONMENTAL CONSULTANTS

Plant Gallatin Steel source Beghouse

Plant Location GHEAT KY

Type of Sampling Train EPA M4

Type of Samples MOISTURE

Date 5/4/00

Run No. 3

Time Start 2108 Time End 2148

Sample Time 5 min/pl 40 Total Min

Bar. Pressure 30.03 "Hg Stack Pressure NA "Hg

Assumed Moisture 1 % IDA 0.99

Weather Cloudy Temperature 70 °F

Peter Box No. 3 ΔH 1.5 Y 1.0

Photograph Cf NA Plot Corr. Factor NA

Nozzle Calibration NA

Stack Dimensions above the stack

Stack Area NA (Effective NA ft²)

Stack Height Approx 40ft

Stack Diameter: Upstream NA Downstream NA

Port Size NA in Nipple Length NA

Cord Length 100 feet

Comments

TEST ID

PAGE 1 OF 1

Mat'l Processing Rate

Gas Meter Readings: Final 136.884

Initial 105.608

Net 31.196

Impingers Vol. Gain 8

Silical Gel No. BH-23 Vt. Gain 844.5

Filter No. NA Total Condensate 12.8

ORSAT

% CO₂

% O₂

% CO

% H₂

Leak Checks: Meter Box/Pump OK

Orsat Bag NA Gas Sample System NA

Orsat Analyzer Pyrite

Pre-test 0.002 CFM 1.0 "Hg Post-Test 0.002 CFM 8 "Hg

Box Operator COGGINS Probe Holder PEIET

Pyrometer No. 3 Pitot Tube No. NA

Pitot Tube Leak Check: Pretest OK @ 3" @ 15 sec

Post-Test (-) OK 3" H₂O 15 sec

Post-Test (+) OK 3" H₂O 15 sec

PORT AND TRAVERSE POINT NUMBER	DISTANCE FROM INSIDE STACK WALL (IN)	CLOCK TIME	GAS METER READING (FT ³)	STACK VELOCITY HEAD	METER ORIFICE PRESS. DIFF		STACK GAS TEMP. (°F)	SAMPLE BOX TEMP. (°F)	LAST IMPINGER TEMP. (°F)	DRY GAS METER TEMP. (°F)	VACUUM ON SAMPLE TRAIL ("Hg)
					CALC.	ACTUAL					
		5.0	109.5	—	—	1.5	154	—	67	77	6
		10.0	113.4	—	—	1.5	147	—	65	81	6
		15.0	117.4	—	—	1.5	148	—	63	83	6
		20.0	121.3	—	—	1.5	149	—	60	86	6
		25.0	125.3	—	—	1.5	150	—	59	88	6
		30.0	129.1	—	—	1.5	152	—	57	90	6
		35.0	133.0	—	—	1.5	148	—	56	91	6
		40.0	136.884	—	—	1.5	149	—	55	92	6

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
 DATE 5-4-00
 LOCATION COLD DUCT NO. 1
 STACK I.D. 192.0"
 BAROMETRIC PRESSURE, in. Hg 30.03
 STACK GAUGE PRESSURE, in. H₂O
 OPERATORS COGGINS / PETTET

SCHEMATIC OF TRAVERSE POINT LAYOUT

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δps), in. H ₂ O	STACK TEMPERATURE (T _s), °F
Static - 3.1	Run 1	
1-1	1.69	140
2	1.75	138
3	1.75	134
4	1.75	136
5	1.80	137
6	1.70	138
2-1	1.85	127
2	1.77	128
3	1.75	127
4	1.75	128
5	1.75	126
6	1.70	128
Run 3		
1-1	1.68	120
2	1.61	119
Static - 2.2	3	1.64
4	1.75	118
5	1.82	118
6	1.82	118
2-1	1.83	119
2	1.70	119
3	1.87	120
4	1.67	120
5	1.56	121
6	1.62	121

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δps), in. H ₂ O	STACK TEMPERATURE (T _s), °F
Static - 2.4	Run 2	
1-1	1.77	132
2	1.75	133
3	1.75	133
4	2.0	133
5	1.55	126
6	1.30	130
2-1	2.0	137
2	1.9	136
3	2.1	140
4	1.8	140
5	1.7	140
6	1.75	140
PTB-1		
Pinot	pos 0.0 at 3 inch	15 sec
leak ck	neg 0.0 at 3 inch	15 sec

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
DATE 5-4-00
LOCATION Cold Duct No. 2
STACK I.D. 120.0"
BAROMETRIC PRESSURE, In. Hg 30.03
STACK GAUGE PRESSURE, In. H₂O
OPERATORS COGGINS / PETIET

SCHEMATIC OF TRAVERSE POINT LAYOUT

TRAVERSE POINT NUMBER	VELOCITY MAD (Δp_s), In. H ₂ O	STACK TEMPERATURE (T_s), °F
Static-2.0 Run 1		
1-1	0.15	156
2	0.12	160
3	0.12	161
4	0.12	163
5	0.10	160
6	0.10	165
7	0.09	164
8	0.09	160
2-1	0.09	174
2	0.10	186
3	0.09	187
4	0.12	178
5	0.10	178
6	0.10	170
7	0.10	168
8	0.09	172
Run 3	0.10	97
1-1	0.09	98
Static 2	0.10	98
-1.8 3	0.10	98
4	0.10	98
5	0.09	99
6	0.08	99
7	0.08	99
8		

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), In. H ₂ O	STACK TEMPERATURE (T_s), °F
Static-1.9 Run 2		
1-1	0.11	100
2	0.09	102
3	0.09	104
4	0.08	108
5	0.07	109
6	0.07	109
7	0.07	108
8	0.07	108
2-1	0.07	167
2	0.08	109
3	0.08	108
4	0.07	107
5	0.07	108
6	0.08	108
7	0.07	107
8	0.07	108
2-1	0.09	97
2	0.09	98
3	0.09	98
4	0.10	99
5	0.10	99
6	0.10	99
7	0.10	99
8	0.10	99
PT 10-1		

leak check pos 0.0 @ 3" @ 15 sec
neg 0.0 @ 3" @ 15 sec

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
 DATE 5-4-00
 LOCATION HOT DUCT
 STACK I.D. 120.0"
 BAROMETRIC PRESSURE, In.Hg 30.03
 STACK GAUGE PRESSURE, In.H₂O -4.8
 OPERATORS COGGINS PELTIER

P. tot 10-2

leak ck 0.0 @ 3" @ 15 sec
 0.0 @ 3" @ 15 sec

SCHEMATIC OF TRAVERSE POINT LAYOUT

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δps), In.H ₂ O	STACK TEMPERATURE (T _s), °F
Static -4.8	RUN 1	
1-1	1.22	437
2	1.20	442
3	1.49	476
4	1.50	478
5	1.52	483
6	1.40	478
7	1.27	463
8	1.10	456
2-1	1.20	497
2	1.30	453
3	1.15	468
4	1.05	474
5	1.26	481
6	1.25	477
7	1.15	472
8	1.10	470
Runs static 16.2		
1-1	1.18	329
2	1.31	330
3	1.40	328
4	1.46	341
5	1.43	365
6	1.47	353
7	1.49	352
8	1.23	353

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δps), In.H ₂ O	STACK TEMPERATURE (T _s), °F
Static 5.4	RUN 2	
1-1	1.25	455
2	1.35	478
3	1.45	485
4	1.45	493
5	1.25	487
6	1.20	488
7	1.25	479
8	1.20	478
1-1	1.10	479
2	1.20	458
3	1.30	478
4	1.40	478
5	1.45	481
6	1.30	485
7	1.25	479
8	1.10	478
Runs static 16.2		
2-1	1.28	358
2	1.26	376
3	1.26	373
4	1.22	373
5	1.25	369
6	1.21	368
7	1.20	373
8	1.20	370

PITOT TUBE CALIBRATION MEASUREMENTSDATE CALIBRATED 5-16-00 PITOT TUBE PT 10-1Picot tube assembly level? ✓ Yes NoPitot tube openings damaged? Yes (explain below) ✓ No $\alpha_1 = \underline{1.0}^\circ (<10^\circ)$, $\alpha_2 = \underline{1.0}^\circ (<10^\circ)$, $\beta_1 = \underline{0.5}^\circ (<5^\circ)$, $\beta_2 = \underline{0.5}^\circ (<5^\circ)$ $\gamma = \underline{0.5}^\circ$, $\theta = \underline{0.5}^\circ$, $A = \underline{1.094}$ in. = $(P_a + P_b)$ $z = A \sin \gamma = \underline{0.01}$ in.; <0.32 / $<1/8$ in. $w = A \sin \theta = \underline{0.01}$ in.; <0.08 / $<1/32$ in. $P_a \underline{0.547}$ in. $P_b \underline{0.547}$ in. $D_t = \underline{0.375}$ Calibration required? Yes No

PITOT TUBE CALIBRATION MEASUREMENTSDATE CALIBRATED 5-16-00 PITOT TUBE PT10-2Pitot tube assembly level? ✓ Yes NoPitot tube openings damaged? Yes (explain below) ✓ No $\alpha_1 = \underline{1.0}^\circ (<10^\circ)$, $\alpha_2 = \underline{1.0}^\circ (<10^\circ)$, $\beta_1 = \underline{1.0}^\circ (<5^\circ)$, $\beta_2 = \underline{0.5}^\circ (<5^\circ)$ $\gamma = \underline{1.0}^\circ$, $\theta = \underline{1.0}^\circ$, $A = \underline{1.024}$ in. = (Pa + Pb) $z = A \sin \gamma = \underline{0.018}$ in.; <0.32 / $<1/8$ in. $w = A \sin \theta = \underline{0.018}$ in.; <0.08 / $<1/32$ in. $P_a \underline{0.512}$ in. $P_b \underline{0.512}$ in. $D_c = \underline{0.375}''$ Calibration required? Yes ✓ No

AAS Inc.

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PITOT TUBE CALIBRATION MEASUREMENTS

DATE CALIBRATED 5-16-00 PITOT TUBE PT12-1

Pitot tube assembly level? ✓ Yes No

Pitot tube openings damaged? Yes (explain below) ✓ No

α_1 - 2.0 ° (<10°), α_2 - 2.0 ° (<10°), β_1 - 1.0 ° (<5°),

β_2 - 1.0 ° (<5°)

γ - 1.0 °, θ - 1.5 °, A - 1.049 in. = (Pa + Pb)

z = $A \sin \gamma$ = 0.018 in.; <0.32 / <1/8 in.

w = $A \sin \theta$ = 0.027 in.; <0.08 / <1/32 in.

P 0.524 in. P_b 0.525 in. D_t - 0.375"

Calibration required? Yes No

AMBIENT AIR SERVICES, INC.
106 Ambient Air Way
Starke, Florida

THERMOCOUPLE CALIBRATION FORM

Date 5-16-00 Time 0916 Standard Thermometer Type Mercury in Glass
 Ambient Temperature 83°F Source LAB Manufacturer ERTCO
 Barometric Pressure 29.89 Source LAB Serial Number 64613
 Technician's Signature Earl C. Coggins Pyrometer Manufacturer Omega Model 9414
 Serial Number B3201K-3 Meter Box 3

TEMPERATURE SOURCE (A)		ICE			Ambient Air			Boiling H ₂ O					
REFERENCE THERMOMETER	Actual Reading	32°F			83°F			212°F					
	Corrected Temperature												
CALIBRATED THERMOCOUPLE		Indicated Temp.	Difference (B)	Percent Diff. (C)	Indicated Temp.	Difference	Percent Diff.	Indicated Temp.	Difference	Percent Diff.	Indicated Temp.	Difference	Percent Diff.
Serial Number	Location												
PT12-1	Stack	32	0		83	0		213	1				
NA	Filter												
TT3	Impinger	32	0		83	0		213	1				
3in	Meter In	32	0		84	1		213	1				
3out	Meter Out	32	0		84	1		214	2				
PT10-1	Stack	32	0		84	1		213	1				
PT10-2	Stack	32	0		84	1		214	2				

Comments:

Calibration Tolerances Stack = 1.5% of value, Filter Box = ±5.4°F, Impinger = ±2°F, Meter = ±5.4°F (40CFR Pt 60, App. A Method 5, and QA Handbook Section 3.4, Method 5, page 13, Rev. O)

(A) Type of calibration system used (B) Reference - Indicated = Difference

(C)
$$\left[\frac{(\text{ref. temp. } ^\circ\text{F} + 460) - (\text{indicated temp. } ^\circ\text{F} + 460)}{(\text{reference temp. } ^\circ\text{F} + 460)} \right] \times 100$$

POSTTEST DRY GAS METER CALIBRATION DATA (ENGLISH UNITS)

Test numbers: all Date: 5-16-00 Meter Box number: 3

Barometric Pressure: 29.89 inches Hg. Dry Gas Meter Number: 3 Pretest Y: 0.99

Plant: Gallatin Steel Location: Ghent, KY

Orifice manomtr setting (DH), inches H2O	Gas volume		Temperature				Time in minutes	Vacuum setting inches Hg	Yi
	Wet test meter (Vw), cu.ft.	Dry gas meter (Vd), cu.ft.	Wet test meter (Tw), deg F	Dry gas meter					
				Inlet (Tdi), deg F	(Tdo), deg F	Average (Td), deg F			
1.50	11.066	11.362	84.25	107.5	88.0	97.75	14.73	12.0	0.9944
1.50	12.611	12.949	85.25	109.5	89.5	99.50	16.77	12.0	0.9956
1.50	16.631	17.110	85.50	113.0	91.0	102.00	21.06	12.0	0.9977
									1.00

If there is only one thermometer on the dry gas meter, record the temperature under Td

Vw= Gas volume passing through the wet test meter, in cubic feet

Vd= Gas volume passing through the dry gas meter, in cubic feet

Tw= Temperature of the gas in the wet test meter, degrees fahrenheit

Tdi= Temperature of the inlet gas of the dry gas meter, degrees fahrenheit

Tdo= Temperature of the outlet gas of the dry gas meter, degrees fahrenheit

Td= Average temperature of the gas in the dry gs meter, obtained by the average of Tdi and Tdo, degrees fahrenheit

DH= Pressure differential across orifice, inches H2O

Yi= Ratio of accuracy of wet test meter to dry gas meter for each run.

Y= Average ratio of accuracy of wet test meter to dry gas meter for all three runs;
tolerance = pretest Y plus/minus 0.05Y

Pb= Barometric pressure, inches Mercury

Time= Time of calibration run, in minutes.

APPENDIX F

- PRODUCTION DATA

- TEST NOTIFICATION LETTER

Gallatin Steel Company - Heat Data for May 4, 2000

	Run 1	Run 1	Run 1		Run 2	Run 2	Run 2	Run 2	Run 3	Run 3	Run 3	Run 3	
				12:55 to 15:55				16:30 to 19:15				20:15 to 22:45	
Date	5/4/00	5/4/00	5/4/00		5/5/00	5/5/00	5/5/00		5/5/00	5/5/00	5/5/00		
Heat Number	A13562	C13217	A13563		A13564	C13219	A13565		A13566	C13221	A13567		
Start of Heat - Power On (time)	12:52	13:44	14:38		16:32	17:23	18:24		20:16	21:08	22:07		
1st Charge (time)	12:48	13:07	14:11		15:52	16:37	17:40		19:36	20:21	21:46		
2nd Charge (time)	0	0:00	0:00		0:00	0:00	0:00		0:00	0:00	0:00		
Power On Time (min.)	49	47	48		50	48	48		49	47	64		
Tap Time	13:59	14:45	15:37		17:29	18:22	19:17		21:09	22:07	1:24*		
Tap to Tap (minutes)	59	45	51		61	52	55		56	58	196'		
Total Scrap Weight (pounds)	391800	404000	401300		395700	397400	397900		417700	423500	409300		
Charge Carbon (pounds)	1209	1223	1217		1201	1202	1214		1207	1213	1207		
Charge Lime (pounds)	7611	7825	7617		7617	7615	7603		7611	7406	7603		
Dolo Lime (pounds)	2712	2713	2722		2722	2718	2714		2706	2700	2708		Average
Liquid Steel Tons	180.0	185.0	179.7	544.7	181.3	185.0	178.1	544.4	193.5	185.0	184.1	562.6	Melt
Run Time (minutes):				180				165				170	Tons/Hour
Tons per Hour				182				198				199	193
Delays Over 10 Minutes											*Testing	(170 min above	
											ended at	includes	
											22:45	extra	
											which was	20 minutes	
											20 min.	for	
											prior to	expected	
											expected	end of heat)	
											end of heat		
											((Heat was		
											delayed due		
											to lance		
											problem)		

Gallatin Steel Company - Fan Amps, Damper Positions and Furnace Static Pressure Readings for May 4, 2000

RUN 1:	MA 1 RUNNING AMPS	DP14A % OPEN	MA 2 RUNNING AMPS	DP14B % OPEN	MA 3 RUNNING AMPS	DP14C % OPEN	MA 4 RUNNING AMPS	DP14D % OPEN	MA 5 RUNNING AMPS	DP14E % OPEN	FG 1 RUNNING AMPS	DP13A % OPEN	FG 2 RUNNING AMPS	DP13B % OPEN	FG 3 RUNNING AMPS	DP13C % OPEN	DP 1A % OPEN	DP 2A % OPEN	DP 2 % OPEN	DP 1 % OPEN	DP 4 % OPEN	DP 4A % OPEN	DP 7A % OPEN	DP 7C % OPEN	DP 8 % OPEN	DP 7B % OPEN	DP 3 C&D % OPEN	DP 3 A&B % OPEN	DP 6 % OPEN	DP 5 % OPEN	DP 9 % OPEN	EAF C ROOF PRESSURE PT 2 Inches / 100	EAF A ROOF PRESSURE PT 1 Inches /100
12:55	129	10	111	100	128	100	118	100	121	100	0	2	47	100	47	100	31	1	7	40	21	0	0	63	2	0	100	100	4	23	2	-0.02	-0.08
13:10	118	10	102	100	116	100	110	100	112	100	0	2	43	100	43	100	10	1	8	40	21	0	0	63	2	0	100	100	4	12	2	0.02	-0.13
13:25	120	100	108	99	121	100	114	100	116	100	0	2	41	100	41	100	20	1	7	95	21	0	0	0	2	0	100	100	4	22	2	-0.04	-0.07
13:40	118	100	106	100	121	100	114	100	116	100	0	2	41	100	39	100	20	2	7	86	21	0	0	0	2	0	100	100	4	22	2	-0.03	-0.07
13:55	132	100	113	100	128	100	119	100	121	100	0	2	46	100	46	100	31	1	7	29	21	0	0	0	2	0	100	100	4	22	2	-0.05	-0.15
14:10	121	100	111	99	124	100	118	100	118	100	0	2	45	100	43	100	91	1	8	10	21	0	0	0	2	0	100	100	4	12	2	0.02	-0.01
14:25	121	100	108	100	121	100	114	100	116	100	0	2	45	100	43	100	91	2	7	19	21	0	0	0	2	0	100	100	4	23	2	-0.01	-0.05
14:40	123	100	111	100	124	100	114	100	118	100	0	2	48	100	46	100	31	1	8	40	95	0	0	0	2	0	100	100	4	22	2	-0.02	-0.08
14:55	120	100	106	99	121	100	113	100	118	100	0	2	43	100	42	100	10	1	7	95	21	0	0	0	2	0	100	100	4	13	2	0.01	-0.05
15:10	121	100	107	99	124	100	114	100	118	100	0	2	42	100	41	100	20	1	7	95	21	0	0	0	2	0	100	100	4	23	2	-0.03	0.02
15:25	118	100	106	100	121	100	114	100	116	100	0	2	41	100	41	100	20	1	7	95	43	0	0	0	2	0	100	100	4	23	2	-0.03	0.01
15:40	123	100	111	99	124	100	118	100	120	100	0	2	49	100	47	100	91	1	8	9	21	0	0	0	2	0	100	100	4	12	2	-0.08	-0.03
15:55	121	100	107	100	124	100	116	100	118	100	0	2	45	100	43	100	91	1	7	19	21	0	0	0	2	0	100	100	4	23	2	0.05	-0.07
RUN 2:																																	
16:30	123	100	107	100	121	100	114	100	116	100	0	2	46	100	47	100	10	1	8	20	21	0	0	0	2	0	100	100	4	13	2	-0.03	-0.13
16:45	123	100	107	100	124	100	114	100	116	100	0	2	45	100	43	100	20	1	8	95	21	0	0	0	2	0	100	100	4	23	2	-0.03	0.03
17:00	118	100	106	98	121	100	113	100	116	100	0	2	41	100	41	100	20	1	7	95	21	0	0	0	2	0	100	100	4	23	2	-0.03	0.11
17:15	120	100	108	100	121	100	114	100	118	100	0	2	41	100	41	100	20	1	8	95	20	0	0	0	2	0	100	100	4	23	2	-0.03	-0.01
17:30	117	100	107	100	124	100	116	100	118	100	0	2	45	100	45	100	91	1	7	20	21	0	0	0	2	0	100	100	4	23	2	-0.01	-0.05
17:45	121	100	107	99	122	100	114	100	116	100	0	2	45	100	44	100	91	1	7	19	29	0	0	0	2	0	100	100	4	12	2	0.01	-0.06
18:00	121	100	106	99	121	100	114	100	116	100	0	2	45	100	43	100	91	1	7	20	20	0	0	0	2	0	100	100	4	23	2	0.05	-0.06
18:15	121	100	107	100	124	100	116	100	116	100	0	2	45	100	44	100	91	1	7	19	20	0	0	0	2	0	100	100	4	22	2	-0.01	-0.06
18:30	123	100	111	100	126	100	118	100	121	100	0	2	47	100	47	100	11	1	8	49	20	0	0	0	2	0	100	100	4	12	2	-0.02	-0.09
18:45	121	100	107	99	122	100	114	100	118	100	0	2	43	100	43	100	20	2	7	95	20	0	0	0	2	0	100	100	4	22	2	-0.03	-0.08
19:00	120	100	106	100	121	100	114	100	116	100	0	2	41	100	41	100	20	1	8	95	51	0	0	0	2	0	100	100	4	22	2	-0.03	0.04
19:15	125	100	111	100	124	100	118	100	121	100	0	2	46	100	46	100	60	1	7	19	21	0	0	0	2	0	100	100	4	22	2	-0.05	-0.03
RUN 3:																																	
20:15	127	100	113	100	124	100	116	100	118	100	0	2	49	100	49	100	11	2	7	20	21	0	0	0	2	0	100	100	4	13	2	-0.03	-0.1
20:30	123	100	111	100	124	100	118	100	121	100	0	2	45	100	45	100	20	2	7	95	21	0	0	0	2	0	100	100	4	22	2	-0.05	0.0
20:45	123	100	107	100	124	100	118	100	121	100	0	2	45	100	43	100	20	1	7	94	21	0	0	0	2	0	100	100	4	22	2	-0.05	-0.1
21:00	120	100	106	100	121	100	114	100	116	100	0	2	41	100	41	100	20	1	8	40	20	0	0	0	2	0	100	100	4	22	2	-0.05	-0.0
21:15	129	100	111	100	126	100	118	100	120	100	0	2	49	100	47	100	63	1	7	10	66	0	0	0	2	0	100	100	4	23	2	-0.09	-0.0
21:30	123	100	111	100	124	100	114	100	118	100	0	2	45	100	43	100	91	1	7	10	21	0	0	0	2	0	100	100	4	12	2	0.04	-0.0
21:45	121	100	107	99	122	100	114	100	118	100	0	2	45	100	43	100	91	1	7	10	59	0	0	0	2	0	100	100	4	12	2	0.03	0.0
22:00	129	100	111	100	124	100	118	100	118	100	0	2	46	100	46	100	10	1	7	44	21	0	0	0	2	0	100	100	4	13	2	0.02	-0.1
22:15	130	100	114	100	130	100	119	100	121	100	0	2	49	100	48	100	21	1	8	20	20	0	0	0	2	0	100	100	4	23	2	-0.04	-0.1
22:30	123	100	107	100	124	100	116	100	116	100	0	2	42	100	42	100	20	2	7	94	21	0	0	0	2	0	100	100	4	22	2	-0.03	0.0
22:45	125	100	111	100	124	100	118	100	121	100	0	2	45	100	43	100	20	2	7	20	20	0	0	0	2	0	100	100	4	22	2	-0.04	-0.1

Damper Legend

DP1A	C Shell water cooled damper
DP2A	C Shell slag damper
DP2	A Shell slag damper
DP1	A Shell water cooled damper
DP4	LMF roof
DP4A	LMF dilution air
DP7A	Ladle tearout
DP7C	Ladle drying
DP8	Ladle dump
DP7B	Ladle preheat
DP3D/DP3C	C Shell canopy
DP3B/DP3A	A Shell canopy
DP5	Caster canopy
DP9	Tundish deskull

MONTH _____		MAGNAHELIC CHECKS		YEAR _____	
COMP. NUMBER	DATE 5/4/00	PRESSURE DIFFERENTIAL IN COMPARTMENTS			
TIME	13:55	13:10	13:25	13:40	13:55
1	6.5	Cleaning	7.0	6.9	7.0
2	6.4	6.5	6.5	6.5	6.5
3	6.5	6.9	6.9	6.9	6.9
4	6.6	6.9	6.9	Cleaning	6.9
5	6.9	7.0	7.0	7.0	6.9
6	7.2	7.2	7.2	7.9	Cleaning
7	7.0	7.0	7.0	7.0	6.5
8	7.0	7.2	7.0	7.5	7.0
9	6.6	7.0	6.9	7.2	6.9
10	6.5	7.2	6.9	7.5	7.0
11	6.4	6.9	6.5	7.0	6.5
12	6.9	7.2	7.0	7.2	7.0
13	7.1	7.2	7.2	7.5	6.9 7.2
14	6.9	7.0	7.0	7.2	6.9
15	6.1	6.5	6.5	6.9	6.5
16	CLEANING	7.2	7.2	7.2	7.0
17	7.5	6.2	7.2	6.5	6.2
18	7.1	7.2	Cleaning	7.5	7.2
19	6.5	6.9	7.0	6.9	6.5
20	6.5	6.9	7.0	7.0	6.9
21	7.0	7.0	7.5	7.2	Cleaning
22	7.5	7.5	8.0	7.9	7.5
23	6.3	6.2	6.5	6.2	6.0
24	7.5	7.5	7.5	7.5	7.2

MONTH _____		MAGNAHELIC CHECKS				YEAR _____	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /
TIME	5/4/00	14:55	15:10	15:35	15:40	15:55	16:10
1	7.0	6.9	7.0	7.0	7.0	Clean	
2	6.9	6.5	6.5	6.5	6.5	6.9	
3	7.0	6.5	6.9	7.0	6.9	7.0	
4	7.0	6.9	7.0	7.0	6.9	7.0	
5	7.0	7.0	7.0	7.0	7.0	7.2	
6	7.5	7.2	7.5	7.5	7.2	7.9	
7	7.5	7.0	7.2	7.2	7.0	7.5	
8	7.5	7.0	7.0	7.2	7.0	7.5	
9	Cleaning	7.0	7.0	7.0	6.9	7.2	
10	7.5	6.9	6.9	7.0	7.0	7.2	
11	7.0	6.5	6.5	6.9	6.5	7.0	
12	7.2	7.0	Cleaning	7.0	7.0	7.2	
13	7.9	7.2	7.5	7.5	7.5	7.5	
14	7.2	6.9	7.2	7.0	Cleaning	7.0	
15	7.0	6.2	6.9	6.9	7.0	6.9	
16	7.5	6.9	7.2	7.0	7.2	7.2	
17	6.9	7.0	7.5	7.2	7.5	7.9	
18	7.5	7.0	7.5	7.2	7.5	7.5	
19	7.0	6.2	6.9	6.9	7.0	7.0	
20	7.2	6.5	7.0	6.9	7.2	7.0	
21	7.2	6.9	7.2	7.0	7.5	7.2	
22	7.9	7.0	7.5	7.5	8.0	8.0	
23	6.5	5.9	6.2	6.2	6.5	6.5	
24	7.5	6.9	7.2	7.2	7.5	7.5	

MONTH _____		MAGNAHELIC CHECKS					YEAR _____	
COMP NUMB	PRESSURE DIFFERENTIAL IN COMPARTMENTS							
	DATE 5 / 4 / 00	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	
TIME	16:30	16:45	17:00	17:15	17:30	17:45	18:00	
1	7.0	6.9	7.0	7.0	7.0	7.1	7.0	
2	6.9	6.5	6.5	6.5	6.5	cleaning	6.5	
3	6.9	6.6	6.2	6.2	7.0	7.3	6.7	
4	7.0	6.9	7.0	7.0	7.0	7.3	7.0	
5	7.0	7.0	7.0	7.0	7.0	7.5	7.0	
6	7.5	7.3	7.6	7.5	7.5	7.9	7.5	
7	7.2	7.0	7.2	7.0	7.0	7.6	7.0	
8	7.2	7.0	7.2	7.0	7.0	7.7	7.0	
9	7.0	6.9	7.0	7.0	6.9	7.5	7.0	
10	cleaning	7.0	7.0	7.0	7.0	7.5	7.0	
11	7.0	6.5	6.6	7.0	6.6	7.1	6.6	
12	7.5	7.0	cleaning	7.2	7.0	7.5	7.0	
13	7.9	7.0	7.5	7.5	7.2	7.5	7.2	
14	7.2	6.7	7.0	7.0	7.0	6.8	7.0	
15	7.0	6.5	6.9	6.7	6.5	6.8	6.5	
16	7.2	7.0	7.5	7.3	cleaning	7.4	7.0	
17	7.5	7.2	7.7	7.5	7.6	7.7	2	
18	7.5	7.0	7.5	7.5	7.5	7.7	7.0	
19	7.0	6.5	7.0	6.9	7.0	6.8	cleaning	
20	7.0	6.5	7.0	7.0	7.0	7.1	7.0	
21	7.2	6.9	7.2	7.0	7.5	7.4	7.2	
22	8.0	7.2	7.5	7.5	8.0	8.0	7.5	
23	6.5	6.0	6.2	6.3	6.5	6.5	6.5	
24	7.5	7.0	7.5	7.5	7.5	7.7	7.5	

MONTH <u>MAY</u>		MAGNAHELIC CHECKS					YEAR <u>2000</u>	
COM. NUMBER	Run 2							
	PRESSURE DIFFERENTIAL IN COMPARTMENTS							
	5 DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	
TIME	18:15	18:30	18:45	19:00	19:15			
1	7.0	6.6	7.0	6.9	7.0			
2	6.5	6.4	6.6	6.6	6.7			
3	coming	6.6	6.8	6.9	6.8			
4	7.2	6.8	6.8	7.0	7.0			
5	7.5	6.9	7.0	7.1	7.1			
6	7.9	7.1	cleaning	7.5	7.6			
7	7.5	6.9	7.0	7.2	7.5			
8	7.5	6.9	7.1	7.2	7.5			
9	7.3	6.7	7.1	7.0	cleaning			
10	7.5	6.8	7.2	7.0	7.5			
11	7.0	6.5	6.8	6.6	7.0			
12	7.5	7.0	7.4	7.1	7.5			
13	7.5	7.1	7.3	7.3	7.6			
14	7.0	6.6	7.0	7.0	7.2			
15	6.6	6.2	6.5	6.6	6.4			
16	7.2	6.9	7.3	7.4	7.4			
17	7.8	7.2	7.5	7.6	7.7			
18	7.5	7.0	7.4	7.2	7.5			
19	6.9	6.4	6.7	6.6	6.9			
20	7.0	6.5	6.9	6.9	7.0			
21	7.	cleaning	7.1	7.1	7.3			
22	7.9	7.6	7.6	7.4	7.9			
23	6.5	6.3	6.2	6.0	6.6			
24	7.5	7.2	7.	7.0	7.7			

MONTH _____		MAGNAHELIC CHECKS					YEAR _____	
COMP. NUMBER	Run 3							
	PRESSURE DIFFERENTIAL IN COMPARTMENTS							
	DATE 5 / 4 / 00	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	DATE / /	
TIME	20:15	20:30	20:45	21:00	21:15	21:30	21:45	
1	6.5	cleaning	6.5	7.0	6.8	6.8	7.0	
2	6.2	6.5	6.2	6.5	6.5	7.2	6.5	
3	6.5	6.6	6.5	cleaning	6.5	6.5	6.8	
4	6.6	6.6	6.5	7.0	6.9	6.7	6.8	
5	6.7	6.9	6.6	7.0	7.0	6.7	7.0	
6	7.0	7.4	7.2	7.5	7.4	cleaning	7.4	
7	7.0	7.0	7.0	7.5	7.0	7.0	7.0	
8	7.0	7.0	7.0	7.5	7.0	7.0	7.0	
9	6.7	6.9	6.7	7.4	6.8	7.0	7	
10	6.7	7.0	6.7	7.4	6.8	7.0	7.0	
11	6.2	6.5	6.3	7.0	6.5	6.6	6.5	
12	6.8	7.0	6.7	7.2	7.0	7.2	7.0	
13	7.0	7.0	7.0	7.5	7.0	7.0	7.2	
14	6.5	6.5	6.5	7.0	6.8	6.8	6.8	
15	6.2	6.2	6.5	6.8	6.5	6.5	6.5	
16	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
17	cleaning	7.0	7.0	7.5	7.0	7.0	7.0	
18	7.5	6.2	cleaning	7.4	7.0	7.0	7.2	
19	6.5	6.2	6.5	6.6	6.5	6.5	6.6	
20	7.0	6.5	6.9	7.0	6.5	6.7	7.0	
21	7.1	6.5	7.0	7.2	cleaning	3.0	7.0	
22	7.8	7.0	7.2	7.5	7.5	7.5	7.8	
23	6.0	6.0	6.0	6.2	6.2	6.0	6.2	
24	7.2	7.0	6.2	7.5	7.5	7.2	cleaning	

MONTH _____		MAGNAHELIC CHECKS				YEAR _____	
NUM ER :	Rum 3						
	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE 5/4/00	DATE / /	DATE / /	END DATE / /	DATE / /	DATE / /	DATE / /
TIME	22:00	22:15	22:30	22:45	23:00		
1	7.0	6.8	6.9	7.0			
2	6.3	6.0	6.4	6.5			
3	6.6	6.5	6.5	7.0			
4	6.8	6.5	6.8	7.0			
5	6.8	6.8	7.0	7.0			
6	7.3	7.3	7.5	7.5			
7	7.2	7.0	7.0	7.0			
8	7.0	7.0	7.0	7.0			
9	cleaning	6.8	6.8	7.0			
10	7.0	6.8	7.0	7.0			
11	6.8	6.5	6.5	6.5			
12	7.3	7.0	cleaning	7.0			
13	7.2	7.0	7.0	7.0			
14	6	6.5	3.0	6.8			
15	6.5	6.2	6.8	6.5			
16	7.0	6.8	7.2	7.0			
17	7.0	7.0	3.5	7.2			
18	7.0	7.0	7.0	7.0			
19	6.5	6.5	6.8	6.5			
20	6.5	6.5	7.0	6.5			
21	7.0	6.9	7.0	7.0			
22	7.5	7.2	7.5	7.5			
23	6.0	6.0	6.3	a			
24	7.2	7.2	7.5	7.5			



March 31, 2000

Mr. Gerald Slucher
Source Sampling and Data Management
Section
Technical Services Branch
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601-1403

RE: Gallatin Steel Company, Warsaw, KY, ID # 079-1380-0018
Permit Number F-96-009 (Revision 1)
Compliance Test Protocol for Emissions Testing

Dear Mr. Slucher:

Gallatin Steel's air testing firm, Ambient Air Services, Inc., is scheduled to be at Gallatin Steel the first week of May to conduct emissions testing on emission point E I (01) for NO_x and SO₂. In accordance with the conditions in our permit, we are not required to conduct testing for VOC, PM, CO, and lead emissions this year based on our test results for the last two years (1998 and 1999).

The protocol submitted to your attention on January 7, 1998 will be followed for the testing of NO_x and SO₂, with the following listed changes.

- 1) For NO_x, three runs each of 3 heat cycles in duration will be performed with the inlet probe being positioned in the discharge plenum of the baghouse.
- 2) For SO₂, in order to obtain statistically valid sampling of levels in the baghouse (since there is not homogeneity in the baghouse), we will be testing compartments in pairs (instead of testing one single compartment) over a total of four runs, each run consisting of three heats. We are requesting to test 8 of the 24 compartments during the four runs, two compartments tested during each run. The results of the sampling will provide more accurate information and will produce an average ppm level for the baghouse emissions. Please note that 40 CFR 60 supports and addresses multiple measurement sites for correctly testing particulate emissions. This same logic is also applicable to SO₂ emissions, and supports the use of an "alternate" method to produce more accurate results.

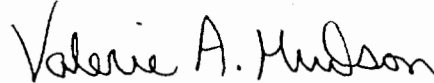
The performance testing is tentatively scheduled to begin on May 5 and we will provide you with notification of the exact test date and start time at least 10 days prior to the testing. A source testing report which presents the results of the performance tests will be submitted to the DAQ within 45 days after the completion of the fieldwork in accordance with the permit.



Letter to Gerald Slucher
March 31, 2000
Page Two

If you have any questions or comments, please contact me at the address below or by telephone at 606-567-3141.

Sincerely yours,

A handwritten signature in black ink that reads "Valerie A. Hudson". The signature is written in a cursive style with a large initial "V".

Valerie A. Hudson, P.E.
Process Manager - Environmental Systems

cc: Dan Gray, DAQ
John Allen, DAQ-Regional Office
✓ Joe Cooksey, Ambient Air Services, Inc.

JAMES E. BICKFORD
SECRETARY



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT KY 40601-1403

May 5, 2000

Ms. Valerie Hudson
Manager, Environmental Systems
Gallatin Steel Company
US Highway 42, Route 1, Box 320
Ghent, Kentucky 41045

RE: ID# 079-1380-0018
Permit # F-96-009 (Revision 1)

Dear Ms. Hudson:

The Division acknowledges the receipt on April 5, 2000, of the test protocol for emission point E1 (01). The Division has reviewed the protocol and concurs that the appropriate test methods are being utilized.

If you have any questions regarding this matter, please contact me at (502)573-3382, Extension 324.

Sincerely,

A handwritten signature in black ink, appearing to read "Forrest E. Frazier, Jr.", written over a horizontal line.

Forrest E. Frazier, Jr., Supervisor
Metallurgy Section
Permit Review Branch

FEFIAJW

cc: William A. Clements / Regional Office
Source file / 5



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APPENDIX G

PROJECT PARTICIPANTS

PROJECT PARTICIPANTS

AMBIENT AIR SERVICES, INC.

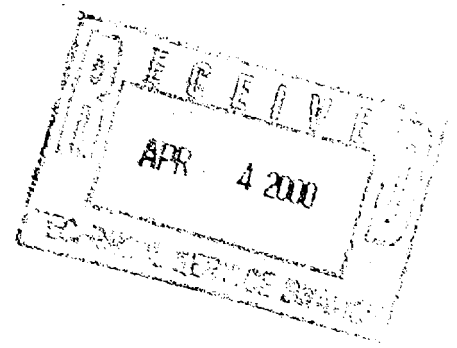
Joe Cooksey
Earl Coggins
Melvin Petit

GALLATIN STEEL

Valerie Hudson
Joe Dougherty

STATE OBSERVER

Gerald Slucher



March 31, 2000

Mr. Gerald Slucher
Source Sampling and Data Management
Section
Technical Services Branch
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601-1403

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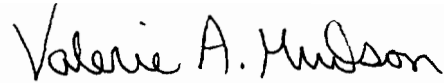
The performance testing is tentatively scheduled to begin on May 5 and we will provide you with notification of the exact test date and start time at least 10 days prior to the testing. A source testing report which presents the results of the performance tests will be submitted to the DAQ within 45 days after the completion of the fieldwork in accordance with the permit.



Letter to Gerald Slucher
March 31, 2000
Page Two

If you have any questions or comments, please contact me at the address below or by telephone at 606-567-3141.

Sincerely yours,

A handwritten signature in black ink that reads "Valerie A. Hudson". The signature is written in a cursive style with a large, stylized 'V' and 'H'.

Valerie A. Hudson, P.E.
Process Manager - Environmental Systems

cc: Dan Gray, DAQ
John Allen, DAQ-Regional Office
Joe Cooksey, Ambient Air Services, Inc.

TIME	OBSERVED CONCENTRATION PPM			COMMENTS	CALIBRATION CORRECTIONS				CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR			
	NOX COMP 7	SO2 IN	SO2 OUT		NOX 7	SO2 IN		SO2 OUT	NOX - 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TONS/HR	NOX LBS/TON	SO2 LBS/TON		
5/4/2000 20:06	4.6	11.9	5.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	4.6	12.1	5.7	833791	74919	225540	1134250	16.2	29.0	25.4	199	0.08	0.14
5/4/2000 20:06	4.0	12.1	5.7	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	4.0	12.3	5.6	833791	74919	225540	1134250	12.7	27.0	22.6	199	0.06	0.12
5/4/2000 20:07	3.5	12.1	6.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	3.5	12.3	5.9	833791	74919	225540	1134250	13.2	24.9	19.1	199	0.07	0.11
5/4/2000 20:06	2.9	12.2	6.6	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.9	12.4	6.4	833791	74919	225540	1134250	11.2	23.9	21.9	199	0.06	0.12
5/4/2000 20:08	2.4	12.2	7.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	12.4	6.9	833791	74919	225540	1134250	10.2	25.3	24.0	199	0.05	0.12
5/4/2000 20:10	2.9	12.2	5.6	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.9	12.4	5.5	833791	74919	225540	1134250	13.7	26.3	25.4	199	0.06	0.13
5/4/2000 20:11	3.9	10.7	3.0	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	4.0	10.8	2.8	833791	74919	225540	1134250	16.7	29.0	29.6	199	0.07	0.14
5/4/2000 20:12	6.6	6.2	3.0	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	6.5	6.2	2.9	833791	74919	225540	1134250	16.7	29.0	31.0	199	0.08	0.15
5/4/2000 20:13	8.1	3.3	2.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	8.0	3.3	2.7	833791	74919	225540	1134250	13.7	33.1	42.2	199	0.07	0.19
5/4/2000 20:14	6.5	2.7	2.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	6.4	2.7	2.8	833791	74919	225540	1134250	10.2	30.4	35.2	199	0.08	0.16
5/4/2000 20:15	4.5	2.6	2.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	4.5	2.5	2.7	833791	74919	225540	1134250	13.7	33.1	42.2	199	0.07	0.19
5/4/2000 20:16	2.9	2.7	2.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.9	2.6	2.6	833791	74919	225540	1134250	14.2	36.2	42.5	199	0.07	0.20
5/4/2000 20:17	1.9	2.6	2.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.0	2.6	2.2	833791	74919	225540	1134250	18.7	39.6	43.6	199	0.09	0.21
5/4/2000 20:18	1.5	2.4	2.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.6	2.4	2.0	833791	74919	225540	1134250	21.2	40.3	45.0	199	0.11	0.21
5/4/2000 20:19	1.6	2.3	1.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	2.3	2.8	833791	74919	225540	1134250	24.7	40.6	42.9	199	0.12	0.21
5/4/2000 20:20	1.3	2.2	2.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.4	2.1	1.9	833791	74919	225540	1134250	25.2	41.6	46.7	199	0.13	0.22
5/4/2000 20:21	1.2	2.3	2.2	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.3	2.2	2.1	833791	74919	225540	1134250	22.7	44.0	55.5	199	0.11	0.25
5/4/2000 20:22	1.3	2.4	2.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.4	2.3	2.2	833791	74919	225540	1134250	21.2	49.1	53.4	199	0.11	0.26
5/4/2000 20:23	1.6	2.4	2.7	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	2.3	2.8	833791	74919	225540	1134250	16.7	50.5	48.5	199	0.08	0.25
5/4/2000 20:24	2.0	2.6	2.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.1	2.6	2.7	833791	74919	225540	1134250	11.7	40.3	42.9	199	0.06	0.21
5/4/2000 20:25	1.9	2.7	3.2	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.0	2.7	3.1	833791	74919	225540	1134250	9.7	38.6	36.9	199	0.05	0.19
5/4/2000 20:26	1.6	3.0	3.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	2.9	3.7	833791	74919	225540	1134250	24.7	40.6	42.9	199	0.12	0.21
5/4/2000 20:27	1.7	3.2	3.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	3.2	3.8	833791	74919	225540	1134250	25.2	41.6	46.7	199	0.13	0.22
5/4/2000 20:28	2.2	3.5	4.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.3	3.5	3.9	833791	74919	225540	1134250	22.7	44.0	55.5	199	0.11	0.25
5/4/2000 20:29	2.6	3.6	4.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.6	3.6	4.0	833791	74919	225540	1134250	21.2	49.1	53.4	199	0.11	0.26
5/4/2000 20:30	3.0	3.6	3.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.0	3.6	3.8	833791	74919	225540	1134250	16.7	50.5	48.5	199	0.08	0.25
5/4/2000 20:31	3.1	3.7	4.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.1	3.7	4.1	833791	74919	225540	1134250	11.7	40.3	42.9	199	0.06	0.21
5/4/2000 20:32	2.7	3.9	5.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.8	3.9	4.8	833791	74919	225540	1134250	9.7	38.6	36.9	199	0.05	0.19
5/4/2000 20:33	2.6	4.3	4.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.6	4.3	4.7	833791	74919	225540	1134250	24.7	40.6	42.9	199	0.12	0.21
5/4/2000 20:34	2.0	4.5	4.4	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.1	4.5	4.3	833791	74919	225540	1134250	25.2	41.6	46.7	199	0.13	0.22
5/4/2000 20:35	1.4	3.7	3.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.4	3.6	3.8	833791	74919	225540	1134250	22.7	44.0	55.5	199	0.11	0.25
5/4/2000 20:36	1.1	3.4	3.4	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.2	3.4	3.3	833791	74919	225540	1134250	21.2	49.1	53.4	199	0.11	0.26
5/4/2000 20:37	1.1	3.4	2.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.2	3.4	2.8	833791	74919	225540	1134250	9.7	38.2	31.3	199	0.05	0.17
5/4/2000 20:38	1.1	3.0	2.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.2	3.0	2.6	833791	74919	225540	1134250	9.7	33.5	29.9	199	0.05	0.16
5/4/2000 20:39	1.2	2.7	2.9	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.3	2.7	2.8	833791	74919	225540	1134250	10.2	30.4	31.3	199	0.05	0.16
5/4/2000 20:40	1.6	2.6	3.2	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	1.6	2.6	3.1	833791	74919	225540	1134250	13.2	29.4	34.8	199	0.07	0.16
5/4/2000 20:41	2.1	2.7	3.7	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.2	2.7	3.6	833791	74919	225540	1134250	17.7	30.4	40.4	199	0.09	0.18
5/4/2000 20:42	2.9	3.1	5.4	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.0	3.0	5.2	833791	74919	225540	1134250	24.2	34.5	58.7	199	0.12	0.23
5/4/2000 20:43	4.6	4.1	6.1	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	4.6	4.1	5.9	833791	74919	225540	1134250	37.7	46.7	86.7	199	0.19	0.29
5/4/2000 20:44	6.5	5.0	6.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	6.4	5.0	5.8	833791	74919	225540	1134250	52.2	56.6	65.3	199	0.26	0.31
5/4/2000 20:45	5.5	5.3	6.3	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	5.4	5.4	6.1	833791	74919	225540	1134250	44.2	60.7	69.2	199	0.22	0.33
5/4/2000 20:46	4.3	5.4	5.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	4.3	5.4	4.8	833791	74919	225540	1134250	35.2	61.3	54.5	199	0.18	0.29
5/4/2000 20:47	3.4	4.9	3.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	3.5	4.9	3.7	833791	74919	225540	1134250	28.2	55.6	41.5	199	0.14	0.24
5/4/2000 20:48	2.7	4.4	3.8	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.8	4.4	3.7	833791	74919	225540	1134250	22.7	49.4	41.8	199	0.11	0.23
5/4/2000 20:49	2.4	3.8	3.0	RUN 3	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	3.8	2.9	833791	74919	225540	1134250	19.7	42.6				

TIME	NOX COMP 7	COMMENTS	UNADJUSTED CORRECTIONS				CORRECTED PPM VALUES			FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR					
			NOX 7	SO2 IN	SO2 OUT	NOX 7	SO2 IN	SO2 OUT	COLD-1	COLD-2	HOT	TOTAL	NOX LBS/HR	SO2 IN LBS/HR	SO2 OUT LBS/HR	PRODUCTION TON/HR	NOX	SO2 LBS/TON					
5/4/2000 19:10	5.3	0.3	0.9	-0.1	25.2	0.1	12.3	0.1	12.6	5.3	0.3	0.8	833791	74919	225540	1134250	43.0	2.9	8.6	198	0.22	0.03	
5/4/2000 19:11	7.6	0.4	2.0	-0.1	25.2	0.1	12.3	0.1	12.6	7.8	0.3	1.9	833791	74919	225540	1134250	61.6	3.9	21.8	198	0.31	0.06	
5/4/2000 19:12	10.6	0.5	2.7	-0.1	25.2	0.1	12.3	0.1	12.6	10.6	0.4	2.6	833791	74919	225540	1134250	85.8	4.2	29.4	198	0.43	0.08	
5/4/2000 19:13	11.5	0.5	2.5	-0.1	25.2	0.1	12.3	0.1	12.6	11.4	0.4	2.4	833791	74919	225540	1134250	92.9	4.6	26.9	198	0.47	0.08	
5/4/2000 19:14	8.6	0.4	1.7	-0.1	25.2	0.1	12.3	0.1	12.6	8.6	0.3	1.6	833791	74919	225540	1134250	69.7	3.9	18.6	198	0.35	0.06	
5/4/2000 19:15	8.9	0.4	1.4	-0.1	25.2	0.1	12.3	0.1	12.6	8.9	0.3	1.3	833791	74919	225540	1134250	72.2	3.2	14.3	198	0.36	0.04	
5/4/2000 19:16	8.8	0.3	1.3	-0.1	25.2	0.1	12.3	0.1	12.6	8.8	0.2	1.2	833791	74919	225540	1134250	71.2	2.5	13.2	198	0.36	0.04	
5/4/2000 19:17	6.3	0.3	1.3	-0.1	25.2	0.1	12.3	0.1	12.6	6.3	0.2	1.2	833791	74919	225540	1134250	51.0	2.2	13.6	198	0.26	0.04	
5/4/2000 19:18	3.9	0.3	1.5	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	RUN 2 AVERAGES												
5/4/2000 19:19	2.9	0.3	1.9	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	3.4	0.5	1.8	833791	74919	225540	1134250	28.0	5.9	20.8	198.0	0.14	0.07
5/4/2000 19:20	2.4	0.3	2.2	CALS	-0.1	25.2	0.1	12.3	0.1	12.6													
5/4/2000 19:21	2.3	0.3	2.3	CALS	-0.1	25.2	0.1	12.3	0.1	12.6	2.4	0.3	2.2	833791	74919	225540	1134250						
5/4/2000 19:22	2.0	0.3	1.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.1	0.2	1.5	833791	74919	225540	1134250						
5/4/2000 19:23	1.8	0.4	1.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	0.3	1.8	833791	74919	225540	1134250						
5/4/2000 19:24	1.6	0.4	2.7	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	0.3	2.8	833791	74919	225540	1134250						
5/4/2000 19:25	1.6	0.5	2.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	0.4	2.0	833791	74919	225540	1134250						
5/4/2000 19:26	1.7	0.5	0.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	0.4	0.5	833791	74919	225540	1134250						
5/4/2000 19:27	1.7	0.5	0.2	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.7	0.4	0.2	833791	74919	225540	1134250						
5/4/2000 19:28	1.4	0.5	0.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.4	0.4	0.1	833791	74919	225540	1134250						
5/4/2000 19:29	1.0	0.5	0.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.1	0.4	0.0	833791	74919	225540	1134250						
5/4/2000 19:30	0.8	0.6	0.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.5	0.0	833791	74919	225540	1134250						
5/4/2000 19:31	0.7	0.8	0.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.8	0.5	0.0	833791	74919	225540	1134250						
5/4/2000 19:32	0.7	0.7	0.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.8	0.6	0.5	833791	74919	225540	1134250						
5/4/2000 19:33	0.7	0.7	5.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.8	0.8	4.9	833791	74919	225540	1134250						
5/4/2000 19:34	0.7	0.8	8.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.8	0.8	9.8	833791	74919	225540	1134250						
5/4/2000 19:35	0.6	0.8	11.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.7	0.8	11.5	833791	74919	225540	1134250						
5/4/2000 19:36	0.5	0.6	12.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.6	0.5	11.7	833791	74919	225540	1134250						
5/4/2000 19:37	0.5	0.5	12.2	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.6	0.4	11.9	833791	74919	225540	1134250						
5/4/2000 19:38	0.5	0.5	12.4	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.6	0.4	12.0	833791	74919	225540	1134250						
5/4/2000 19:39	0.6	0.5	12.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.7	0.4	12.1	833791	74919	225540	1134250						
5/4/2000 19:40	0.9	0.5	12.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.4	12.2	833791	74919	225540	1134250						
5/4/2000 19:41	0.9	0.5	12.4	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.4	12.1	833791	74919	225540	1134250						
5/4/2000 19:42	0.9	0.5	8.0	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.4	7.8	833791	74919	225540	1134250						
5/4/2000 19:43	0.8	0.5	3.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.4	3.3	833791	74919	225540	1134250						
5/4/2000 19:44	0.8	0.5	1.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.4	1.4	833791	74919	225540	1134250						
5/4/2000 19:45	0.8	0.4	0.7	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.3	0.7	833791	74919	225540	1134250						
5/4/2000 19:46	0.9	0.5	0.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.9	0.4	0.4	833791	74919	225540	1134250						
5/4/2000 19:47	2.4	0.5	0.4	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.4	0.4	0.7	833791	74919	225540	1134250						
5/4/2000 19:48	22.7	0.5	1.4	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	22.4	0.4	1.3	833791	74919	225540	1134250						
5/4/2000 19:49	24.9	0.4	1.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	24.5	0.3	1.4	833791	74919	225540	1134250						
5/4/2000 19:50	25.1	0.4	1.6	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	24.7	0.3	1.6	833791	74919	225540	1134250						
5/4/2000 19:51	25.0	0.4	1.6	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	24.8	0.3	1.5	833791	74919	225540	1134250						
5/4/2000 19:52	22.9	0.5	1.0	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	22.5	0.4	0.9	833791	74919	225540	1134250						
5/4/2000 19:53	1.8	0.5	0.5	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	1.9	0.4	0.4	833791	74919	225540	1134250						
5/4/2000 19:54	-0.1	0.6	0.3	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.0	0.5	0.2	833791	74919	225540	1134250						
5/4/2000 19:55	-0.1	0.6	0.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.0	0.5	0.0	833791	74919	225540	1134250						
5/4/2000 19:56	-0.1	0.7	0.1	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.0	0.6	0.0	833791	74919	225540	1134250						
5/4/2000 19:57	-0.1	0.9	0.2	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.0	0.8	0.2	833791	74919	225540	1134250						
5/4/2000 19:58	0.2	1.8	0.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	0.3	1.7	0.5	833791	74919	225540	1134250						
5/4/2000 19:59	2.1	0.4	0.8	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	2.2	0.3	0.8	833791	74919	225540	1134250						
5/4/2000 20:00	2.9	0.2	0.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	3.0	0.3	0.8	833791	74919	225540	1134250						
5/4/2000 20:01	7.1	0.1	1.0	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	7.1	0.0	1.0	833791	74919	225540	1134250						
5/4/2000 20:02	9.4	1.0	2.0	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	9.3	1.0	1.9	833791	74919	225540	1134250						
5/4/2000 20:03	8.7	8.4	2.9	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	8.6	8.5	2.8	833791	74919	225540	1134250						
5/4/2000 20:04	6.1	11.4	5.3	CALS	-0.1	25.3	0.1	12.3	0.1	12.9	6.1	11.6	5.1	833791	74919	225540	1134250						

SECTION B -- EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

01 (EI)

Description:

Existing melt shop, consisting of the following:

Twin-Shell DC EAF & continuous caster
Ladle and tundish bricking, deskulling, and brick tear-out
Shell bricking and brick tear-out
Two LMF's
One tundish dryer, 1.5 MMBtu/hr
One ladle dryer, 8 MMBtu/hr
Three ladle preheaters, 10 MMBtu/hr, each
Two tundish preheaters, 10 MMBtu/hr, each
Two tundish casting nozzle preheaters, 5 MMBtu/hr, each
Two stirring stations
Dump pit for handling used refractory materials
Scrap cutting from slag pot
Control Equipment: positive pressure fabric filter baghouse
Construction commenced: April, 1993

APPLICABLE REGULATIONS:

- A. 401 KAR 51:017, Prevention of significant deterioration of air quality.
- B. 401 KAR 60:005 40 CFR standards of performance for new sources. Section 3. (1) (dd), Standards of performance for steel plants: electric arc furnaces and argon-oxygen decarburization vessels constructed after August 17, 1983 (40 CFR Part 60, Subpart AAa).
- C. 401 KAR 59:010, New process operations.

1. Operating; Limitations :

- a. The following raw materials usage rates (including the replacement of the heel) shall not be exceeded: Scrap/substitutes: 270 tons/heat, Lime: 12 tons/heat, and Carbon/substitutes: 7 tons/heat. (Limit on PTE).

Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, **Kentucky** 40601
(502) 573-3382

AIR QUALITY PERMIT

Permittee Name: **Gallatin** Steel Company
Mailing Address: RR #1, Box 320, Ghent, KY 41045

is authorized to operate a steel mill and to **construct/operate** a second **melt** shop with associated equipment and a caster and tunnel furnace.

Source Name: **Gallatin** Steel Company
Mailing Address: **RR#1**, Box 320, Ghent, KY 41045
Source Location: U.S. Highway 42 West, Warsaw, Kentucky

Permit Type: Federally-Enforceable
Review Type: PSD, Title V

Permit Number: V-99-003 (Revision 2)
Log Number: 54190,53839, F690
Application
Complete Date: November 26,2001 (**54190**), May 21,2001 (**53839**), June 23,1998 (**F690**)

AFS Plant ID #: 21-077-00018
SIC Code: 3312

Region: CINCINNATI
County: **Gallatin**

Issuance Date: June 22,2000
Revision 1 Date: August 27,2001
Revision 2 Date: December 10,2001
Expiration Date: June 22,2005

John E. Hornback, Director
Division for Air Quality

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SECTION A -- PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto and shall become the final permit unless the U.S. EPA files an objection pursuant to 401 KAR 52:100, Section 10.

The permittee shall not construct, reconstruct, or modify any affected facilities without ~~first~~ having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

Prior to commencing construction on 02(E2), the permittee is responsible for demonstrating that all BACT requirements for all emission units in the new meltshop have not changed from the BACT requirements in F-96-009(Revision 1). If any BACT requirements have changed, the permittee shall meet all new BACT requirements. Additionally, if any parameters changed that affect the modeled ambient impacts in F-96-009(Revision 1), the permittee shall be responsible for performing additional appropriate modeling analyses.

Gallatin Steel Company, and the adjacent slag processing plant, AFS # 21-077-00020, and the industrial gas plant, AFS # 21-077-00023, are considered by the Kentucky Division for Air Quality and the US EPA Region IV to be one source as defined in 401 KAR 51:017, Prevention of significant deterioration of air quality (PSD). Each is responsible and liable for their own violations unless there is a joint cause for the violations.


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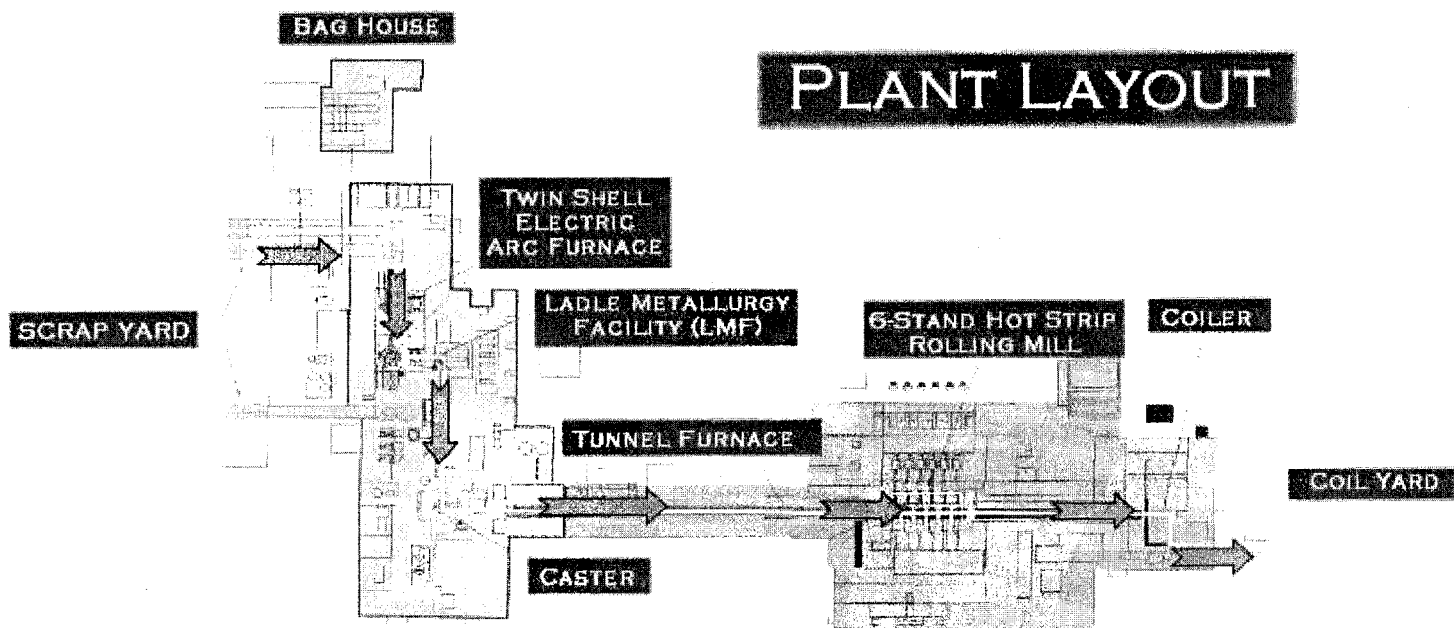
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PROCESS OVERVIEW

Gallatin Steel recycles scrap steel to make new hot-rolled steel coils, using a continuous Compact Strip Production or CSP process. Quality is one of our core business values, and we are ISO 9002 certified.

Reclaimed metals from sources including junked automobiles, demolished buildings and bridges, railroad wheels and old household appliances are delivered to our site via truck, rail and barge. The reclaimed metals are stored in our Scrap Yard until the metals are carried into the Melt Shop and charged in a twin-shell electric arc furnace (**EAF**).

The **EAF** melts the scrap steel by striking an electric arc that radiates energy to the scrap charge.

The molten steel is transferred to the Ladle Metallurgy Facility (**LMF**). At the **LMF**, the molten metal is refined by making alloy additions and

adjusting the ladle temperature. Once the steel meets the required chemistry and temperature, the ladle is taken to the Caster, and positioned on the rotating turret.

The caster pours the steel into a vertical water-cooled copper mold, which forms a shell the required thickness and width of the slab. The shell is then drawn down through the cooling spray chamber by rollers, solidifying as it travels. The continuous strand exits at the bottom of the machine, and is sheared into slabs of specified lengths, which then enter the tunnel furnace.

The slabs move through the Tunnel Furnace and into the Rolling Mill, where six rolling stands reduce the slabs to the final thickness at a mill exit speed of about 25 mph.

A Coiler at the end of the line captures and wraps the strip into coils suitable for shipping. The coils are banded, marked, weighed and moved to the coil yard for cooling. Coils are cool enough to ship in about 2 days.

The coils are loaded on trucks, outbound rail cars or river barges for transport to the customer.

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MELT SHOP

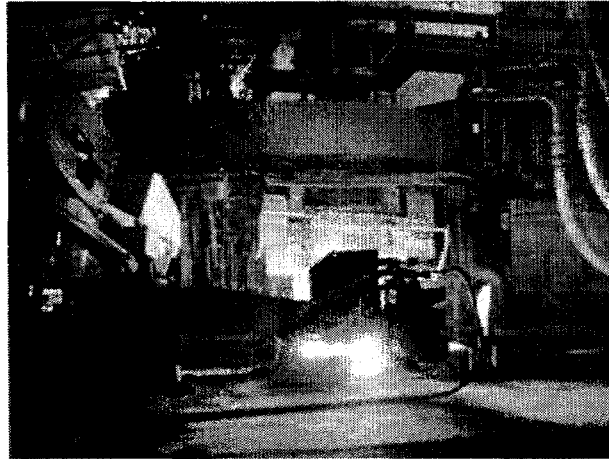
The Melt Shop melts the scrap charge to liquid steel at the required temperature and chemical analysis. It uses large amounts of electric power.

- ▶ The melting equipment consists of a twin-shell DC electric arc furnace, powered by a shared set of electrical equipment operating at up to 850 volts and 135,000 amps.
- ▶ Oxy-fuel burners placed at strategic locations around the furnace supply additional energy. A lance system is used to inject oxygen to decarbonize the steel. The lance can also inject anthracite carbon to produce a foamy slag.
- ▶ When the furnace is ready for scrap charging, an overhead crane brings a "clamshell" bucket over the furnace top and opens the bottom, charging the scrap into the furnace.
- ▶ The process of melting a charge of scrap is called a heat. The melt shop computer system identifies each production batch with a unique heat number. To begin melting, the single 30" diameter graphite electrode is lowered into the furnace, and an electric arc is struck between the top and bottom electrodes.



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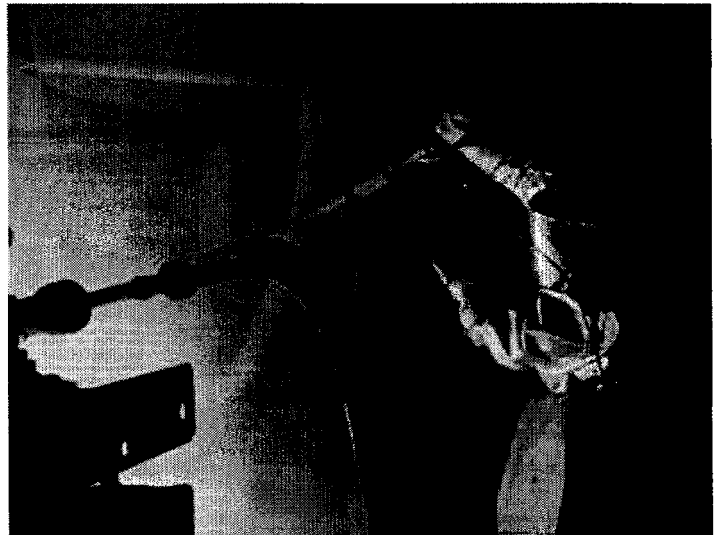
- ▶ The arc is like a captive lightning bolt, and radiates energy to the scrap charge from its 4000° F core, quickly boring its way down through the packed scrap. During the heat, the arc voltage is adjusted several times by the programmable controller, or PLC, which controls the furnace.



- ▶ A foamy slag is created, which protects the water cooled panels that make up the walls of the furnace and aids in heat transfer to the scrap.

- ▶ Oxygen is blown in to remove carbon and other oxidizable elements from the steel bath. It normally takes 50 to 60 minutes to melt a heat of steel and tap the furnace into a waitina ladle.

- ▶ Tapping necessitates tilting the furnace forward until liquid steel runs out of the tap hole into a ladle waiting below. The ladle sits on the platform of a transfer car, which is moved into position under the furnace.



- ▶ Some steel is always left in the furnace. The residual amount is called a heel. The heel protects the bottom electrode when scrap drops into the furnace and helps to maintain the furnace temperature.

When the steel in the ladle reaches a target weight, the furnace moves back into its level position, and the gate is closed.

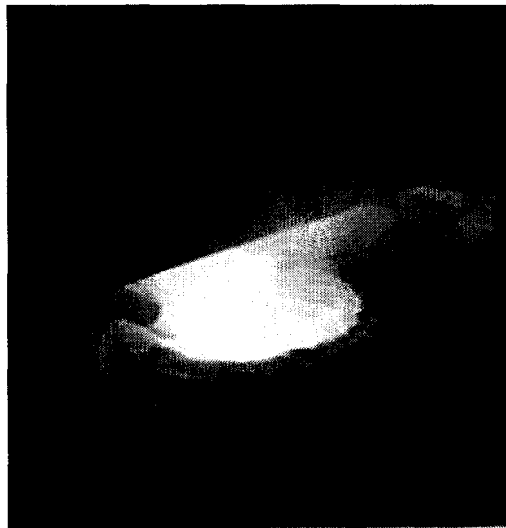
- ▶ Temperatures and samples for analysis

are taken with an automated mechanical arm. This is safer and more reliable than taking them manually. The temperature of the steel at tap is about 2960° F.

- The operators send samples of the steel to a Chemical Laboratory using a system of pneumatic tubes. The samples are analyzed on a high-tech optical emission spectrometer, and the results are sent by computer network back to the furnace operator to show the chemical composition of the steel.

- Based on the sample results, the operators can adjust the chemistry to meet specifications by making alloy additions at tap.

After tap, the ladle of steel is lifted to the LMF car by crane.



Tapping Molten Metal from Electric Arc Furnace

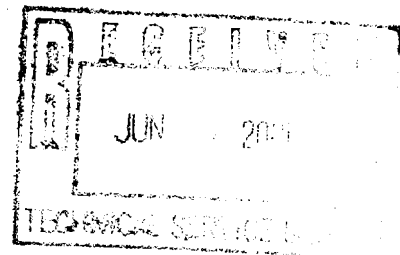
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GSC today

interoffice
MEMORANDUM



to: Jerry Slucher
from: Edd Frazier *Edd*
subject: Stack test review
date: June 8, 2001

Re: Gallatin Steel
21-077-00018/5

Please review the attached test report. This test was performed on May 3, 2001, and the NOx and SO2 emissions from the baghouse for the EAF were determined. Please inform me of your findings when your review is done.

attachment



GALLATIN
STEEL

ISO 9002 CERTIFIED
QS 9000 CERTIFIED

5 3 8 6 9

May 31, 2001

RECEIVED

JUN 4 2001

Mr. Edd Frazier
Permit Review Branch
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601-1403

PERMIT REVIEW BRANCH
DIVISION FOR AIR QUALITY

RE: Air Emissions Performance Testing – May 2001
Gallatin Steel Company, Warsaw, Kentucky
AFS Plant I.D. # 21-077-00018, Permit # V-99-003

Dear Edd:

Enclosed is the test report prepared by Ambient Air Services, Inc. for the air emissions performance testing conducted at Gallatin Steel Company on May 3, 2001 for SO_x and NO_x.

Data sheets for the baghouse pressure drops, furnace shell pressures, fan amperes and damper positions are included in Appendix F of the report with the production data. The sulfur content of the charge carbon used during the test was 0.54%.

The amount of injection carbon used per heat was requested by the DAQ to be collected during the testing and Gallatin Steel considers this information confidential information. Gallatin Steel Company requests that this information be afforded confidential treatment pursuant to the provisions of 400 KAR 1:060. This information is enclosed on a separate sheet and is marked "Confidential Information, Property of Gallatin Steel". Gallatin Steel is furnishing the enclosed "Statement of Basis for Claim of Confidentiality, Air Emissions Testing" as provided by 400 KAR 1:060 Section 3.

If you have any questions regarding the request for confidential treatment of information or if you have any questions regarding the test report, please feel free to contact me at (859) 567-3141.

Sincerely yours,

Valerie A. Hudson, P.E.
Process Manager – Environmental Systems

R.R. 1 Box 320
Ghent, Ky 41045-9704
859.567.3100
859.567.3165 fax
www.gallatinsteel.com

**EMISSIONS TEST REPORT FOR
SULFUR DIOXIDE AND OXIDES OF NITROGEN**

**GALLATIN STEEL COMPANY
GHENT, KENTUCKY
(PERMIT NUMBER V-99-003)**

MAY 3, 2001

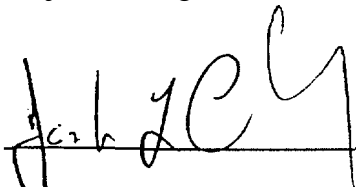
**AMBIENT AIR SERVICES, INC.
106 AMBIENT AIR WAY
STARKE, FLORIDA 32091
(904) 9648440**

Ambient Air Services, Inc. of Starke, Florida, has completed the testing described in this report for the Gallatin Steel Company, Ghent, Kentucky facility. To the best of our knowledge and abilities we certify that all information, facts and test data are true and correct. Information supplied to AASI for use in this report from Gallatin Steel is perceived to be accurate and is used as such where necessary.

Test Team Leader:

Earl D. Coggins

Project Manager:



Joseph L. Cooksey

GALSTLEAF

Facility Gallatin Steel
 Source Type Electric Arc Furnace
 Performed By Ambient Air Services Req. by E. Frazier Rvwed. By Slucher
 Date Performed 5/3/2001 Received 6/8/01 Reviewed 6/19/01

=====
 PARTICULATE

	Run #1	Run #2	Run #3
-----	-----	-----	-----
Cp	0.84	0.84	0.84
Theta,min.	252	252	252
Cold Duct 1			
As1,ft2	201.062	201.062	201.062
Ts1,degF	100.5	136.6	118.3
Ps1,in.Hg.	29.49	29.37	29.38
DELP1sqr	1.3743	1.4183	1.4069
Cold Duct 2			
As2,ft2	78.54	78.54	78.54
Ts2,degF	100.1	106.2	95.5
Ps2,in.Hg.	29.59	29.48	29.48
DELP2sqr	0.3707	0.0713	0.0213
LMF Duct			
As3,ft2	19.635	19.635	19.635
Ts3,degF	158.3	159	177.3
Ps3,in.Hg.	29.43	29.32	29.35
DELP3sqr	0.3272	0.2231	0.3519
Furnace A Duct			
As4,ft2	63.617	63.617	63.617
Ts4,degF	544.1	123.5	50.6
Ps4,in.Hg.	29.42	29.39	29.23
DELP4sqr	0.875	0.2356	0.2735
Furnace C Duct			
As5,ft2	78.54	78.54	78.54
Ts5,degF	103.4	510.2	504.3
Ps5,in.Hg.	29.42	29.37	29.35
DELP5sqr	0.3462	0.7997	0.8919
Asout,ft2	12069.79	12069.79	12069.79
Gamma	0.992	0.992	0.992
Tm,degF	77.3	535.6	76.5
Ps,in.Hg.	29.74	29.66	29.66
Pbar,in.Hg.	29.74	29.66	29.66
Vlc,ml.	28.1	16.5	16.3
Vm.ft3.	64.155	31.921	32.081
DELH,in.H2O	1.741	1.9	1.9
CO2%	0	0	0
O2%	20.9	20.9	20.9
CO%	0	0	0
N2%	79.1	79.1	79.1
Vwstd,ft3	1.32351	0.77715	0.76773
Vmstd,ft3.	62.4065649	16.719136	31.181744
Bws	0.02076743	0.044418	0.0240295
Md	28.836	28.836	28.836
Ms	28.6109641	28.3546866	28.5756163

GALSTLEAF

vs1, ft/sec	80.4378262	86.2064839	83.8514796
vs2, ft/sec	21.6526595	4.21398418	1.24209466
vs3, ft/sec	20.1347455	13.8243617	22.0284517
vs4, ft/sec	68.6283503	14.1572239	15.3560716
vs5, ft/sec	20.3396047	61.9851898	68.6775818
Q1std, dscf/hr.	52935706.7	51800264.3	53106710.7
Q2std, dscf/hr.	5589085.74	1046123.02	320995.604
Q3std, dscf/hr.	1170650.62	780531.905	1235063.09
Q4std, dscf/hr.	7957958.71	2753920.25	3467459.48
Q5std, dscf/hr.	5189415.75	8946699.62	10179159.2
Qtotal, dscf/min	1214046.96	1088792.32	1138489.8
vs, out ft/sec	0.02794044	0.02505779	0.02620155

NITROGEN OXIDES

ppm	1.8	1.7	1.6
tons/hr	184.8	195	191.6
lb/scf	2.15E-07	2.0308E-07	1.911E-07
lb/hr	15.663239	13.2668418	13.056378
lbs/ton	0.0847578	0.06803509	0.0681439

Avg lbs/ton 0.0736456

SULFUR DIOXIDE

ppm	2.615	2.3	3.635
tons/hr	184.8	195	191.6
lb/scf	4.349E-07	3.8255E-07	6.046E-07
lb/hr	31.682209	24.990858	41.299219
lb/ton	0.1714405	0.12815825	0.2155492

Avg lbs/ton 0.171716

1.0 EXECUTIVE SUMMARY

On May 3, 2001 emission tests were conducted at the Gallatin Steel mill located in Warsaw, Kentucky. The emission testing was conducted in accordance with the requirements listed in the Kentucky Department of Environmental Protection, Division of Air Quality, PSD Permit V-99-003. In accordance with Permit V-99-003 Gallatin Steel was required to test for NO_x and SO₂ emissions. Based on results from testing conducted in 1998 and 1999, testing was not required for VOC, PM, CO and lead emissions. The results from this test indicate compliance with the NO_x and SO₂ permit limitations. Table 1 summarizes the results of these testing efforts.

TABLE 1

SUMMARY OF EMISSION TEST RESULTS			
GALLATIN STEEL COMPANY - WARSAW, KENTUCKY MILL GHENT, KENTUCKY			
May 3, 2001			
EMISSION POINT	PARAMETER	PERMIT LIMIT	TEST RESULTS
EAF/CASTER LMF Baghouse Emission Point EI (01)	Sulfur Dioxide (SO ₂)	0.20 lbs/ton 40 lbs/hr.	0.18 lbs/ton 33.70 lbs/hr.
	Oxides of Nitrogen	0.51 lbs/ton 102.0 lbs/hr.	0.075 lbs/ton 14.19 lbs/hr.

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2.0 INTRODUCTION

On May 3, 2001 Ambient Air Services, Inc. conducted air emission testing at Gallatin Steel Company's, Ghent, Kentucky mill. Prior to starting these tests, Kentucky Department of Environmental Protection personnel were notified of the testing schedule and provided a testing protocol for review. A copy of the Notification Letter is included in the Appendix section of this report.

Testing methods and time duration are summarized in Table 2.

TABLE 2

SUMMARY OF TESTING METHODS GALLATIN STEEL COMPANY GHENT, KENTUCKY MAY 3, 2001		
POLLUTANT-SOURCE	EPA REFERENCE METHOD	TIME DURATION
Sulfur Dioxide - El (01)	Method 6C	3 runs, 3 heats each, 2 compartments tested simultaneously per run
Oxides of Nitrogen - El (01)	Method 7E	3 runs, 3 heats each All tests conducted in Compartment 7

3.0 PROCESS DESCRIPTION

At the Ghent, Kentucky facility of Gallatin Steel, the overall objective is to reclaim scrap steel of various forms, refining this material to create rolled steel coils. This type of mill is commonly referred to as a "mini" mill. The particular aspect of this mill examined by these testing efforts were the Electric Arc Furnace (EAF) operations. The EAF by introducing heat primarily in the form of an electric arc provides the energy necessary to melt the scrap steel. Once melted and refined, the furnace is tapped and the product is transferred to the ~~caster~~/tunnel furnace to be formed into rolled steel. To control the amount of particulate escaping from the melt shop building, during all operations, a baghouse filter system is employed. This system exhausts the furnace directly through fourth hole and canopy hood ducts.

4.0 GASEOUS EMISSION SAMPLING

4.1 Methodology

Continuous instruments were used to measure SO₂ and NO_x emissions. The arc furnace shop sample was obtained from the baghouse. A dilution extraction system was utilized to convey the sulfur dioxide sample gas to the sulfur dioxide analytical instruments. A fully extractive system was utilized for the NO_x instrument. The sample was obtained from a representative middle point among the bag filter banks on the clean side of the baghouse. The sample probe for the NO_x instrument was positioned in Compartment 7 of the baghouse for the duration of the test. The probe for the SO₂ sample was positioned in 6 different compartments, 2 per test run.

Gaseous emission sampling consisted of three runs, each run covering three furnace "heats". Utilizing the flow rates (SCFM) measured during each run, mass emissions were calculated in lbs/hr. and in lbs/ton.

As described in the test protocol, in order to sample a maximum number of compartments per test run, two SO₂ instruments were utilized. The sample probe for each instrument was positioned in separate compartments. Thus, a total of six compartments were tested for three heats each over the test period. The compartments were selected so that one inner and one outer compartment were sampled during each run. The compartments were randomly selected.

Historically all SO₂ measurements were conducted in Compartment Number 7. This originated at the request of the State of Kentucky. Compartment 7 was selected by the State due to the location of the installed CEMS probe. Through a baghouse consultant, Gallatin learned that the sulfur

dioxide may be different in concentration in different compartments within the baghouse. This stratification is due in part to the design of the duct work and fan configuration.

As can be seen in the results summary, SO₂ concentrations vary considerably from compartment to compartment within the baghouse. In order to achieve a more statistically valid average, compartments were selected so that one “inner” and one “outer” compartment were sampled per test run. The inner and outer compartments were selected to achieve a cross-sectional average of all compartments based on engineering judgements.

Example of Dilution Withdrawl System

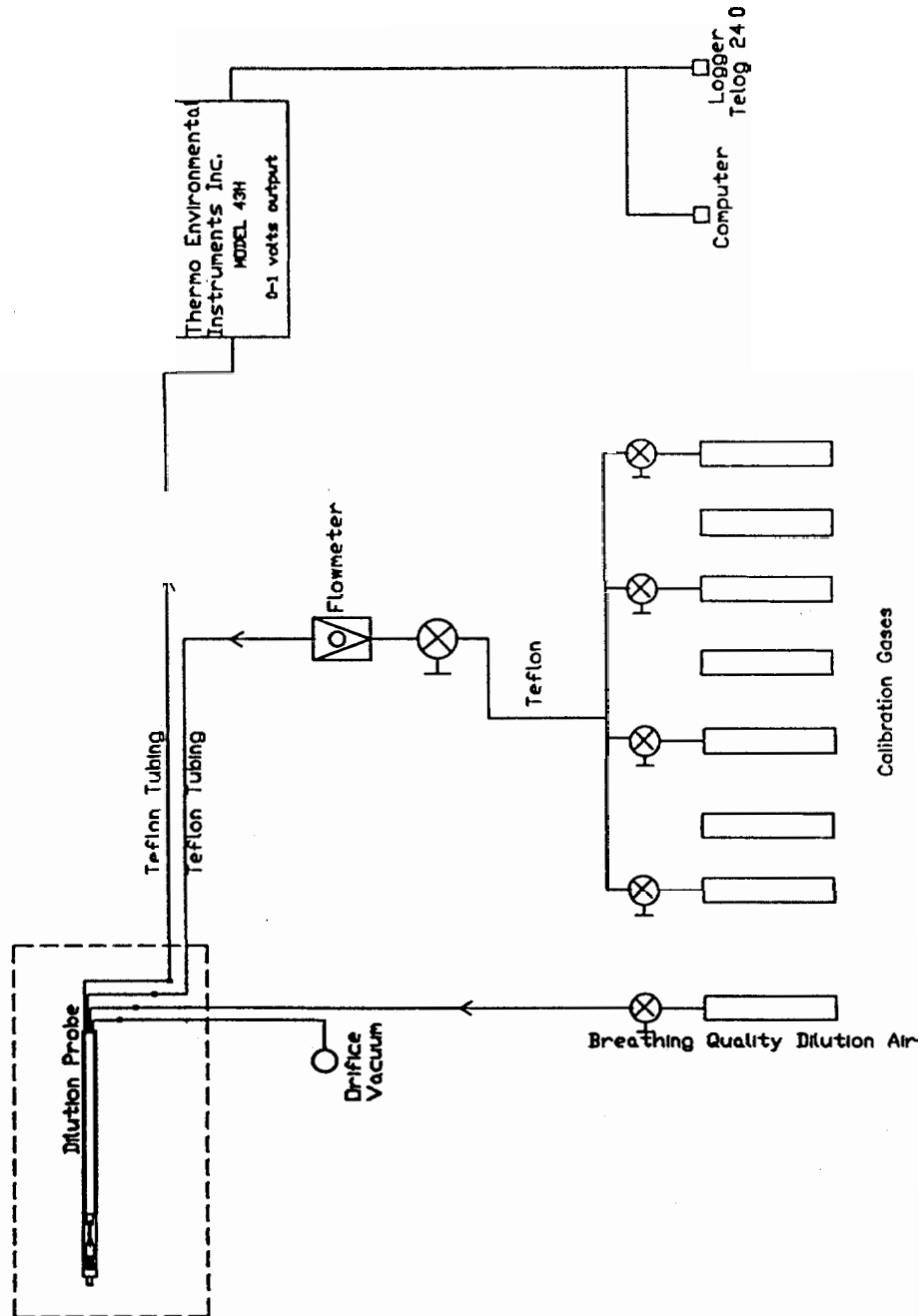


FIGURE 4-1

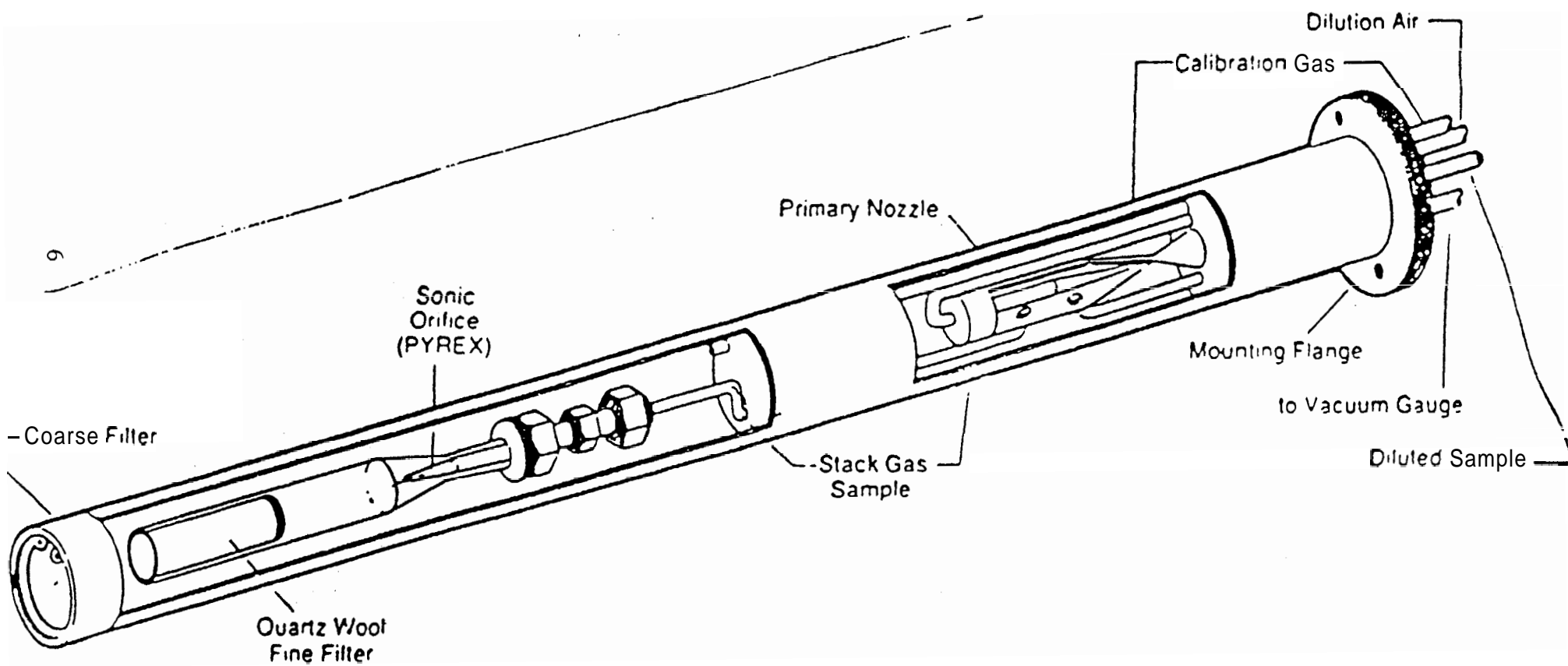


FIGURE 4-2

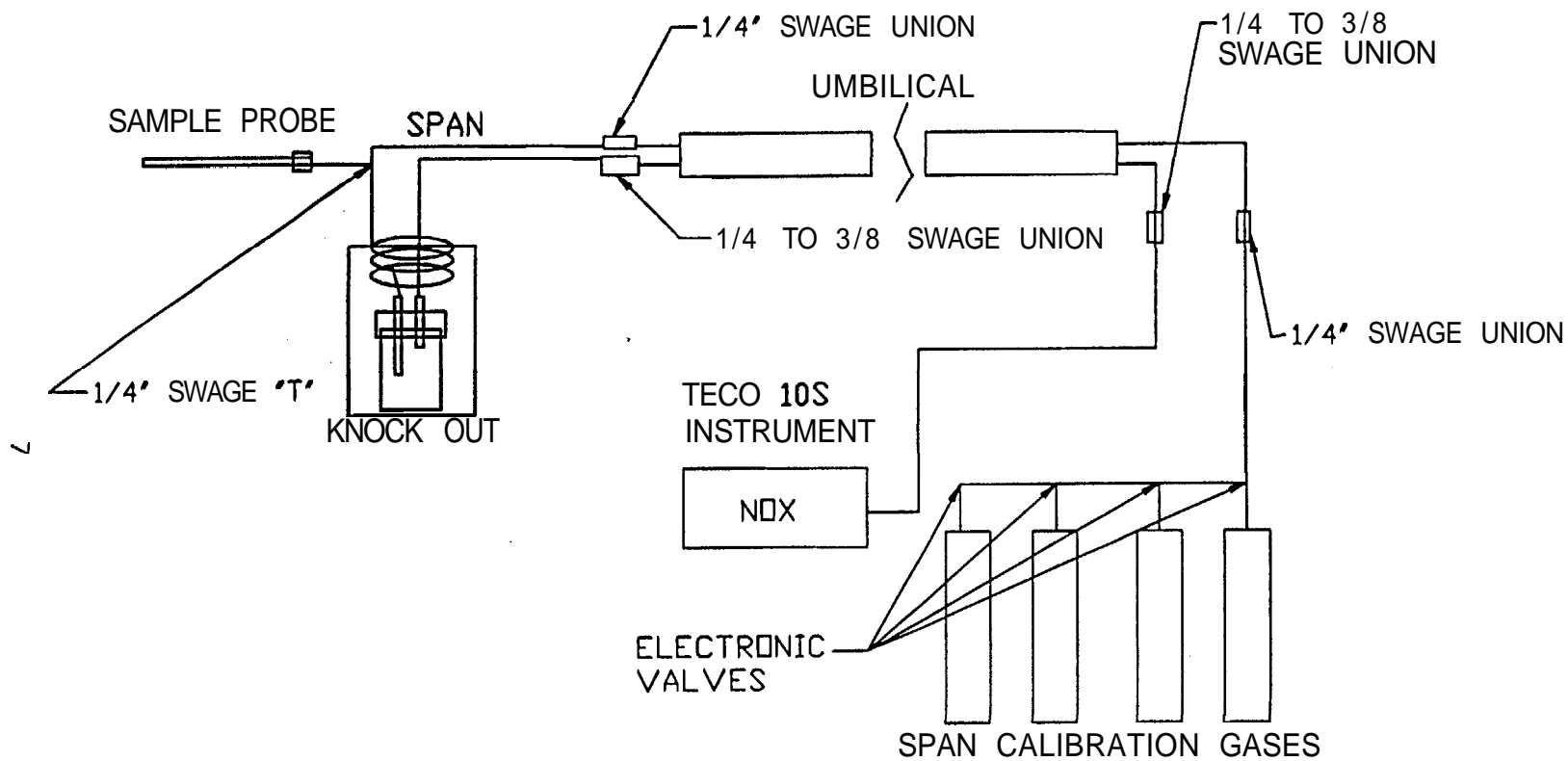


FIGURE 4-3
FULLY EXTRACTIVE WITHDRAWAL SYSTEM - NO_x

Data Recording

The primary data recorder was a Telog Model 3314 electronic data recorder which is based on micro-processor technology. This recorder interrogates each analytical instrument signal on a once-every-one-second basis and for this test was instructed to accumulate 60 of these one-second readings and store the average into recorder memory. The data bank consists of a series of one minute averages. In retrieving the data from the computerized database, scaling factors were entered to reflect the appropriate calibrations which occurred immediately before and after collecting the data set of current interest. The analysis of SO₂, gaseous species was carried out as follows:

Sulfur Dioxide

Sulfur Dioxide concentrations were determined by EPA Method 6C. Two Thermo Environmental Instruments (TEI) Model 43H instruments were used. EPA protocol calibration gases of SO₂, in air were used at nominal levels of 0, 6, and 12.0 ppm (instrument range 0-15 ppm). Calibrations were performed before and after each test run. EPA Method 6C required correction factors were applied to the data based on the results of the calibrations.

Table 4-1 summarizes the TEI Model 43H versus those required by Method 6C.

TABLE 4-1

SULFUR DIOXIDE SYSTEM PERFORMANCE SPECIFICATIONS METHOD 6C VS THERMO ENVIRONMENTAL INSTRUMENTS MODEL 43H		
	METHOD 6C	TECO 43H
Calibration error zero, mid and high gases	Less than +2% span	$\pm 1\%$ of full scale
Sampling system bias for zero, mid and high gases	Less than $\pm 5\%$ span	$\pm 1\%$ of full scale
Interference Check	Less than $\pm 7\%$ of Method 6 result	NO < 3 ppb M-Xylene < 2 ppb H ₂ O < 2% of reading
Calibration Drift	Less than $\pm 3\%$ of span over the run period	$\pm 1\%$ of full scale

Oxides of Nitrogen - Oxides of Nitrogen were measured using EPA Method 7E. Table 4-2 relates the required performance specifications of Method 7E to those presented by the manufacturer of the TEI Model 10S used in these tests. The instrument was calibrated over a nominal range of 0-100 ppm.

Results from the test are expressed in mass per unit time with all NO, converted to the species NO_x.

At the beginning of the test series zero gas plus two calibration gases were used to perform calibration checks. At the conclusion of each of the three runs, zero gas plus one calibration gas was used as a calibration check.

TABLE 4-2

OXIDES OF NITROGEN SYSTEM PERFORMANCE SPECIFICATIONS METHOD 7E VS THERMO ENVIRONMENTAL INSTRUMENTS MODEL 10S		
	METHOD 7E	TECO 10S
Calibration error zero, mid and high gases	Less than +2% span	±1% of full scale
Sampling system bias for zero, mid and high gases	Less than 25% span	21% of full scale
Zero Drift	Less than ±3% of span over the run period	Negligible
Calibration Drift	Less than +3% of span over the run period	+1% of full scale

Flow, Moisture, Oxygen and Carbon Dioxide - In order to convert concentration values of parts per million NO, and SO, into pounds per hour it was necessary to determine the effluent flow rate. The effluent flow rate was determined in accordance with EPA Methods 1-4.

Since the baghouse exhaust does not meet the criteria of Method 1, the flow was determined on the baghouse inlet. Specifically, there are five inlet ducts to the baghouse. Row was measured on each of the inlet ducts and added together to get the total flow. All fresh air inlets to the compartments tested were blocked during the test. This prevented the influence of dilution air on the gas emission concentrations. Figures 4-4 through 4-8 depict the traverse points used.

In addition to the traverse **data**, moisture runs were conducted **in** accordance with EPA Method 4.

Oxygen and carbon dioxide levels were confirmed to be essentially ambient air (0% CO₂, 20.9% O₂) using Method 3. A fyrite type analyzer' was used for this purpose.

FURNACE DUCT "A" - DIAMETER = 108.0", 12 TRAVERSE POINTS

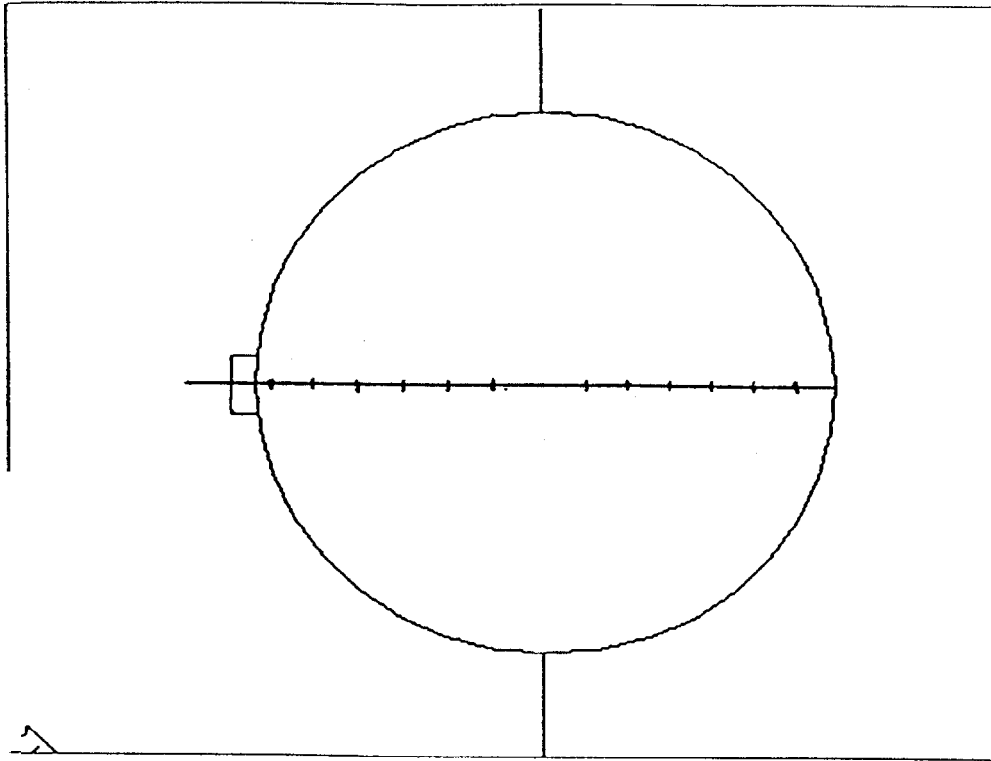


FIGURE 4-4

POINT	DISTANCE FROM WALL	POINT	DISTANCE FROM WALL
1	2.3"	7	69.6"
2	7.2"	8	81.0"
3	12.7"	9	88.9"
4	19.1"	10	95.3"
5	27.0"	11	100.8"
6	38.4"	12	105.7"

FURNACE DUCT "A" TRAVERSE POINTS

FURNACE DUCT "C" - DIAMETER = 120", 16 TRAVERSE POINTS

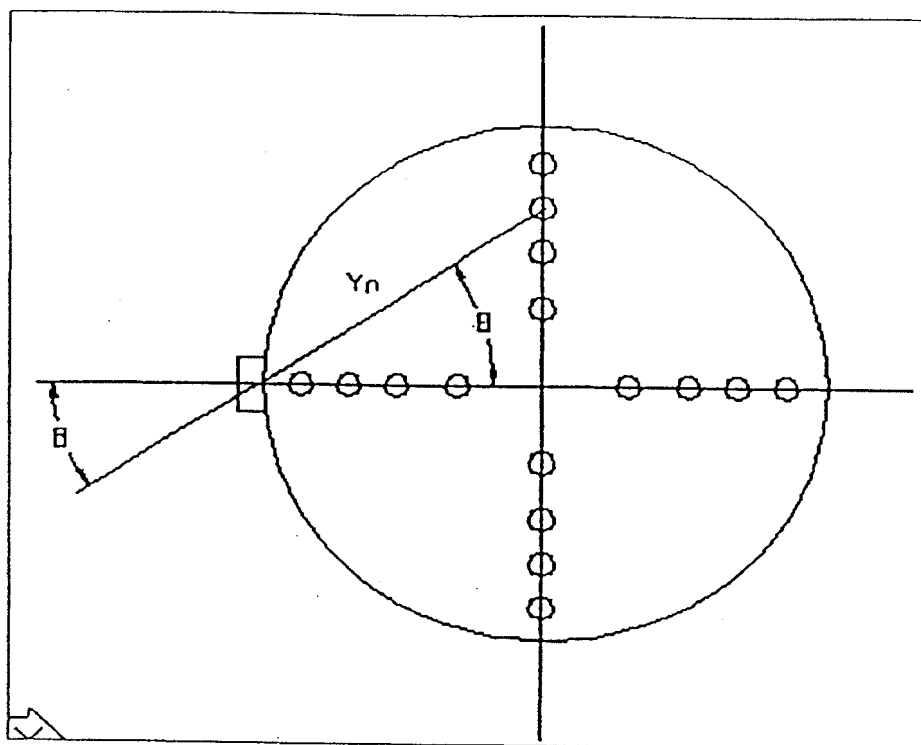


FIGURE 4-5

VERTICAL TRAVERSE		HORIZONTAL TRAVERSE		
POINT	DISTANCE FROM WALL	POINT	θ	Y_n
1	3.84	1	43.1	82.2
2	12.6	2	38.3	76.5
3	23.3	3	31.5	70.3
4	38.76	4	19.5	63.6
5	81.24	5	-19.5	63.6
6	96.72	6	-31.5	70.3
7	107.4	7	-38.3	76.5
8	116.16	8	-43.1	82.2

FURNACE DUCT "C" TRAVERSE POINTS

LMF DUCT -- DIAMETER = 60.0", 12 TRAVERSE POINTS

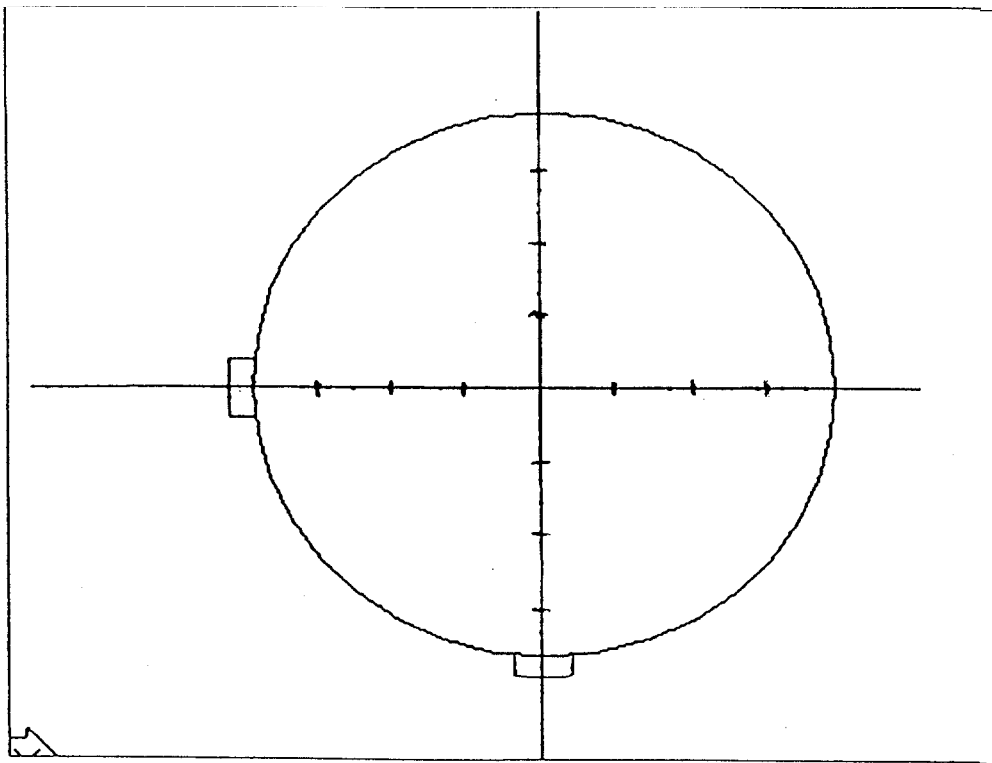


FIGURE 4-6

POINT	DISTANCE FROM WALL
1	2.6"
2	8.8"
3	17.8"
4	42.2"
5	51.2"
6	57.4"

LMF DUCT TRAVERSE POINTS

NO. 1 COLD DUCT – DIAMETER = 192", 12 TRAVERSE POINTS

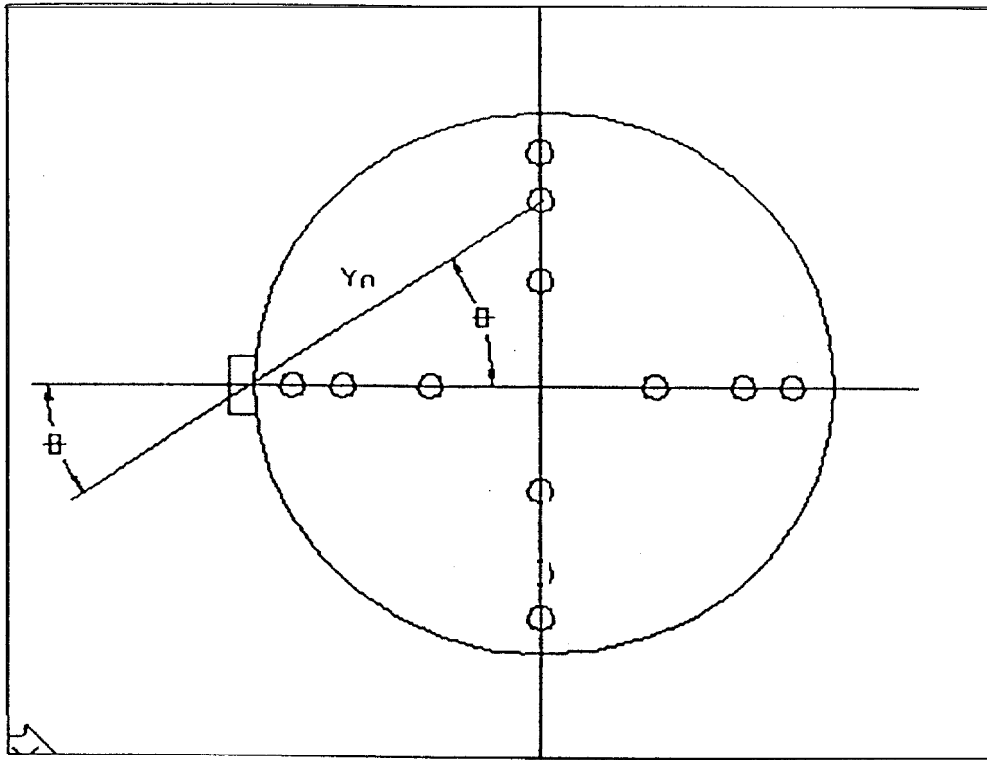


FIGURE 4-7

VERTICAL TRAVERSE		HORIZONTAL TRAVERSE		
POINT	DISTANCE FROM WALL	POINT	θ	Y_n
1	8.45	1	42.4	129.9
2	28.42	2	35.2	117.4
3	56.83	3	22.2	103.7
4	135.17	4	22.2	103.7
5	163.97	5	35.2	117.4
6	183.55	6	42.4	129.9

NO. 1 COLD DUCT TRAVERSE POINTS

NO. 2 COLD DUCT – DIAMETER = 120", 16 TRAVERSE POINTS

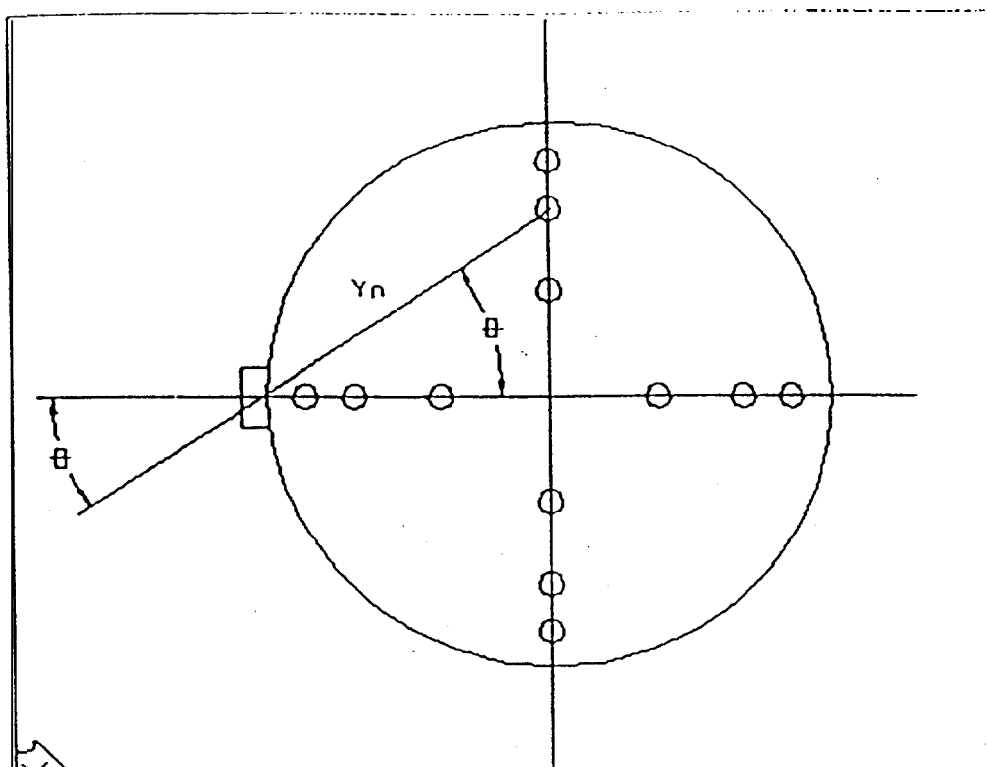


FIGURE 4-8

VERTICAL TRAVERSE		HORIZONTAL TRAVERSE		
POINT	DISTANCE FROM WALL	POINT	θ	Y_n
1	3.84	1	43.1	82.2
2	12.6	2	38.3	76.5
3	23.3	3	31.5	70.3
4	38.76	4	19.5	63.6
5	81.24	5	-19.5	63.6
6	96.72	6	-31.5	70.3
7	107.4	7	-38.3	76.5
8	116.16	8	-43.1	82.2

NO. 2 COLD DUCT TRAVERSE POINTS

4.2 Test Results

The results of the instrumental testing for gaseous emissions are as follows:

TABLE 4-3

<p align="center">SUMMARY OF OXIDES OF NITROGEN EMISSION MEASUREMENTS</p> <p align="center">GALLATIN STEEL COMPANY</p> <p align="center">GHENT, KENTUCKY</p> <p align="center">EAFF/LMF/CASTER BAGHOUSE</p> <p align="center">May 3, 2001</p>							
RUN NUMBER	HEAT NUMBERS	PRODUCTION	TEST TIME	OXIDES OF NITROGEN (as NO ₂)			OXIDES OF NITROGEN PERMIT LIMITS (as NO ₂)
		TONS PER HOUR	Minutes	ppm	Lbs/ hr.	Lbs/ ton	
1	A17462, C16853, A17463	184.8	196	1.8	15.4	0.08	0.51 lbs/ton and 102 lbs/hr.
2	A17465, C16856, A17466	195.0	180	1.7	13.8	0.07	
3	A17467, C16858, A17468	191.6	198	1.6	13.3	0.07	
Averages ¹			574	1.71	14.19	0.075	

¹ Time Weighted Average

Notes: PPM = Parts per Million V.V

Lbs/Hr = Pounds per Hour

Lbs/Ton = Pounds per ton cast

All emissions measurements taken in compartment number 7 (per prior agreement/request from State of Kentucky)

TABLE 4-4

<p align="center">SUMMARY OF SULFUR DIOXIDE EMISSION MEASUREMENTS</p> <p align="center">GALLATIN STEEL COMPANY</p> <p align="center">GHENT, KENTUCKY</p> <p align="center">EAF/LMF/CASTER BAGHOUSE</p> <p align="center">May 3, 2001</p>									
RUN NUMBER	HEAT NUMBERS	PRODUCTION	TEST TIME	INNER COMPARTMENT SO ₂		OUTER COMPARTMENT SO ₂		AVERAGE	
		HOUR	Minutes	ppm	Lb/Hr	ppm	Lb/Hr	Lb/Hr	Lb/Ton
1	A17462, C16853, A17463	184.8	196	3.20	39.7	2.03	25.2	32.4	0.18
2	A17465, C16856, A17466	195.0	180	2.67	30.2	1.93	21.8	26.0	0.13
3	A17467, C16858, A17468	191.6	198	4.55	52.6	2.72	31.5	42.0	0.22
Averages ¹		190.35	574	3.50	41.13	2.24	26.27	33.70	0.18

¹ Time Weighted Average

Notes: PPM = Parts per Million V.V
 Lb/Hr = Pounds per Hour
 Lb/Ton = Pounds per ton cast

Run 1 = Compartments 7 (outer) and 19 (inner)
 Run 2 = Compartments 2 (outer) and 14 (inner)
 Run 3 = Compartments 4 (outer) and 16 (inner)

4.3 Testing Compromises

During performance of the velocity measurements of the baghouse inlet ducts, Ambient Air personnel encountered a port location error on Furnace "A" duct. Although the ports were located at positions 90 degrees from each other, one of these ports was located too close to Furnace Duct "C" and therefore inaccessible. After performing a traverse across the only accessible port on Furnace "A" duct, it was apparent that the velocity measurements were so similar as to negate any concerns of flow stratification. This test compromise at the time of the test and in the opinion of the test team would not affect the integrity of the test data and therefore testing was not halted.

APPENDICES

APPENDIX A - Sample Calculations - Gaseous Emissions

APPENDIX B - Instrument Calibration Data - Baghouse Testing

APPENDIX C - Gaseous Emission Data - Baghouse Testing

APPENDIX D - Flow Rates

APPENDIX E - Field Data Sheets

APPENDIX F - Production Data, Test Notification Letter

APPENDIX G - Project Participants

APPENDIX A
SAMPLE CALCULATIONS

Gaseous Emissions Sample Calculations

I. Concentrations as calculated from method 6c

- A. Co, Average of initial and final system calibration bias check responses for the zero gas, ppm.

Run 1, SO₂

$$Co = (0.0+0.0)/2 = 0.0$$

- B. Cm, Average of initial and final system calibration bias check responses for the upscale calibration gas.

Run 1, SO₂

$$Cm = (5.9+5.9)/2 = 5.9$$

- C. Cma, Actual concentration of the upscale calibration gas ppm.

Run 1, SO₂ - 5/3/01 @ 0931 (Point 1 of Run 1)

$$C = 1.61$$

- D. Cgas, Effluent gas concentration, dry basis, ppm.

Run 1, SO₂

$$\begin{aligned} C_{gas} &= (C_{bar}-Co)(Cma/(Cm-Co)) \\ &= (1.61-0.0) \times 5.9/(5.9 - 0.0) \\ &= 1.61 \end{aligned}$$

A. SO₂ Emissions

$$lb/hr. = \frac{(ppm) * (Mol.Wt.)}{385e6} * (flowrate)(60 \text{ min/hr})$$

Example: Mol. Wt. = 64, ppm = 1.61, flowrate = 121875 SCFMD

$$lb/hr \text{ SO}_2 = 19.9$$

IV. Emission Rates (lb/ton)

$$\begin{aligned} \text{Lb/ton} &= (\text{inner SO, lbs/hr.} + \text{outer SO, lbs/hr.}) / 2 / (\text{tons per hour produced}) \\ &= (19.9 + 18.2) / 2 / 184.8 \\ &= 0.10 \end{aligned}$$

Note: The average of the inner and outer **SO**, emissions was used as the reported pounds per hour emitted.

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EXAMPLE CALCULATIONS

Plant
Location
Stack
Run Date
Run Number

Gallatin Steel
Ghent, Kentucky
Cold Duct No. 1
5-3-01
1

1. Stack Pressure, PS

Where:

PB = Barometric Pressure, inches Hg
PG = Static Pressure, stack, inches
H2O

$$PS = PB + (PG \div 13.6)$$

$$PB = 29.74$$

$$PG = -3.45$$

$$PS = 29.49$$

2. Meter Pressure, PM

Where:

DH = Average meter orifice pressure
differential, inches H2O

$$PM = PB + (DH \div 13.6)$$

$$DH = 1.741$$

$$PM = 29.87$$

3. Volume Water Vapor, VWV

Where:

VC = Volume condensate, liquid
volume plus gain in silica gel
weight, grams

$$VWV = 0.04707 \times VC$$

$$VWV = 1.323$$

4. Metered Volume corrected
to standard condition, Vstpd

Where:

VM = Metered volume, meter
conditions

PM = See equation 2

TM = Temperature of meter,
degrees Rankin

Y = Meter correction factor

$$Vstpd = \frac{17.65 \times VM \times PM \times Y}{TM}$$

$$Vstpd = 62.442$$

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EXAMPLE CALCULATIONS - CONTINUED

Plant	Gallatin Steel
Location	Ghent, Kentucky
Stack	Cold Duct No. 1
Run Date	5-3-01
Run Number	1

5. Total Volume of sample, VT

Where: VWV = See equation 3
Vstpd = See equation 4

$$VT = VWV + Vstpd$$

$$VT = 63.765$$

6. Fraction water vapor in gas stream, W

Where: VWV = See equation 3
VT = See equation 5

$$W = VWV \div VT$$

$$W = 0.021$$

7. Fraction Dry Air, FDA

Where: W = See equation 6

$$FDA = 1.0 - W$$

$$FDA = 0.979$$

8. Molecular Weight of stack gas, dry, MD

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

$$CO_2 = 0.0$$

$$O_2 = 20.9$$

$$N_2 = 79.1$$

$$CO = 0.0$$

$$MD = 28.84$$

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EXAMPLE CALCULATIONS - CONTINUED

Plant	Gallatin Steel
Location	Ghent, Kentucky
Stack	Cold Duct No. 1
Run Date	5-3-01
Run Number	1

9. Molecular weight of stack gas, stack conditions, MS

Where: MD = See equation 8
W = See equation 6
FDA = See equation 7

$$MS = (MD \times FDA) + (18 \times W)$$

$$MD = 28.84$$

$$FDA = 0.979$$

$$W = 0.021$$

$$MS = 28.61$$

10. Specific Gravity of Gas, relative to air, GS

Where: MS = See equation 9

$$GS = MS \div 28.99$$

$$GS = 0.987$$

11. Velocity of stack gas, feet per minute, U

Where: CP = Pitot Coefficient
 \sqrt{H} = Average of the square roots of the velocity heads, in. H₂O
TS = Temperature of the stack, degrees RankIn
PS = See equation 1
GS = See equation 10

$$U = 174 \times CP \times \sqrt{H} \times \sqrt{\frac{TS \times 29.92}{GS \times PS}}$$

$$U = 4821.5 \text{ FPM}$$

Ambient Air Services, Inc.
Environmental Consultants

106 Ambient Air Way
Starke, Florida 32091

(904) 964 - 8440
(904) 964 - 6675 fax

EXAMPLE CALCULATIONS • CONTINUED

Plant
Location
Stack
Run Date
Run Number

Gallatin Steel
Ghent, Kentucky
Cold Duct No. 1
5-3-01
1

12. Stack Gas Flow Rate,
Stack conditions, cfm, **QS**

Where:

AS = Cross sectional area of stack
at sampling location, **sq.ft.**
U = See equation 11

$$\mathbf{QS = U \times AS}$$

$$\mathbf{QS = 969420 \text{ ACFM}}$$

13. Stack Gas Flow Rate,
dry, **QD**

Where:

QS = See equation 12
FDA = See equation 7

$$\mathbf{QD = QS \times FDA}$$

$$\mathbf{QD = 949306 \text{ ACFMD}}$$

14. Stack Gas Flow Rate, STP,
dry, **Qstpd**

Where:

QD = See equation 13
PS = See equation 1
TS = Temperature of stack,
degrees **Rankin**

$$\mathbf{Qstpd = \frac{528 \times QD \times PS}{TS \times 29.92}}$$

$$\mathbf{Qstpd = 881409 \text{ SCFMD}}$$

15. Stack Gas Flow Rate, STP,
wet, **Qstpw**

Where:

Qstpd = See equation 14
FDA = See equation 7

$$\mathbf{Qstpw = \frac{Qstpd}{FDA}}$$

$$\mathbf{Qstpw = 900084 \text{ SCFMW}}$$

APPENDIX B

INSTRUMENT CALIBRATION DATA

- Calibration Gas Certificates
 - 93.8 pprn NO,
 - 54.2** pprr NO,
 - 24.9** pprr NO,
 - 10.21 pprr NO,
 - 5.94** pprr SO,
 - 12.07 pprr SO,
- Calibration **Drift/Error**
 - NO, Compartment 7
 - SO, Inner Compartments
 - SO, Outer Compartments
- Field Test Log



SPECTRA GASES INC.

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Shipped From: 60 Industrial Drive • Alpha, NJ 08865



CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE

PROCEDURE#: G1

CUSTOMER: Ambient Air Service
SGI ORDER #: 157906
ITEM#: 1
P.O.#: 82100-1

CYINDER #: CC18332
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 9/7/2000
EXPIRATION DATE: 9/8/2002

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Monoxide	8/26/2000	9.953 ppm	10.00 ppm	+/- 1%
	9/7/2000	10.04 ppm		
Nitric Oxide	8/26/2000	10.20 ppm	1021 ppm	+/- 1%
	9/6/2000	10.22 ppm		
NOx			10.21 ppm	Reference Value Only

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Monoxide	OMIS-1	CC118836	9.93 ppm
Nitric Oxide	GMIS-1	CC117561	20.16 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Carbon Monoxide	Nicolet 660	ADL9600109	FTIR	8/30/2000
Nitric Oxide	Teco 42C	42C-64942-345	ChemI	8/15/2000

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

ANALYST:

FRED PIKULA

DATE: 9/7/2000



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CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE PROCEDURE #: 01

CUSTOMER: Gallatin Steel Company
SGI ORDER #: 144936
ITEM#: 2
P.O.#: 72399-1

CYLINDER #: CC109962
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 8/10/99
EXPIRATION DATE: 8/10/2001

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Monoxide	8/2/99 8/10/99	24.07 ppm 26.18 ppm	26.1 ppm	+/- 1%
Nitric Oxide	8/2/99 8/10/99	24.79 ppm 24.88 ppm	24.8 ppm	+/- 1%
NOx			24.9 ppm	Reference Value Only

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Monoxide	NTRM-81679	CC88388	97.4 ppm
Nitric Oxide	NTRM-81684	CC79984	98.6 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Carbon Monoxide	Horiba VIA-51D	670423011	NDIR	7/23/99
Nitric Oxide	Teco 10	10AR-34978-249	Chem	7/20/99

THIS STANDARD WAS CERTIFIED ACCORDING TO THE EPA PROTOCOL PROCEDURES.
DO NOT USE THIS STANDARD IF THE CYLINDER PRESSURE IS LESS THAN 160 PSIG.

ANALYST: FRED PIKULA

DATE: 8/10/99



SPECTRA GASES INC.

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CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE

PROCEDURE #: G1

CUSTOMER: Gallatin Steel Company
SGI ORDER #: 144536
ITEM#: 4
P.O.#: 72399-1

CYLINDER #: CC110128
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 8/10/99
EXPIRATION DATE: 8/10/2001

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Carbon Monoxide	8/2/99	64.89 ppm	54.7 ppm	+/- 1%
	8/10/99	54.70 ppm		
Nitric Oxide	8/2/99	53.74 ppm	53.9 ppm	+/- 1%
	8/10/99	64.16 ppm		
NOx			54.2 ppm	Reference Value Only

BALANCE

Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Carbon Monoxide	NTRM-81670	CC88366	97.4 ppm
Nitric Oxide	NTRM-81684	CC79984	98.6 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	S E W I	DETECTOR	CALIBRATION DATE(S)
Carbon Monoxide	Horiba VIA-510	570423011	NDIR	7/23/99
Nitric Oxide	Teco 10	10AR-34878-249	Cheml	7/20/99

THIS STANDARD WAS CERTIFIED ACCORDING TO THE EPA PROTOCOL PROCEDURES.
DO NOT USE THIS STANDARD IF THE CYLINDER PRESSURE IS LESS THAN 180 PSIG.

ANALYST:

FRED PIKULA

DATE 8/10/99

For Technical Information Call
1-800-752-1697



ISO CERTIFICATION: 9002

Air Products and Chemicals, Inc. • 12722 S. Wentworth Avenue, Chicago, IL 60628

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:

Order No: 854-054914-01
Batch No: 861-59188
PO: Release:

AIR PRODUCTS & CHEMICALS, INC.
DORAY JENSEN
5837 W. 5TH STREET
JACKSONVILLE
FL 32254-1509

Cylinder No: 809110934
Bar Code No: DVB853
Cylinder Pressure*: 2000 psig
Certification Date: 06/29/1999
Expiration Date: 06/29/2001

CERTIFIED CONCENTRATION			REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION		
Component	Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principle
NITRIC OXIDE	79.5 ± 1.2 PPM	5691286168AL	GMIS	150.1 PPM	THERMO ENVIRO	52829293	06/18/99	CHEMILUMINESCENCE
SULFUR DIOXIDE	79.5 ± 1.2 PPM	569150928AL	NTRN	169.7 PPM	BOVAR 721M PRO	8327-3	06/12/99	NON DISPERSIVE ULTRAVIOLET

NO2 (Reference Value Only): .800 PPM

NITROGEN Balance Gas

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

NO_x = 93.8

Analyst:
(16921)

JULIAN K. SEGSAU

Approved By:

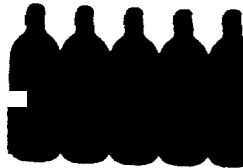
James Lass

Pub. No. 320-9702



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CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE PROCEDURE #: G1

CUSTOMER: Ambient Air Services
SGI ORDER #: 160806
ITEM#: 1
P.O.#: Verbal

CYLINDER #: CC20230
CYLINDER PRES: 1500 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 1111312000
EXPIRATION DATE: 5/13/2001

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Sulfur Dioxide	1012312000 1111312000	5.916 ppm 5.966 ppm	5.94 ppm	+/- 2%

BALANCE Air

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Sulfur Dioxide	GMIS-1	CC106646	24.67 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Sulfur Dioxide	Nicolet 560	ADL9600109	FTIR	1012412000

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

ANALYST: FRED PIKULA

DATE: 1111312000



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CERTIFICATE OF ANALYSIS

EPA PROTOCOL MIXTURE

PROCEDURE # : G I

CUSTOMER: Ambient Air Services
SGI ORDER # : 0005686
ITEM# : 1
P.O.# : 9589

CYLINDER # : CC85129
CYLINDER PRES: 2000 PSIG
CGA OUTLET: 660

CERTIFICATION DATE: 4/27/2001
EXPIRATION DATE: 10/27/2001

CERTIFICATION HISTORY

COMPONENT	DATE OF ASSAY	MEAN CONCENTRATION	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY
Sulfur Dioxide	6/29/2000 4/27/2001	12.12 ppm 12.03 ppm	12.07 ppm	+/- 1%

BALANCE Nitrogen

PREVIOUS CERTIFICATION DATES: None

REFERENCE STANDARDS

COMPONENT	SRM/NTRM#	CYLINDER#	CONCENTRATION
Sulfur Dioxide	GMIS-1	CC113875	19.78 ppm

INSTRUMENTATION

COMPONENT	MAKE/MODEL	SERIAL #	DETECTOR	CALIBRATION DATE(S)
Sulfur Dioxide	Horiba VIA-510	851221093	NDIR	4/19/2001

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

ANALYST: *FP*
FRED PIKULA

DATE: 4/27/2001

GALLATIN STEEL COMPANY
GHENT, KENTUCKY
SUMMARY OF NOX CALIBRATIONS
3-May-01

INSTRUMENT RANGE, PPM		100		
CALIBRATION GAS PPM	5/3/2001 8:00 INITIAL CALIBRATION	5/3/2001 13:05 END RN 1	5/3/2001 18:10 END RUN 2	5/3/01 22:17 END RUN 3
0.0	-0.7	-0.7	-0.7	-0.8
93.8	92.5	N/A	N/A	N/A
54.2	56.0	56.2	53.3	54.3
24.9	25.4	N/A	N/A	N/A
10.0	9.8	N/A	N/A	N/A
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	-0.7	-0.7	-0.7	-0.8
93.8	-1.3	N/A	N/A	N/A
54.2	1.8	2.0	-2.7	0.1
24.9	0.5	N/A	N/A	N/A
10.0	-0.2	N/A	N/A	N/A
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.0	0.0	0.0
93.8	N/A	N/A	N/A	N/A
54.2	N/A	0.1	-2.9	-1.7
24.9	N/A	N/A	N/A	N/A
10.0	N/A	N/A	N/A	N/A
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGEX100		
SAMPLE ZERO	DIRECT ZERO	BIAS		ALL CAL
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED TO PROBE TIP ONLY		
CALIBRATION GAS, PPM	N/A			
SAMPLE	DIRECT	BIAS		
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF SO2 CALIBRATIONS - INNER COMPARTMENTS

3-May-01

INSTRUMENT RANGE, PPM		15		
CALIBRATION GAS PPM	5/3/2001 8:30 INITIAL CALIBRATION	5/3/2001 7:10 PRE RUN 1	5/3/2001 12:45 END RUN 1	5/3/01 17:50 END RUN 2
0.0	0.0	0.0	0.1	0.1
12.1	12.3	N/A	N/A	N/A
5.9	5.9	5.9	5.8	5.8
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	-0.1	-0.1	0.4	0.3
12.1	1.5	N/A	N/A	N/A
5.9	-0.1	-0.1	-0.7	-0.7
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.0	0.5	-0.1
12.1	N/A	N/A	N/A	N/A
5.9	N/A	-0.1	-0.6	0.1
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGE X100		
SAMPLE ZERO	DIRECT ZERO	BIAS		ALL CAL
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED		
CALIBRATION GAS, PPM	N/A	TO PROBE TIP ONLY		
SAMPLE	DIRECT	BIAS		
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF SO2 CALIBRATIONS- INNER COMPARTMENTS

3-May-01

INSTRUMENT RANGE, PPM		15		
CALIBRATION GAS PPM	5/3/2001 8:30 INITIAL CALIBRATION	5/3/2001 21:50 END RUN 3		
0.0	0.0	0.0	N/A	N/A
12.1	12.3	N/A	N/A	N/A
5.9	5.9	5.9	N/A	N/A
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	-0.1	0.1	N/A	N/A
12.1	1.5	N/A	N/A	N/A
5.9	-0.1	0.0	N/A	N/A
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.2	N/A	N/A
12.1	N/A	N/A	N/A	N/A
5.9	N/A	0.1	N/A	N/A
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGE X100		
SAMPLE ZERO	DIRECT ZERO	BIAS		ALL CAL
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED TO PROBE TIP ONLY		
CALIBRATION GAS, PPM	N/A			
SAMPLE	DIRECT	BIAS		
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF SO2 CALIBRATIONS - OUTER COMPARTMENTS

3-May01

INSTRUMENT RANGE, PPM		15		
CALIBRATION GAS PPM	5/3/2001 8:30 INITIAL CALIBRATION	5/3/2001 7:10 PRE RUN 1	5/3/2001 12:45 END RUN 1	5/3/01 17:50 END RUN 2
0.0	-0.2	-0.1	-0.1	-0.1
12.1	12.4	N/A	N/A	N/A
5.9	5.9	5.9	5.7	5.8
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	-1.1	-0.3	-0.9	-0.3
12.1	2.1	N/A	N/A	N/A
5.9	-0.3	-0.5	-1.5	-0.7
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	N/A	0.7	-0.5	0.5
12.1	N/A	N/A	N/A	N/A
5.9	N/A	-0.2	-1.0	0.8
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGE X100		
SAMPLE ZERO	DIRECT ZERO	BIAS		ALL CAL
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED		
CALIBRATION GAS, PPM	N/A	TO PROBE TIP ONLY		
SAMPLE	DIRECT	BIAS		
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	

GALLATIN STEEL COMPANY

GHENT, KENTUCKY

SUMMARY OF SO2 CALIBRATIONS- OUTER COMPARTMENTS

3-May-01

INSTRUMENT RANGE, PPM		15		
CALIBRATION GAS PPM	5/3/2001 8:30 INITIAL CALIBRATION	5/3/2001 21:50 END RUN 3		
0.0	-0.2	-0.1	NIA	NIA
12.1	12.4	NIA	NIA	NIA
5.9	5.9	5.8	NIA	NIA
CALIBRATION ERROR ((INSTRUMENT RESPONSE-CALIBRATION GAS VALUE)/INSTRUMENT RANGE)X100				
0.0	-1.1	-0.8	NIA	NIA
12.1	2.1	NIA	NIA	NIA
5.9	-0.3	-0.7	NIA	NIA
CALIBRATION DRIFT ((FINAL CALIBRATION - INITIAL CALIBRATION)/INSTRUMENT RANGE)X100				
0.0	NIA	0.3	N/A	N/A
12.1	NIA	NIA	N/A	N/A
5.9	NIA	-0.3	N/A	N/A
ZERO BIAS CHECKS		(SAMPLE SYSTEM-DIRECT)/RANGEX100		
SAMPLE ZERO	DIRECT ZERO	BIAS		ALL CAL
N/A	NIA	NIA	INITIAL	
N/A	N/A	N/A	FINAL	
CALIBRATION BIAS CHECKS		GASES INJECTED TO PROBE TIP ONLY		
CALIBRATION GAS, PPM	N/A			
SAMPLE	DIRECT			
N/A	N/A	N/A	INITIAL	
N/A	N/A	N/A	FINAL	

GALLATIN

yellow dilut

yellow

5-3-01 ASL

SO₂: 0-15 ppm

CH 3 & 7, 4 & 8

NO_x: 0-100 ppm

CH 2 & 6

CO: 0-100 ppm

CH 1 & 5

black

TIME	PARAM	STD. CONC	Data Logger	Notes
0530	SO ₂ -1	∅	0.025 V	Channel #7 " #8
0530	SO ₂ -2	∅	0.025 V	
0558	SO ₂ -1	5.94	0.401 V	
0558	SO ₂ -2	5.94	0.400 V	
0645	SO ₂ -1	12.07	0.810 V	
0645	SO ₂ -2	12.07	0.812 V	
0800	Both SO ₂ -ONLINE			{ SO ₂ -1: Comp. 7, yellow SO ₂ -2: Comp. 19, black
0830	NO _x	93.8	9.60 V = 92.6	
0855	NO _x	54.2	5.95 = 56.0	Channel #6
0855	CO	54.7	0.531 = 55.1	Channel #5
0908	CO	25.1	0.252 24.4	
0908	NO _x	24.9	2.872 = 25.3	
0916	CO	10.0	0.115 9.3	CO - NO _x
0916	NO _x	10.21	1.317 9.8	
0920	CO	∅	0.039 1.0	
0920	NO _x	∅	0.265 = -1.0	
0925	NO _x	— ONLINE	—	
0925	CO	— ONLINE	—	
0938-1243	(RUN 1)			3 Heats
1248	SO ₂ -1	∅	0.02 ppm	w ck
1248	SO ₂ -2	∅	-0.15 ppm	
1255	SO ₂ -1	5.94	5.75	
1255	SO ₂ -2	5.94	5.51	
1302	Both SO ₂ — ONLINE			(still scenario #1)
1310	NO _x	∅	0.10 - 0.7	
1310	CO	∅	0.33 - 0.2	

Yellow dilution umbilical =
Black dilution umbilical =

TIME	PARAM	STD. CONC.	Datalogger	Notes
1320	CO	54.7	52.6 56.2	
1317	NO _x	54.2	57.0 ✓	
1325	CO	—	ONLINE	
1325	NO _x	—	ONLINE	
1430	SO ₂ -1	∅	0.028	Recheck
1430	SO ₂ -2	∅	0.0	"
1442	SO ₂ -1	YELLOW 5.94	5.98	"
1442	SO ₂ -2	BLACK 5.94	5.88	"
1453	SO ₂ -1	—	ONLINE	{ Comp. 2 Comp. 14
1453	SO ₂ -2	—	ONLINE	
1458	Start Run 2			
1752	END "			
1756	SO ₂ -1	∅	0.024	
1756	SO ₂ -2	∅	-0.056	
1804	SO ₂ -2	5.94	5.92	
1804	SO ₂ -2	5.94	5.84	
1811	CO	54.7	54.05 58.8	
1810	NO _x	54.2	54.2 53.3	
1815	CO	∅	0.15 -0.2	
1815	NO _x	∅	0.07 -0.8	
1836	SO ₂ -1	—	ONLINE	{ Comp. 4 yell Comp. 16 blk
1836	SO ₂ -2	—	ONLINE	
Start Run 3				
End Run 3				
2142				

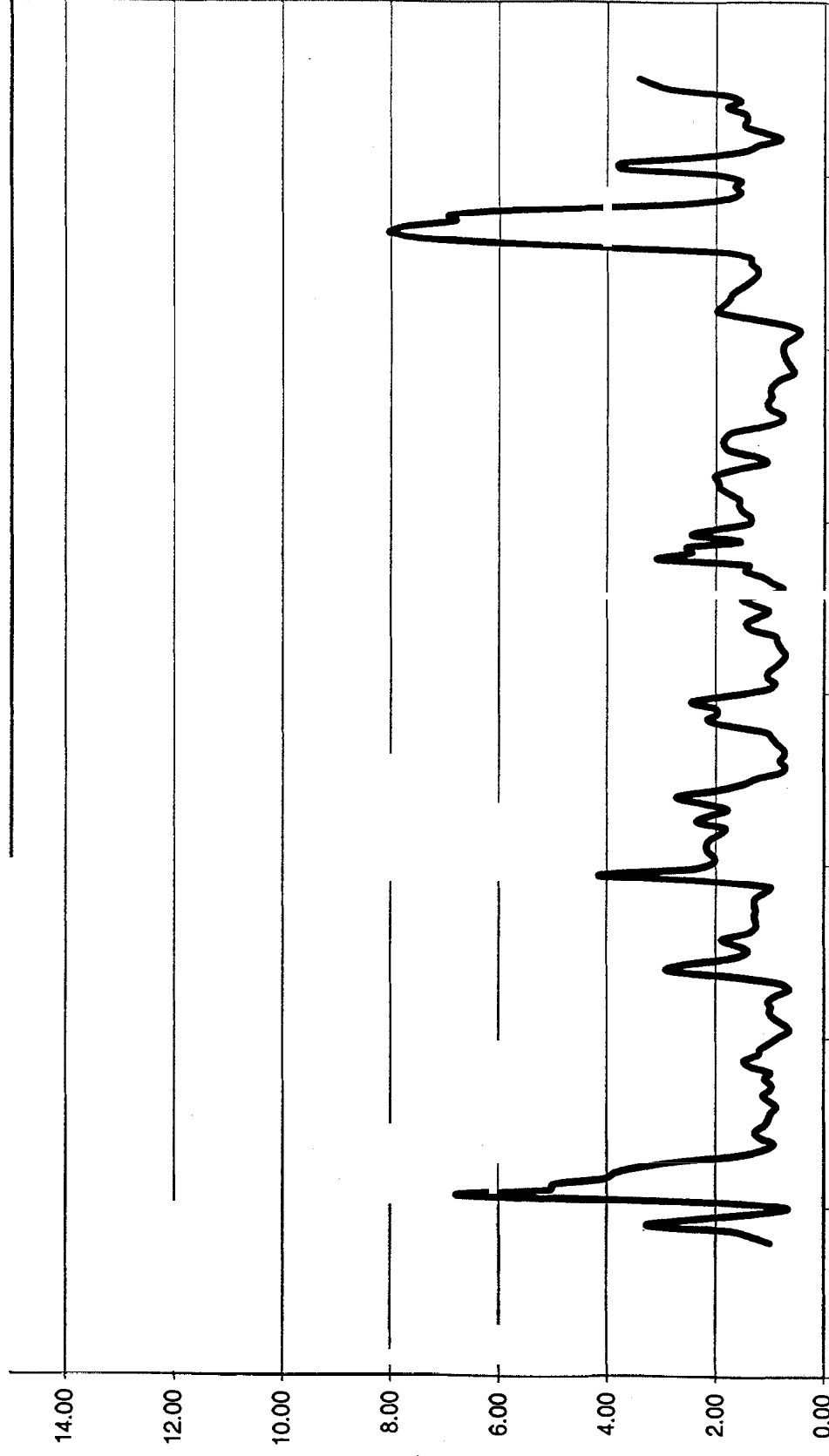
<u>TIME</u>	<u>PARAM</u>	<u>STD. CONC</u>	<u>Data Logger</u>	<u>Notes</u>
2200	SO ₂ -1	Ø	-0.024	
2200	SO ₂ -2	Ø	-0.176	
2210	SO ₂ -1	5.94	5.95	
2210	SO ₂ -2	5.94	5.83	
2217	CO	54.7	54.2	58.3
2217	NO _x	54.2	55.2	54.3
2221	CO	Ø	-0.15	-0.6
2221	NO _x	Ø	0.12	-0.7

APPENDIX C

GASEOUS EMISSION DATA SO, and NO,

- DATAGRAPHS
 - NO, - Run 1, Run 2, Run 3
 - SO, - Run 1, Run 2, Run 3
- DATA SUMMARY
 - 5/3/01 05:00 - 5/3/01 22:45

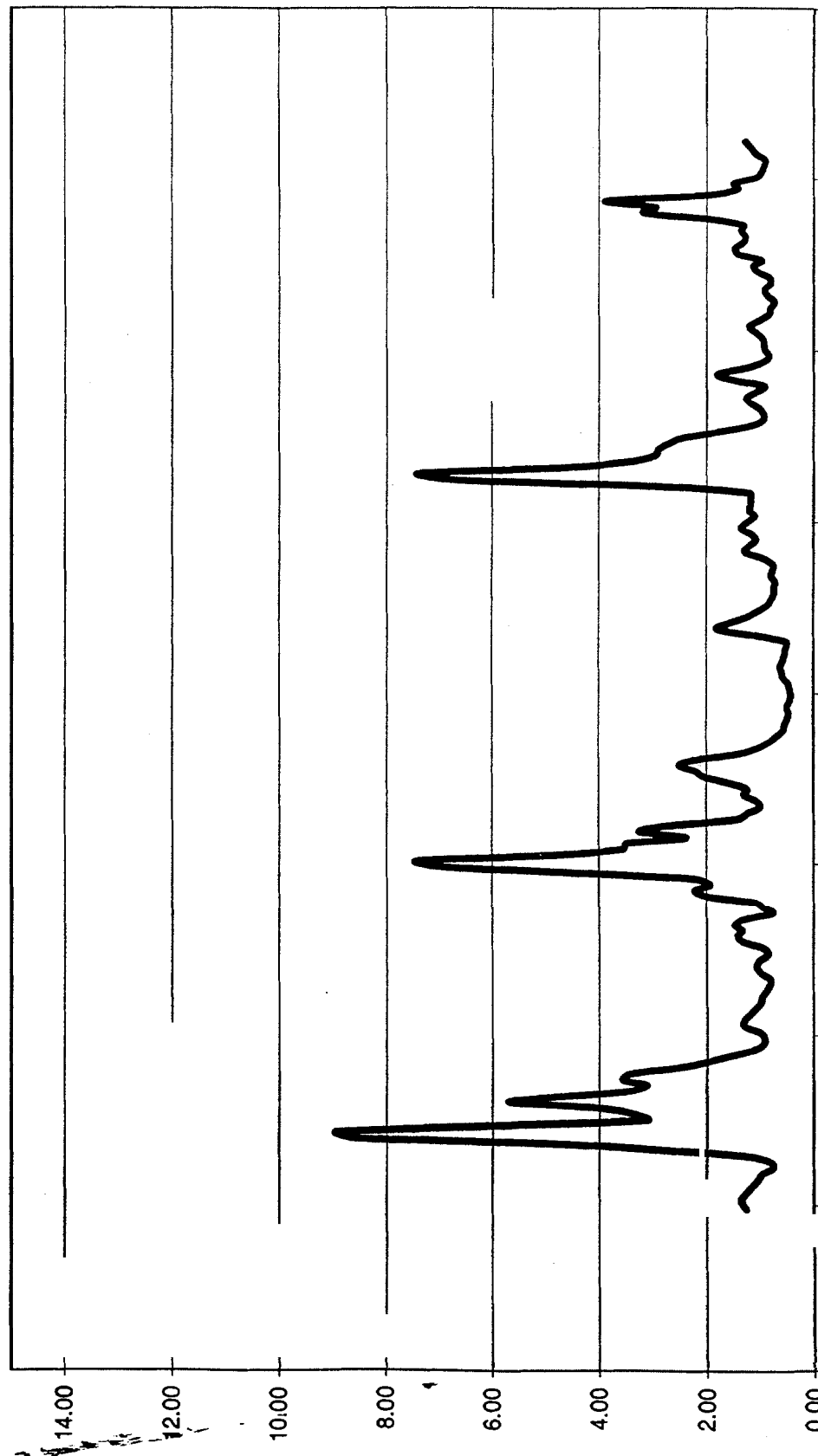
GALLATIN STEEL NOX
RUN 1



5/3/2001 9:07 5/3/2001 9:36 5/3/2001 10:04 5/3/2001 10:33 5/3/2001 11:02 5/3/2001 11:31 5/3/2001 12:00 5/3/2001 12:28 5/3/2001 12:57

— NOX PPM

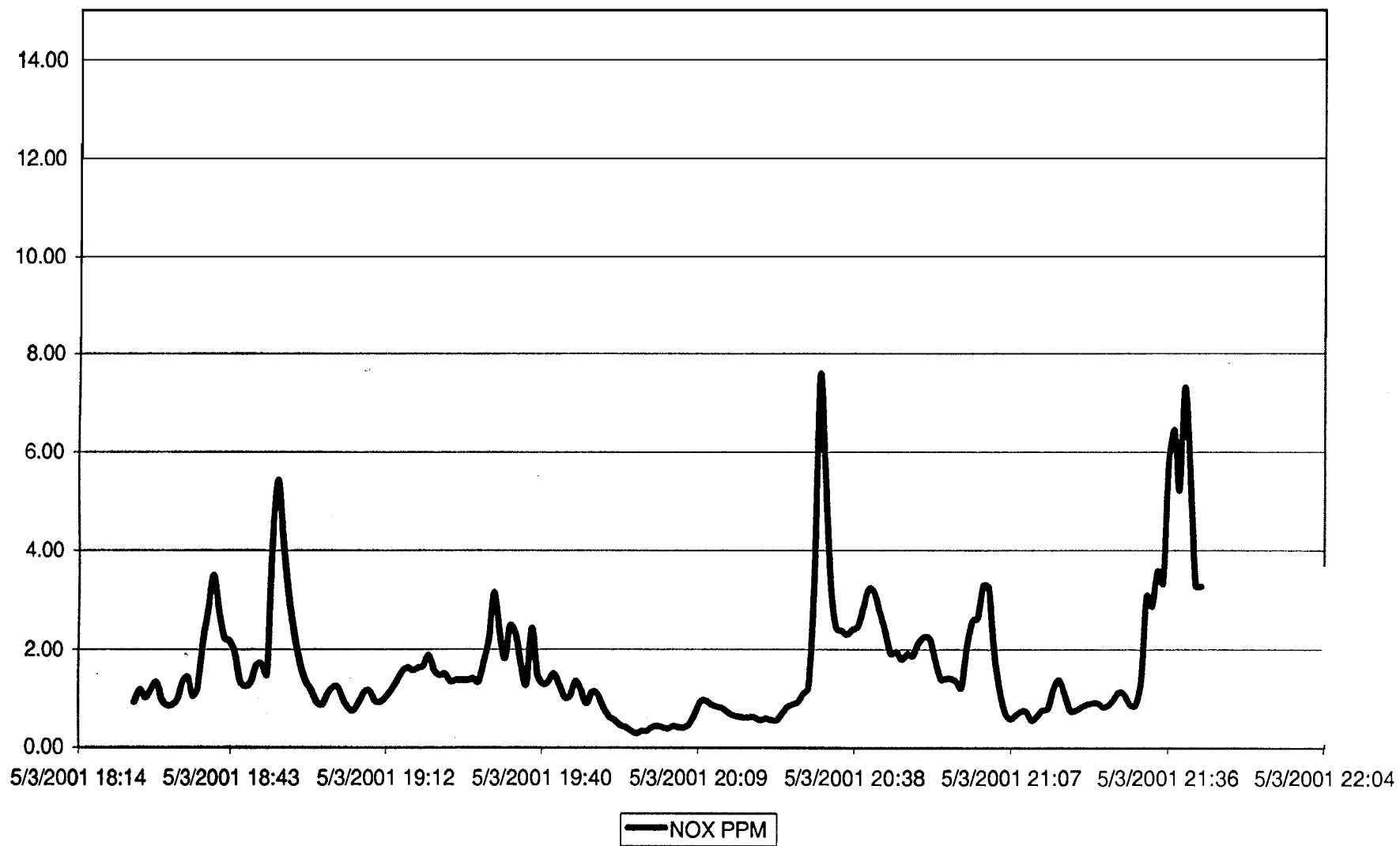
GALLATIN STEEL NOX
RUN 2



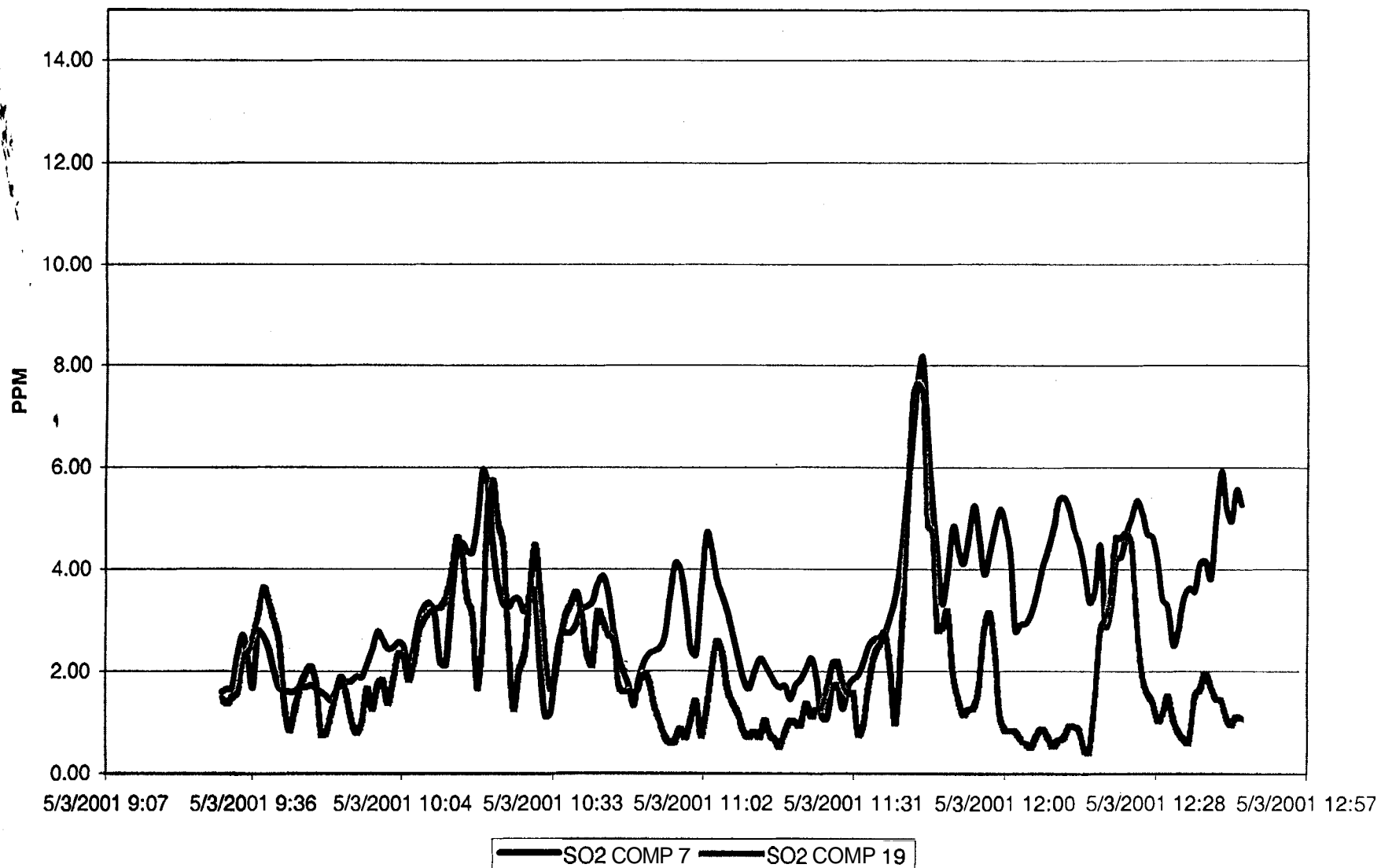
5/3/2001 14:24 5/3 01 14:52 5/3/2001 15:21 5/3/2001 15:50 5/3/2001 16:19 5/3/2001 16:48 5/3/2001 17:16 5/3/2001 17:45 5/3/2001 18:14

— NOX PPM

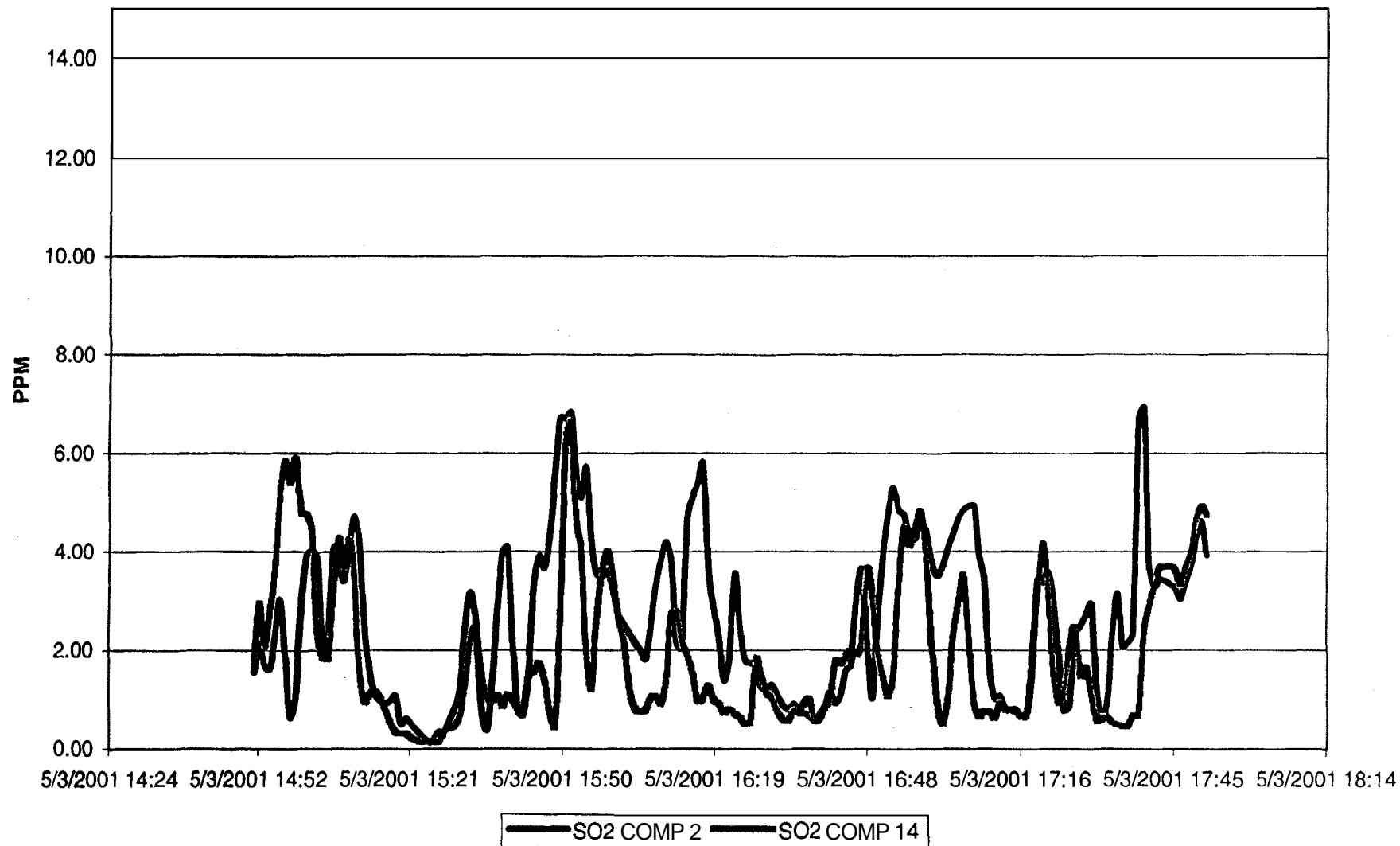
GALLATIN STEEL NOX RUN 3



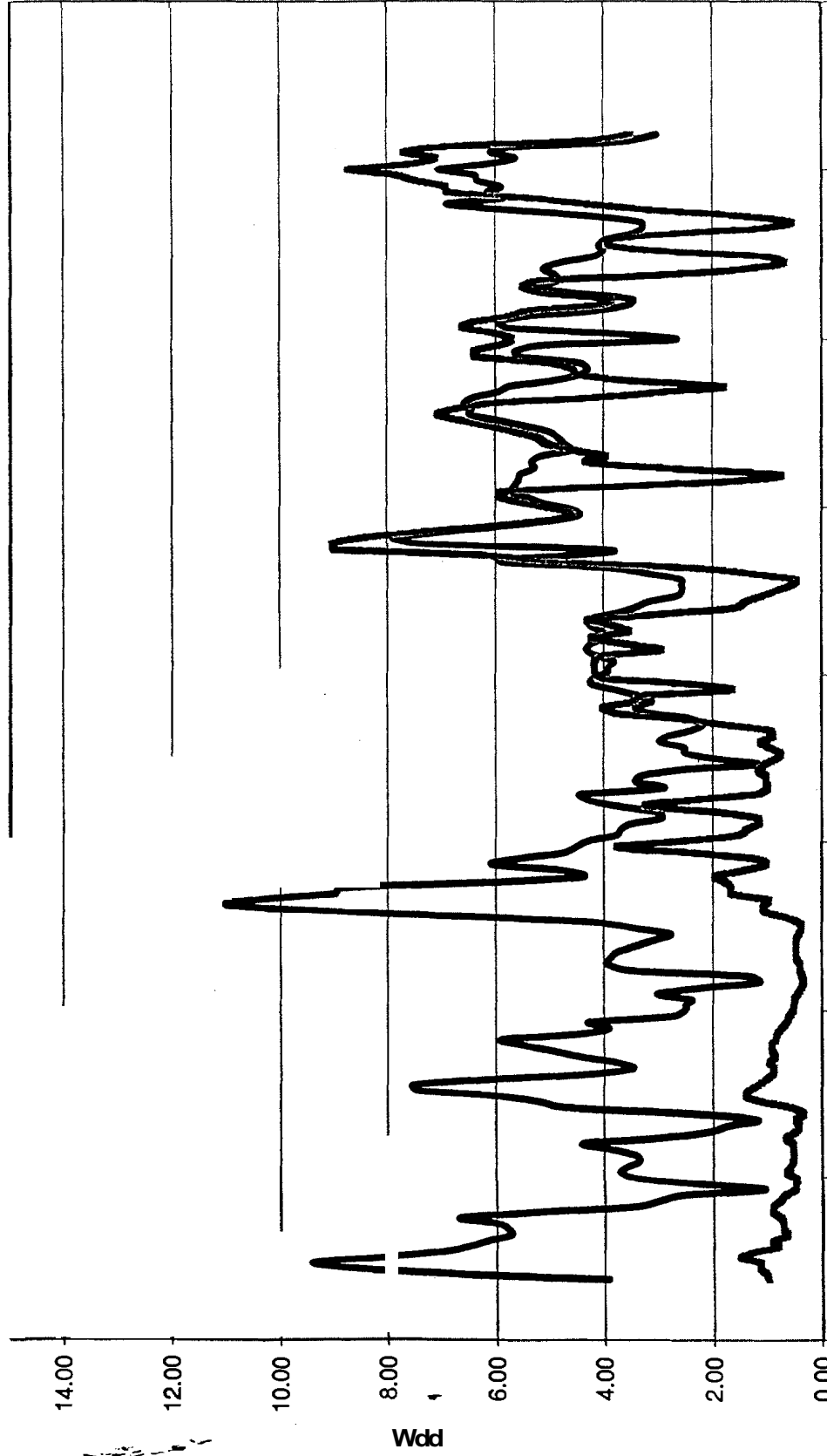
GALLATIN STEEL SO2 RUN 1



GALLATIN STEEL SO2
RUN 2



GALLATIN STEEL SO2
RUN 3



5/3/2001 18:14 5/3/2001 18:43 5/3/2001 19:12 5/3/2001 19:40 5/3/2001 20:09 5/3/2001 20:38 5/3/2001 21:07 5/3/2001 21:36 5/3/2001 22:04

— SO2 COMP 4 — SO2 COMP 16

TIME	OBSERVED CONCENTRATION PPM			COMMENTS		CALIBRATION CORRECTIONS				CORRECTED PPM VALUES				FLOW MEASUREMENTS SCFM						MASS EMISSIONS				EMISSION FACTOR			
	NOX COMP 7	NO2 OUT	NO2 IN	NOX	NO2	NO2 IN	NO2 OUT	NO2 IN	NO2 OUT	NOX -7	NO2 IN	NO2 OUT	TOTAL	COLD-1	COLD-2	LMF	FURNACE A	FURNACE C	NOX LB/HR	SO2 IN LB/HR	SO2 OUT LB/HR	AVERAGE SO2 LB/HR	PRODUCTION TON/HR	NOX LB/TON	SO2 LB/TON	NOX	SO2
5/19/2001 11:13	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:14	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:15	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:16	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:17	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:18	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:19	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:20	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:21	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:22	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:23	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:24	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:25	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:26	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:27	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:28	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:29	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:30	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:31	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:32	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:33	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:34	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:35	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:36	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:37	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:38	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:39	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:40	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:41	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:42	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:43	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:44	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:45	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:46	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:47	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:48	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:49	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:50	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:51	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:52	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:53	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:54	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:55	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:56	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:57	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:58	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 11:59	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														
5/19/2001 12:00	1.35	5.97	5.95	CALC	WAIT	0.0	5.9	0.0	5.9	-1.06	5.75	5.96	6.03														

OBSERVED CONCENTRATION PPM		NOX		CO2		COMMENTS		CALCULATION CONNECTIONS		CORRECTED PPM VALUES		FLOW MEASUREMENTS SCFM		MASS EMISSIONS		EMISSION FACTOR	
TIME	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX
NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2	NOX	CO2
5/27/2011 10:11	0.35	3.08	3.11	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:10	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:08	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:07	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:04	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:03	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:02	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:01	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 10:00	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:59	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:58	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:57	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:56	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:55	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:54	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:53	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:52	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:51	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:50	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:49	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:48	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:47	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:46	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:45	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:44	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:43	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:42	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:41	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:40	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:39	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:38	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:37	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:36	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:35	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:34	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:33	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:32	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:31	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:30	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:29	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:28	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:27	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:26	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:25	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:24	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:23	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:22	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:21	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:20	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:19	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:18	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:17	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:16	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:15	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:14	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:13	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:12	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:11	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:10	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:09	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:08	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:07	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:06	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:05	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:04	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:03	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:02	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:01	0.30	3.00	3.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2011 9:00	0.30																

TIME	OBSERVED CONCENTRATION PPM			COMMENTS			CALIBRATION CORRECTIONS				CORRECTED PPM VALUES				FLOW MEASUREMENTS SCFM						MASS EMISSIONS						EMISSION FACTOR		
	NOX COMP 7	NO2 IN	NO3 OUT	NOX	BOZ	NUM	NOX 7	NO2 IN	NO3 OUT	BOZ OUT	COL-1	COL-2	LMP	PURFACE A	PURFACE C	TOTAL	NOX LB/HR	BOZ IN LB/HR	NO3 OUT LB/HR	AVERAGE	BOZ LB/HR	NO3 LB/HR	PRODUCTION	TOWERS	NO2 LB/HR	NO3 LB/HR	NO2 LB/HR		
5/20/2017 15:30	0.10	0.82	0.37	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.06	0.79	0.82	13215	46028	151462	1108107	6.5	8.9	5.2	7.0	195	0.0	0.04	0.04				
5/20/2017 15:31	0.10	1.19	0.37	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.06	1.14	0.82	13215	46028	151462	1108107	6.5	12.8	5.2	10.2	195	0.0	0.05	0.05				
5/20/2017 15:32	0.26	2.48	1.27	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.31	2.41	0.88	13215	46028	151462	1108107	7.9	27.3	13.5	21.4	195	0.0	0.14	0.14				
5/20/2017 15:33	0.26	2.31	1.27	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.08	2.17	1.28	13215	46028	151462	1108107	8.4	26.8	27.5	26.5	195	0.0	0.14	0.14				
5/20/2017 15:34	0.26	2.31	1.27	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.02	2.62	0.84	13215	46028	151462	1108107	6.1	28.8	27.5	23.5	195	0.0	0.04	0.04				
5/20/2017 15:35	0.12	0.46	0.36	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.85	0.64	0.84	13215	46028	151462	1108107	7.5	4.2	11.7	8.0	195	0.0	0.04	0.04				
5/20/2017 15:36	0.06	0.85	0.36	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.84	0.37	0.84	13215	46028	151462	1108107	10.4	15.8	11.0	13.5	195	0.0	0.07	0.07				
5/20/2017 15:37	0.06	1.45	0.37	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.84	1.27	0.84	13215	46028	151462	1108107	11.1	22.2	12.2	23.2	195	0.0	0.11	0.11				
5/20/2017 15:38	0.06	0.85	0.36	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.41	2.88	1.08	13215	46028	151462	1108107	10.8	45.2	9.8	27.8	195	0.0	0.14	0.14				
5/20/2017 15:39	0.74	4.88	0.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.48	4.09	1.48	13215	46028	151462	1108107	11.5	48.1	12.4	29.3	195	0.0	0.15	0.15				
5/20/2017 15:40	0.57	3.12	0.87	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.77	0.78	0.77	13215	46028	151462	1108107	10.2	24.0	11.0	17.5	195	0.0	0.06	0.06				
5/20/2017 15:41	0.82	3.72	0.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	0.88	0.79	0.81	13215	46028	151462	1108107	6.1	8.8	8.1	8.8	195	0.0	0.04	0.04				
5/20/2017 15:42	0.42	1.54	1.36	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.35	1.47	1.14	13215	46028	151462	1108107	7.5	17.2	17.2	17.2	195	0.0	0.04	0.04				
5/20/2017 15:43	1.27	2.27	1.46	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.80	1.39	1.87	13215	46028	151462	1108107	15.9	37.2	17.2	37.2	195	0.0	0.06	0.06				
5/20/2017 15:44	1.32	2.86	1.32	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.21	3.80	1.75	13215	46028	151462	1108107	15.5	44.1	15.8	28.7	195	0.0	0.14	0.14				
5/20/2017 15:45	1.14	2.55	0.86	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.34	4.38	0.78	13215	46028	151462	1108107	17.7	48.5	6.5	28.8	195	0.0	0.15	0.15				
5/20/2017 15:46	3.07	5.48	0.27	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	4.31	3.55	0.47	13215	46028	151462	1108107	34.2	62.7	5.5	34.0	195	0.0	0.18	0.18				
5/20/2017 15:47	6.31	6.38	0.42	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	4.90	4.71	2.55	13215	46028	151462	1108107	56.7	75.5	28.8	52.3	195	0.0	0.27	0.27				
5/20/2017 15:48	2.88	5.81	4.38	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	7.41	4.71	8.22	13215	46028	151462	1108107	28.2	78.3	75.3	75.3	195	0.0	0.30	0.30				
5/20/2017 15:49	3.88	6.08	3.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	5.81	4.86	4.86	13215	46028	151462	1108107	28.2	78.3	75.3	75.3	195	0.0	0.30	0.30				
5/20/2017 15:50	1.84	5.81	1.84	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	3.48	5.11	1.87	13215	46028	151462	1108107	27.8	57.7	45.4	31.8	195	0.0	0.14	0.14				
5/20/2017 15:51	2.52	2.52	2.52	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.36	3.70	1.45	13215	46028	151462	1108107	27.8	57.7	45.4	31.8	195	0.0	0.14	0.14				
5/20/2017 15:52	0.58	3.88	3.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.46	3.45	3.87	13215	46028	151462	1108107	21.4	49.3	28.1	34.7	195	0.0	0.11	0.11				
5/20/2017 15:53	0.58	3.88	3.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.94	3.58	3.98	13215	46028	151462	1108107	11.5	49.4	40.3	38.8	195	0.0	0.09	0.09				
5/20/2017 15:54	0.58	3.88	3.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.02	3.29	3.52	13215	46028	151462	1108107	9.8	40.5	45.1	42.8	195	0.0	0.05	0.05				
5/20/2017 15:55	0.58	3.88	3.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.09	2.72	2.70	13215	46028	151462	1108107	8.1	37.1	38.8	36.5	195	0.0	0.04	0.04				
5/20/2017 15:56	0.58	3.88	3.88	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.31	2.53	2.21	13215	46028	151462	1108107	6.8	30.7	30.5	30.8	195	0.0	0.04	0.04				
5/20/2017 15:57	0.34	2.35	1.19	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	1.80	2.38	1.37	13215	46028	151462	1108107	10.0	28.7	14.3	20.5	195	0.0	0.05	0.05				
5/20/2017 15:58	0.24	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.04	2.01	0.75	13215	46028	151462	1108107	12.7	24.4	9.4	18.8	195	0.0	0.07	0.07				
5/20/2017 15:59	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.81	1.83	0.78	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:00	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:01	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.04	1.83	0.78	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:02	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:03	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:04	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:05	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:06	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:07	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:08	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13.8	195	0.0	0.06	0.06				
5/20/2017 16:09	1.34	2.19	0.65	NOX ONLINE 7	BOZ online 2, 14	PLM12	-0.7	0.1	0.1	0.1	2.16	1.80	0.83	13215	46028	151462	1108107	18.2	22.7	8.5	13								

TIME	OBSERVED CONCENTRATION PM				CALCULATION CORRECTIONS				CORRECTED PM VALUES				FLOW MEASUREMENTS SCFM				MASS EMISSIONS				EMISSION FACTOR			
	NO2 CPM	NO2 M	NO2 OUT	NO2 IN	NOX 7	NO2 M	NO2 OUT	NO2 IN	NO2 M	NO2 OUT	NO2 M	NO2 OUT	NO2 M	NO2 OUT	NO2 M	NO2 OUT	NO2 M	NO2 OUT	NO2 M	NO2 OUT	NO2 M	NO2 OUT		
5/20/2011 19:20	0.07	0.12	0.06	0.06	PM10	0.07	0.12	0.06	PM10	0.07	0.12	0.06	PM10	0.07	0.12	0.06	PM10	0.07	0.12	0.06	PM10	0.07	0.12	
5/20/2011 19:25	0.08	0.14	0.06	0.08	PM10	0.08	0.14	0.06	PM10	0.08	0.14	0.06	PM10	0.08	0.14	0.06	PM10	0.08	0.14	0.06	PM10	0.08	0.14	
5/20/2011 19:30	0.09	0.16	0.07	0.09	PM10	0.09	0.16	0.07	PM10	0.09	0.16	0.07	PM10	0.09	0.16	0.07	PM10	0.09	0.16	0.07	PM10	0.09	0.16	
5/20/2011 19:35	0.10	0.18	0.08	0.10	PM10	0.10	0.18	0.08	PM10	0.10	0.18	0.08	PM10	0.10	0.18	0.08	PM10	0.10	0.18	0.08	PM10	0.10	0.18	
5/20/2011 19:40	0.11	0.20	0.09	0.11	PM10	0.11	0.20	0.09	PM10	0.11	0.20	0.09	PM10	0.11	0.20	0.09	PM10	0.11	0.20	0.09	PM10	0.11	0.20	
5/20/2011 19:45	0.12	0.22	0.10	0.12	PM10	0.12	0.22	0.10	PM10	0.12	0.22	0.10	PM10	0.12	0.22	0.10	PM10	0.12	0.22	0.10	PM10	0.12	0.22	
5/20/2011 19:50	0.13	0.24	0.11	0.13	PM10	0.13	0.24	0.11	PM10	0.13	0.24	0.11	PM10	0.13	0.24	0.11	PM10	0.13	0.24	0.11	PM10	0.13	0.24	
5/20/2011 19:55	0.14	0.26	0.12	0.14	PM10	0.14	0.26	0.12	PM10	0.14	0.26	0.12	PM10	0.14	0.26	0.12	PM10	0.14	0.26	0.12	PM10	0.14	0.26	
5/20/2011 20:00	0.15	0.28	0.13	0.15	PM10	0.15	0.28	0.13	PM10	0.15	0.28	0.13	PM10	0.15	0.28	0.13	PM10	0.15	0.28	0.13	PM10	0.15	0.28	
5/20/2011 20:05	0.16	0.30	0.14	0.16	PM10	0.16	0.30	0.14	PM10	0.16	0.30	0.14	PM10	0.16	0.30	0.14	PM10	0.16	0.30	0.14	PM10	0.16	0.30	
5/20/2011 20:10	0.17	0.32	0.15	0.17	PM10	0.17	0.32	0.15	PM10	0.17	0.32	0.15	PM10	0.17	0.32	0.15	PM10	0.17	0.32	0.15	PM10	0.17	0.32	
5/20/2011 20:15	0.18	0.34	0.16	0.18	PM10	0.18	0.34	0.16	PM10	0.18	0.34	0.16	PM10	0.18	0.34	0.16	PM10	0.18	0.34	0.16	PM10	0.18	0.34	
5/20/2011 20:20	0.19	0.36	0.17	0.19	PM10	0.19	0.36	0.17	PM10	0.19	0.36	0.17	PM10	0.19	0.36	0.17	PM10	0.19	0.36	0.17	PM10	0.19	0.36	
5/20/2011 20:25	0.20	0.38	0.18	0.20	PM10	0.20	0.38	0.18	PM10	0.20	0.38	0.18	PM10	0.20	0.38	0.18	PM10	0.20	0.38	0.18	PM10	0.20	0.38	
5/20/2011 20:30	0.21	0.40	0.19	0.21	PM10	0.21	0.40	0.19	PM10	0.21	0.40	0.19	PM10	0.21	0.40	0.19	PM10	0.21	0.40	0.19	PM10	0.21	0.40	
5/20/2011 20:35	0.22	0.42	0.20	0.22	PM10	0.22	0.42	0.20	PM10	0.22	0.42	0.20	PM10	0.22	0.42	0.20	PM10	0.22	0.42	0.20	PM10	0.22	0.42	
5/20/2011 20:40	0.23	0.44	0.21	0.23	PM10	0.23	0.44	0.21	PM10	0.23	0.44	0.21	PM10	0.23	0.44	0.21	PM10	0.23	0.44	0.21	PM10	0.23	0.44	
5/20/2011 20:45	0.24	0.46	0.22	0.24	PM10	0.24	0.46	0.22	PM10	0.24	0.46	0.22	PM10	0.24	0.46	0.22	PM10	0.24	0.46	0.22	PM10	0.24	0.46	
5/20/2011 20:50	0.25	0.48	0.23	0.25	PM10	0.25	0.48	0.23	PM10	0.25	0.48	0.23	PM10	0.25	0.48	0.23	PM10	0.25	0.48	0.23	PM10	0.25	0.48	
5/20/2011 20:55	0.26	0.50	0.24	0.26	PM10	0.26	0.50	0.24	PM10	0.26	0.50	0.24	PM10	0.26	0.50	0.24	PM10	0.26	0.50	0.24	PM10	0.26	0.50	
5/20/2011 21:00	0.27	0.52	0.25	0.27	PM10	0.27	0.52	0.25	PM10	0.27	0.52	0.25	PM10	0.27	0.52	0.25	PM10	0.27	0.52	0.25	PM10	0.27	0.52	
5/20/2011 21:05	0.28	0.54	0.26	0.28	PM10	0.28	0.54	0.26	PM10	0.28	0.54	0.26	PM10	0.28	0.54	0.26	PM10	0.28	0.54	0.26	PM10	0.28	0.54	
5/20/2011 21:10	0.29	0.56	0.27	0.29	PM10	0.29	0.56	0.27	PM10	0.29	0.56	0.27	PM10	0.29	0.56	0.27	PM10	0.29	0.56	0.27	PM10	0.29	0.56	
5/20/2011 21:15	0.30	0.58	0.28	0.30	PM10	0.30	0.58	0.28	PM10	0.30	0.58	0.28	PM10	0.30	0.58	0.28	PM10	0.30	0.58	0.28	PM10	0.30	0.58	
5/20/2011 21:20	0.31	0.60	0.29	0.31	PM10	0.31	0.60	0.29	PM10	0.31	0.60	0.29	PM10	0.31	0.60	0.29	PM10	0.31	0.60	0.29	PM10	0.31	0.60	
5/20/2011 21:25	0.32	0.62	0.30	0.32	PM10	0.32	0.62	0.30	PM10	0.32	0.62	0.30	PM10	0.32	0.62	0.30	PM10	0.32	0.62	0.30	PM10	0.32	0.62	
5/20/2011 21:30	0.33	0.64	0.31	0.33	PM10	0.33	0.64	0.31	PM10	0.33	0.64	0.31	PM10	0.33	0.64	0.31	PM10	0.33	0.64	0.31	PM10	0.33	0.64	
5/20/2011 21:35	0.34	0.66	0.32	0.34	PM10	0.34	0.66	0.32	PM10	0.34	0.66	0.32	PM10	0.34	0.66	0.32	PM10	0.34	0.66	0.32	PM10	0.34	0.66	
5/20/2011 21:40	0.35	0.68	0.33	0.35	PM10	0.35	0.68	0.33	PM10	0.35	0.68	0.33	PM10	0.35	0.68	0.33	PM10	0.35	0.68	0.33	PM10	0.35	0.68	
5/20/2011 21:45	0.36	0.70	0.34	0.36	PM10	0.36	0.70	0.34	PM10	0.36	0.70	0.34	PM10	0.36	0.70	0.34	PM10	0.36	0.70	0.34	PM10	0.36	0.70	
5/20/2011 21:50	0.37	0.72	0.35	0.37	PM10	0.37	0.72	0.35	PM10	0.37	0.72	0.35	PM10	0.37	0.72	0.35	PM10	0.37	0.72	0.35	PM10	0.37	0.72	
5/20/2011 21:55	0.38	0.74	0.36	0.38	PM10	0.38	0.74	0.36	PM10	0.38	0.74	0.36	PM10	0.38	0.74	0.36	PM10	0.38	0.74	0.36	PM10	0.38	0.74	
5/20/2011 22:00	0.39	0.76	0.37	0.39	PM10	0.39	0.76	0.37	PM10	0.39	0.76	0.37	PM10	0.39	0.76	0.37	PM10	0.39	0.76	0.37	PM10	0.39	0.76	
5/20/2011 22:05	0.40	0.78	0.38	0.40	PM10	0.40	0.78	0.38	PM10	0.40	0.78	0.38	PM10	0.40	0.78	0.38	PM10	0.40	0.78	0.38	PM10	0.40	0.78	
5/20/2011 22:10	0.41	0.80	0.39	0.41	PM10	0.41	0.80	0.39	PM10	0.41	0.80	0.39	PM10	0.41	0.80	0.39	PM10	0.41	0.80	0.39	PM10	0.41	0.80	
5/20/2011 22:15	0.42	0.82	0.40	0.42	PM10	0.42	0.82	0.40	PM10	0.42	0.82	0.40	PM10	0.42	0.82	0.40	PM10	0.42	0.82	0.40	PM10	0.42	0.82	
5/20/2011 22:20	0.43	0.84	0.41	0.43	PM10	0.43	0.84	0.41	PM10	0.43	0.84	0.41	PM10	0.43	0.84	0.41	PM10	0.43	0.84	0.41	PM10	0.43	0.84	
5/20/2011 22:25	0.44	0.86	0.42	0.44	PM10	0.44	0.86	0.42	PM10	0.44	0.86	0.42	PM10	0.44	0.86	0.42	PM10	0.44	0.86	0.42	PM10	0.44	0.86	
5/20/2011 22:30	0.45	0.88	0.43	0.45	PM10	0.45	0.88	0.43	PM10	0.45	0.88	0.43	PM10	0.45	0.88	0.43	PM10	0.45	0.88	0.43	PM10	0.45	0.88	
5/20/2011 22:35	0.46	0.90	0.44	0.46	PM10	0.46	0.90	0.44	PM10	0.46	0.90	0.44	PM10	0.46	0.90	0.44	PM10	0.46	0.90	0.44	PM10	0.46	0.90	
5/20/2011 22:40	0.47	0.92	0.45	0.47	PM10	0.47	0.92	0.45	PM10	0.47	0.92	0.45	PM10	0.47	0.92	0.45	PM10	0.47	0.92	0.45	PM10	0.47	0.92	
5/20/2011 22:45	0.48	0.94	0.46	0.48	PM10	0.48	0.94	0.46	PM10	0.48	0.94	0.46	PM10	0.48	0.94	0.46	PM10	0.48	0.94	0.46	PM10	0.48	0.94	
5/20/2011 22:50	0.49	0.96	0.47	0.49	PM10	0.49	0.96	0.47	PM10	0.49	0.96	0.47	PM10	0.49	0.96	0.47	PM10	0.49	0.96	0.47	PM10	0.49	0.96	
5/20/2011 22:55	0.50	0.98	0.48	0.50	PM10	0.50	0.98	0.48	PM10	0.50	0.98	0.48	PM10	0.50	0.98	0.48	PM10	0.50	0.98	0.48	PM10	0.50	0.98	
5/20/2011 23:00	0.51	1.00	0.49	0.51	PM10	0.51	1.00	0.49	PM10	0.51	1.00	0.49	PM10	0.51	1.00	0.49	PM10	0.51	1.00	0.49	PM10	0.51	1.00	
5/20/2011 23:05	0.52	1.02	0.50	0.52	PM10	0.52	1.02	0.50	PM10	0.52	1.02	0.50	PM10	0.52	1.02	0.50	PM10	0.52	1.02	0.50	PM10	0.52	1.02	
5/20/2011 23:10	0.53	1.04	0.51	0.53	PM10	0.53	1.04	0.51	PM10	0.53	1.04	0.51	PM10	0.53	1.04	0.51	PM10	0.53	1.04	0.51	PM10	0.53	1.04	
5/20/2011 23:15	0.54	1.06	0.52	0.54	PM10	0.54	1.06	0.52	PM10	0.54	1.06	0.52	PM10	0.54	1.06	0.52	PM10	0.54	1.06	0.52	PM10	0.54	1.06	
5/20/2011 23:20	0.55	1.08	0.53	0.55	PM10	0.55	1.08	0.53	PM10	0.55	1.08	0.53	PM10	0.55	1.08	0.53	PM10	0.55	1.08	0.53	PM10	0.55	1.08	
5/20/2011 23:25	0.56	1.10	0.54	0.56	PM10	0.56	1.10	0.54	PM10	0.56	1.10	0.54	PM10	0.56	1.10	0.54	PM10	0.56	1.10	0.54	PM10	0.56	1.10	
5/20/2011 23:30	0.57	1.12	0.55	0.57	PM10	0.57	1.12	0.55	PM10	0.57	1.12	0.55	PM10	0.57	1.12	0.55	PM10	0.57	1.12	0.55	PM10	0.57	1.12	
5/20/2011 23:35	0.58	1.14	0.56	0.58	PM10	0.58	1.14	0.56	PM10	0.58	1.14	0.56	PM10	0.58	1.14	0.56	PM10	0.58	1.14	0.56	PM10	0.58	1.14	
5/20/2011 23:40	0.59	1.16	0.57	0.59	PM10	0.59	1.16	0.57	PM10	0.59	1.16	0.57	PM10	0.59	1.16	0.57	PM10	0.59	1.16	0.57	PM10	0.59	1.16	
5/20/2011 23:45	0.60	1.18	0.58	0.60	PM10	0.60	1.18	0.58	PM10	0.60	1.18	0.58												

GALLATIN STEEL SO, TEST
FLOW AVERAGES

Cold Duct 1		ACFM	SCFMD	SCFMW
	R1	952974.	834555.	846113.
	R2	962283.	834826.	851927.
	R3	<u>932043.</u>	<u>831991.</u>	<u>848086.</u>
	Avg.	949100.	833791.	848709.
Cold Duct 2		ACFMD	SCFMD	SCFMW
	R1	93541.	77357.	78428.
	R2	76467.	69720.	71148.
	R3	<u>83826.</u>	<u>77680.</u>	<u>79183.</u>
	Avg.	84611.	74919.	76253.
Hot Duct		ACFM	SCFMD	SCFMW
	R1	395103.	219690.	222732.
	R2	402313.	219601.	224099.
	R3	<u>378720.</u>	<u>237330.</u>	<u>241921.</u>
	Avg.	392045.	225540.	229584.
Total How		ACFM	SCFMD	SCFMW
		1,425,756.	1,134,250.	1,154,546.

APPENDIX D

FLOW RATES EPA METHODS 1-4

GALLATIN STEEL COMPANY - SUMMARY OF BAGHOUSE FLOW RATES

	COLD 1			COLD 2			LMF			FURNACE A			FURNACE C			TOTAL		
	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW
RUN 1	969420	881409	900084	101937	93063	95035	23697	19491	19904	261695	132503	135310	95756	86409	88240	1452505	1212875	1238573
RUN 2	1034806	877068	898983	19761	17714	18157	16205	13215	13545	52458	46628	47793	290645	151482	155267	1413875	1106107	1133745
RUN 3	1010457	884181	905918	5843	5341	5472	25924	20563	21069	64024	52789	54087	323278	169471	173637	1429526	1132345	1160183
AVERAGE	1004894	880886	901662	42514	38706	39555	21942	17756	18173	126059	77307	79063	236560	135787	139048	1431969	1150442	1177500

NOTE - SCFMD TOTAL USED FOR NOX CONVERSION OF PPM TO POUNDS PER HOUR, SCFMW USED FOR SO2.

Ambient Air Services, Inc.
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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-3-01		
Run Number	1	Volume Metered	64.155
Start Time	1137	Meter Temp (Deg R)	537.3
Finish Time	1142	Orsat CO ₂ %	0
Barometric Pressure	29.74	Orsat O ₂ %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	16	Condensate Volume	28.1
Avg of SQRT of V.H.	1.3743	Delta H (inches H ₂ O)	1.741
Meter Correction (Y)	0.992	Stack Pressure	29.49
Pitot Correction Factor	0.84	Stack Temp (Deg R)	560.5

=====

Moisture in stack gas, volume fraction	0.021
Dry Stack Gas, volume fraction	0.979
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.610
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	4821.5
Actual Stack Gas Flow Rate, ACFM	969420
Actual Stack Gas Flow Rate, (Dry) ACFMD	949306
Stack Gas Flow Rate (Standard conditions), SCFMD	881409
Stack Gas Flow Rate (Standard conditions), SCFMW	900084

GALLATIN STEEL SO, TEST
FLOW AVERAGES

Cold Duct 1		ACFM	SCFMD	SCFMW
	R1	952974.	834555.	846113.
	R2	962283.	834826.	851927.
	R3	<u>932043.</u>	<u>831991.</u>	<u>848086.</u>
	Avg.	949100.	833791.	848709.

Cold Duct 2		ACFMD	SCFMD	SCFMW
	R1	93541.	77357.	78428.
	R2	76467.	69720.	71148.
	R3	<u>83826.</u>	<u>77680.</u>	<u>79183.</u>
	Avg.	84611.	74919.	76253.

Hot Duct		ACFM	SCFMD	SCFMW
	R1	395103.	219690.	222732.
	R2	402313.	219601.	224099.
	R3	<u>378720.</u>	<u>237330.</u>	<u>241921.</u>
	Avg.	392045.	225540.	229584.

Total Flow		ACFM	SCFMD	SCFMW
		1,425,756.	1,134,250.	1,154,546.

APPENDIX D

FLOW RATES
EPA METHODS 1-4

GALLATIN STEEL COMPANY - SUMMARY OF BAGHOUSE FLOW RATES

	COLD 1			COLD 2			LMF			FURNACE A			FURNACE C			TOTAL		
	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW	ACFM	SCFMD	SCFMW
RUN 1	969420	881409	900084	101937	93063	95035	23697	19491	19904	261695	132503	135310	95756	86409	88240	1452505	1212875	1238573
RUN 2	1034806	877068	898983	19761	17714	18157	16205	13215	13545	52458	46628	47793	290645	151482	155267	1413875	1106107	1133745
RUN 3	1010457	884181	905918	5843	5341	5472	25924	20563	21069	64024	52789	54087	323278	169471	173637	1429526	1132345	1160183
AVERAGE	1004894	880886	901662	42514	38706	39555	21942	17756	18173	126059	77307	79063	236560	135787	139048	1431969	1150442	1177500

NOTE - SCFMD TOTAL USED FOR NOX CONVERSION OF PPM TO POUNDS PER HOUR, SCFMW USED FOR SO2.

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-3-01		
Run Number	1	Volume Metered	64.155
Start Time	1137	Meter Temp (Deg R)	537.3
Finish Time	1142	Orsat CO2 %	0
Barometric Pressure	29.74	Orsat O2 %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	16	Condensate Volume	28.1
Avg of SQRT of V.H.	1.3743	Delta H (inches H2O)	1.741
Meter Correction (Y)	0.992	Stack Pressure	29.49
Pitot Correction Factor	0.84	Stack Temp (Deg R)	560.5

=====

Moisture in stack gas, volume fraction	0.021
Dry Stack Gas, volume fraction	0.979
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.610
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	4821.5
Actual Stack Gas Flow Rate, ACFM	969420
Actual Stack Gas Flow Rate, (Dry) ACFMD	949306
Stack Gas Flow Rate (Standard conditions), SCFMD	881409
Stack Gas Flow Rate (Standard conditions), SCFMW	900084

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 2		
Run Date	5-3-01		
Run Number	1	Volume Metered	64.155
Start Time	1150	Meter Temp (Deg R)	537.3
Finish Time	1157	Orsat CO2 %	0
Barometric Pressure	29.74	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	28.1
Avg of SQRT of V.H.	0.3707	Delta H (inches H2O)	1.741
Meter Correction (Y)	0.992	Stack Pressure	29.59
Pitot Correction Factor	0.84	Stack Temp (Deg R)	560.1

=====

Moisture in stack gas, volume fraction	0.021
Dry Stack Gas, volume fraction	0.979
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.610
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	1297.9
Actual Stack Gas Flow Rate, ACFM	101937
Actual Stack Gas Flow Rate, (Dry) ACFMD	99822
Stack Gas Flow Rate (Standard conditions), SCFMD	93063
Stack Gas Flow Rate (Standard conditions), SCFMW	95035

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	LMF		
Run Date	5-3-01		
Run Number	1	Volume Metered	64.155
Start Time	1045	Meter Temp (Deg R)	537.3
Finish Time	1053	Orsat C02 %	0
Barometric Pressure	29.74	Orsat 0 2 %	20.9
Sack Diameter (in.)	60	Orsat CO %	0
Stack Area sq. ft.	19.635	Orsat N %	79.1
Number of Points	12	Condensate Volume	28.1
Avg of SQRT of VH.	0.3272	Delta H (inches H2O)	1.741
Meter Correction (Y)	0.992	Stack Pressure	29.43
Pitot Correction Factor	0.84	Sack Temp (Deg R)	618.3

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Moisture in stack gas, volume fraction	0.021
Dry Stack Gas, volume fraction	0.979
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.610
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	1206.9
Actual Stack Gas Flow Rate, ACFM	23697
Actual Stack Gas Flow Rate, (Dry) ACFMD	23205
Stack Gas Flow Rate (Standard conditions), SCFMD	19491
Stack Gas Flow Rate (Standard conditions), SCFMW	19904

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace A		
Run Date	5-3-01		
Run Number	1	Volume Metered	64.155
Start Time	1009	Meter Temp (Deg R)	537.3
Finish Time	1017	Orsat CO2 %	0
Barometric Pressure	29.74	Orsat O2 %	20.9
Stack Diameter (in.)	108	Orsat CO %	0
Stack Area sq. ft.	63.617	Orsat N %	79.1
Number of Points	12	Condensate Volume	28.1
Avg of SQRT of VH.	0.8750	Delta H (inches H2O)	1.741
Meter Correction (Y)	0.992	Stack Pressure	29.42
Pitot Correction Factor	0.84	Stack Temp (Deg R)	1004.1

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Moisture in stack gas, volume fraction	0.021
Dry Stack Gas, volume fraction	0.979
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.610
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	4113.6
Actual Stack Gas Flow Rate, ACFM	261695
Actual Stack Gas Flow Rate, (Dry) ACFMD	256265
Stack Gas Flow Rate (Standard conditions), SCFMD	132503
Stack Gas Flow Rate (Standard conditions), SCFMW	135310

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace C		
Run Date	5-3-01		
Run Number	1	Volume Metered	64.155
Start Time	1020	Meter Temp (Deg R)	537.3
Finish Time	1027	Orsat CO2 %	0
Barometric Pressure	29.74	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	28.1
Avg of SQRT of VH	0.3462	Delta H (inches H2O)	1.741
Meter Correction (Y)	0.992	Stack Pressure	29.42
Pitot Correction Factor	0.84	Stack Temp (Deg R)	563.4

=====

Moisture in stack gas, volume fraction	0.021
Dry Stack Gas, volume fraction	0.979
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.610
Specific gravity of Stack Gas Relative to Air	0.987
Excess Air (%)	
Average Stack Velocity, FPM	1219.2
Actual Stack Gas Flow Rate, ACFM	95756
Actual Stack Gas Flow Rate, (Dry) ACFMD	93769
Stack Gas Flow Rate (Standard conditions), SCFMD	86409
Stack Gas Flow Rate (Standard conditions), SCFMW	88240

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-3-01		
Run Number	2	Volume Metered	31.921
Start Time	1606	Meter Temp (Deg R)	535.6
Finish Time	1612	Orsat CO ₂ %	0
Barometric Pressure	29.66	Orsat O ₂ %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	16	Condensate Volume	16.5
Avg of SQRT of V.H.	1.4183	Delta H (inches H ₂ O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.37
Pitot Correction Factor	0.84	Stack Temp (Deg R)	596.6

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.570
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	5146.7
Actual Stack Gas Flow Rate, ACFM	1034806
Actual Stack Gas Flow Rate, (Dry) ACFMD	1009579
Stack Gas Flow Rate (Standard conditions), SCFMD	877068
Stack Gas Flow Rate (Standard conditions), SCFMW	898983

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 2		
Run Date	5-3-01		
Run Number	2	Volume Metered	31.921
Start Time	1555	Meter Temp (Deg R)	535.6
Finish Time	1604	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	16.5
Avg of SQRT of V.H.	0.0713	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.48
Pitot Correction Factor	0.84	Stack Temp (Deg R)	566.2

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.570
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	251.6
Actual Stack Gas Flow Rate, ACFM	19761
Actual Stack Gas Flow Rate, (Dry) ACFMD	19279
Stack Gas Flow Rate (Standard conditions), SCFMD	17714
Stack Gas Flow Rate (Standard conditions), SCFMW	18157

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	LMF		
Run Date	5-3-01		
Run Number	2	Volume Metered	31.921
Start Time	1649	Meter Temp (Deg R)	535.6
Finish Time	1657	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	60	Orsat CO %	0
Stack Area sq. ft.	19.635	Orsat N %	79.1
Number of Points	12	Condensate Volume	16.5
Avg of SQRT of V.H.	0.2231	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.32
Pitot Correction Factor	0.84	Stack Temp (Deg R)	619

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.570
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	825.3
Actual Stack Gas Flow Rate, ACFM	16205
Actual Stack Gas Flow Rate, (Dry) ACFMD	15810
Stack Gas Flow Rate (Standard conditions), SCFMD	13215
Stack Gas Flow Rate (Standard conditions), SCFMW	13545

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace A		
Run Date	5-3-01		
Run Number	2	Volume Metered	31.921
Start Time	1632	Meter Temp (Deg R)	535.6
Finish Time	1640	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	108	Orsat CO %	0
Stack Area sq. ft.	63.617	Orsat N %	79.1
Number of Points	12	Condensate Volume	16.5
Avg of SQRT of V.H.	0.2356	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.39
Pitot Correction Factor	0.84	Stack Temp (Deg R)	583.5

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.570
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	845.2
Actual Stack Gas Flow Rate, ACFM	53769
Actual Stack Gas Flow Rate, (Dry) ACFMD	52458
Stack Gas Flow Rate (Standard conditions), SCFMD	46628
Stack Gas Flow Rate (Standard conditions), SCFMW	47793

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace C		
Run Date	5-3-01		
Run Number	2	Volume Metered	31.921
Start Time	1620	Meter Temp (Deg R)	535.6
Finish Time	1629	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	12	Condensate Volume	16.5
Avg of SQRT of V.H.	0.7997	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.37
Pitot Correction Factor	0.84	Stack Temp (Deg R)	970.2

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.570
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	3700.6
Actual Stack Gas Flow Rate, ACFM	290645
Actual Stack Gas Flow Rate, (Dry) ACFMD	283560
Stack Gas Flow Rate (Standard conditions), SCFMD	151482
Stack Gas Flow Rate (Standard conditions), SCFMW	155267

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 1		
Run Date	5-3-01		
Run Number	3	Volume Metered	32.081
Start Time	2009	Meter Temp (Deg R)	536.5
Finish Time	2019	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	192	Orsat CO %	0
Stack Area sq. ft.	201.062	Orsat N %	79.1
Number of Points	16	Condensate Volume	16.3
Avg of SQRT of VH	1.4069	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.38
Pitot Correction Factor	0.84	Stack Temp (Deg R)	578.3

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.580
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	5025.6
Actual Stack Gas Flow Rate, ACFM	1010457
Actual Stack Gas Flow Rate, (Dry) ACFMD	986212
Stack Gas Flow Rate (Standard conditions), SCFMD	884181
Stack Gas Flow Rate (Standard conditions), SCFMW	905918

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Cold Duct No. 2		
Run Date	5-3-01		
Run Number	3	Volume Metered	32.081
Start Time	2021	Meter Temp (Deg R)	536.5
Finish Time	2029	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	16.3
Avg of SQRT of V.H.	0.0213	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.48
Pitot Correction Factor	0.84	Stack Temp (Deg R)	555.5

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.580
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	74.4
Actual Stack Gas Flow Rate, ACFM	5843
Actual Stack Gas Flow Rate, (Dry) ACFMD	5703
Stack Gas Flow Rate (Standard conditions), SCFMD	5341
Stack Gas Flow Rate (Standard conditions), SCFMW	5472

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace A Lmf		
Run Date	5-3-01		
Run Number	3	Volume Metered	32.081
Start Time	1932	Meter Temp (Deg R)	536.5
Finish Time	1940	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	60	Orsat CO %	0
Stack Area sq. ft.	19.635	Orsat N %	79.1
Number of Points	12	Condensate Volume	16.3
Avg of SQRT of V.H.	0.3519	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.35
Pitot Correction Factor	0.84	Stack Temp (Deg R)	637.3

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.580
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	1320.3
Actual Stack Gas Flow Rate, ACFM	25924
Actual Stack Gas Flow Rate, (Dry) ACFMD	25302
Stack Gas Flow Rate (Standard conditions), SCFMD	20563
Stack Gas Flow Rate (Standard conditions), SCFMW	21069

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace A		
Run Date	5-3-01		
Run Number	3	Volume Metered	32.081
Start Time	1948	Meter Temp (Deg R)	536.5
Finish Time	1956	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	108	Orsat CO %	0
Stack Area sq. ft.	63.617	Orsat N %	79.1
Number of Points	12	Condensate Volume	16.3
Avg of SQRT of V.H.	0.2735	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.23
Pitot Correction Factor	0.84	Stack Temp (Deg R)	610.6

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.580
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	1006.4
Actual Stack Gas Flow Rate, ACFM	64024
Actual Stack Gas Flow Rate, (Dry) ACFMD	62488
Stack Gas Flow Rate (Standard conditions), SCFMD	52789
Stack Gas Flow Rate (Standard conditions), SCFMW	54087

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Volumetric Air-Flow Rates

Plant	Gallatin Steel		
Location	Ghent, Kentucky		
Stack	Furnace C		
Run Date	5-3-01		
Run Number	3	Volume Metered	32.081
Start Time	1959	Meter Temp (Deg R)	536.5
Finish Time	2005	Orsat CO2 %	0
Barometric Pressure	29.66	Orsat O2 %	20.9
Stack Diameter (in.)	120	Orsat CO %	0
Stack Area sq. ft.	78.540	Orsat N %	79.1
Number of Points	16	Condensate Volume	16.3
Avg of SQRT of V.H.	0.8919	Delta H (inches H2O)	1.9
Meter Correction (Y)	0.992	Stack Pressure	29.35
Pitot Correction Factor	0.84	Stack Temp (Deg R)	964.3

=====

Moisture in stack gas, volume fraction	0.024
Dry Stack Gas, volume fraction	0.976
Molecular Weight of Stack Gas (Dry Basis)	28.84
Molecular Weight of Stack Gas (Stack conditions)	28.580
Specific gravity of Stack Gas Relative to Air	0.986
Excess Air (%)	
Average Stack Velocity, FPM	4116.1
Actual Stack Gas Flow Rate, ACFM	323278
Actual Stack Gas Flow Rate, (Dry) ACFMD	315521
Stack Gas Flow Rate (Standard conditions), SCFMD	169471
Stack Gas Flow Rate (Standard conditions), SCFMW	173637

APPENDIX E

- MOISTURE RUN DATA SHEETS**
- FLOW TRAVERSE DATA SHEETS**
- PITOT TUBES - POST TEST CALIBRATION CHECK**
- THERMOCOUPLE - POST TEST CALIBRATION CHECK**
- GAS METER POST TEST CALIBRATION**

MOISTURE RUN DATA SHEET

Plant Gallatin Steel Source Baghouse
 Plant Location Ghent Kentucky
 Type of Sampling Train E A Method
 Type of Samples Moisture
 Date 5-3-01 Run No. 1
 Time Start 0940 Time End 1105
 Sample Time 0 min/pf 85 Total Min
 Bar. Pressure 295.0 "Hg Stack Pressure _____ "Hg
 Assumed Moisture 74.0 % FDA 0.98
 Weather Scattered Temperature 78 °F
 Meter Box No. 4 AH 1.85 Y 0.992
 Stack Dimensions Single Compartment (7)
 Slack Area _____ (Effective _____ ft²)
 Slack Height approx 7.5 ft
 Stock Diameter: Upstream NA Downstream NA
 Port Size NA in Nipple Length NA
 U Cord Length 200 feet

Mol'l Processing Rate _____
 Gas Meter Readings: Final 502.492 ft³
 Initial 438.337 ft³
 Net 64.155 ft³
 Impingers Vol. Gain 18 ml
 Silica Gel No. B41 Wt. Gain 10.1 g
 Total Condensate 28.1 ml

Leak Checks: Meter Box/Pump
 Pre-Test 0.008 CFM 10 "Hg
 Box Operator OGGINS Probe Holder OGGINS
 Pyrometer No. 4 Thermocouple No. TT2
 Comments: _____

PORT AND TRAVERSE POINT NUMBER	DISTANCE FROM INSIDE STACK WALL (IN)	CLOCK TIME	GAS METER READING (FT³)	METER ORIFICE PRESS. DIFF		LAST IMPINGER TEMP. (°F)	DRY GAS METER TEMP. (°F)	VACUUM ON SAMPLE TRAIN ("Hg)
				CALC.	ACTUAL			
<u>1</u>	<u>1</u>	<u>5.0</u>	<u>42.2</u>	<u>—</u>	<u>1.9</u>	<u>62</u>	<u>73</u>	<u>5</u>
<u>1</u>	<u>1</u>	<u>10.0</u>	<u>46.1</u>	<u>—</u>	<u>1.9</u>	<u>51</u>	<u>74</u>	<u>5</u>
		<u>15.0</u>	<u>49.9</u>	<u>—</u>	<u>1.9</u>	<u>51</u>	<u>74</u>	<u>5</u>
		<u>20.0</u>	<u>53.7</u>	<u>—</u>	<u>1.9</u>	<u>5</u>	<u>75</u>	<u>5</u>
		<u>25.0</u>	<u>57.5</u>	<u>—</u>	<u>1.8</u>	<u>51</u>	<u>75</u>	<u>5</u>
		<u>30.0</u>	<u>61.3</u>	<u>—</u>	<u>1.8</u>	<u>51</u>	<u>76</u>	<u>5</u>
		<u>35.0</u>	<u>65.1</u>	<u>—</u>	<u>1.8</u>	<u>51</u>	<u>76</u>	<u>5</u>
		<u>40.0</u>	<u>68.7</u>	<u>—</u>	<u>1.8</u>	<u>51</u>	<u>77</u>	<u>5</u>
		<u>45.0</u>	<u>72.5</u>	<u>—</u>	<u>1.7</u>	<u>51</u>	<u>77</u>	<u>5</u>
		<u>50.0</u>	<u>76.2</u>	<u>—</u>	<u>1.7</u>	<u>51</u>	<u>78</u>	<u>5</u>
		<u>55.0</u>	<u>80.0</u>	<u>—</u>	<u>1.7</u>	<u>51</u>	<u>78</u>	<u>5</u>
		<u>60.0</u>	<u>83.8</u>	<u>—</u>	<u>1.7</u>	<u>51</u>	<u>79</u>	<u>5</u>

[illegible]

MOISTURE RUN DATA SHEET

Plant Gallatin Steel Source Baghouse
 Plant Location Ghent Kentucky
 Type of Sampling Train EPA Method 4
 Type of Samples Moisture
 Date 5-3-01 Run No. 2
 Time Start 1635 Time End 1715
 Sample Time 5.0 min/pf 40.0 Total Min
 Bar. Pressure 29.66 "Hg Stack Pressure 29.66 "Hg
 Assumed Moisture 2.0% FDA 0.98
 Weather Scattered Temperature 75 °F
 Meter Box No. 4 ΔH 1.85 Y 0.992
 Stack Dimensions Single Compartment
 Stack Area _____ (Effective _____ ft²)
 Stack Height Approx 7.0 ft
 Stack Diameter Upstream NA Downstream NA
 Port Size NA in Nipple Length NA
 U Cord Length 200 feet

Mat'l Processing Rate _____
 Gas Meter Readings: Final 536.948 ft³
 Initial 505.027 ft³
 Net 31.921 ft³
 Impingers Vol. Gain 9 ml
 Silica Gel No. BH2 Wt. Gain 7.5 g
 Total Condensate 16.5 ml

Leak Checks: Meter Box/Pump OK
 Pre-Test 0.008 CFM 10 "Hg Post-Test 0.004 CFM 5 "Hg
 Box Operator COGGINS Probe Holder COGGINS
 Pyrometer No. _____ Thermocouple No. TT2
 Comments: _____

PORT AND TRAVERSE POINT NUMBER	DISTANCE FROM INSIDE STACK WALL (IN)	CLOCK TIME	GAS METER READING (ft ³)	METER ORIFICE PRESS. DIFF		LAST IMPINGER TEMP. (°F)	DRY GAS METER TEMP. (°F)	VACUUM ON SAMPLE TRAIN ("Hg)
				CALC.	ACTUAL			
		5.0	9.0	—	1.9	66	75	5
		10.0	13.1	—	1.9	62	75	5
		15.0	16.9	—	1.9	59	75	5
		W 0	20.9	—	1.9	59	75	5
		25.0	24.9	—	1.9	58	76	5
		30.0	28.9	—	1.9	57	76	5
		35.0	32.9	—	1.9	57	6	5
		40.0	536.948	—	1.9	57	77	5

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EPA METHOD 4
MOISTURE RUN DATA SHEET

TEST ID _____ PAGE 1 OF _____

Plant Gallatin Steel Source Boychouse
Plant Location Grant Kentucky
Type of Sampling Train EPA Method 4
Type of Samples Moisture
Date 8-3-01 Run No. 3
Time Start 2035 Time End 2115
Sample Time 60 min/pf 40.0 Total Min
Bar. Pressure 29.66 "Hg Stack Pressure _____ "Hg
Assumed Moisture 2.0 % FDA 0.98
Weather Scattered Temperature 70 °F
Meter Box No. 4 AH 1.85 Y 0.992
Stack Dimensions Single Compartment
Stack Area _____ (Effective _____ ft²)
Stack Height Approx 75 ft
Stack Diameter: Upstream NA Downstream NA
Port Size NA in Nipple Length NA
U Cord Length 200 feet

Mot'l Processing Rate _____
Gas Meter Readings: Final 569.697 ft³
Initial 537.616 ft³
Net _____ ft³
Impingers Vol. Gain 10 ml
Silica Gel No. _____ Wt. Gain 16.3 g
Total Condensate 116.3 ml

Leak Checks: Meter Box/Pump BK
Pre-Test 0.008 CFM 12 "Hg Post-Test 0.005 CFM 5 "Hg
Box Operator COGGINS Probe Holder COGGINS
Pyrometer No. _____ Thermocouple No. TT2
Comments: _____

PORT AND TRAVERSE POINT NUMBER	DISTANCE FROM INSIDE STACK WALL (IN)	CLOCK TIME	GAS METER READING (FT³)	METER ORIFICE PRESS. DIFF		LAST IMPINGER TEMP. (°F)	DRY GAS METER TEMP. (°F)	VACUUM ON SAMPLE TRAIN ("Hg)
				CALC.	ACTUAL			
		5.0	41.6	—	1.9	64	76	5
		10.0	45.5	—	1.9	61	6	5
			49.5	—	1.9	59	76	5
		20.0	53.5	—	1.9	58	76	5
		25.0	57.5	—	1.9	58	77	5
		30.0	61.6	—	1.9	59	77	5
		35.0	65.6	—	.9	59	77	5
		40.0	569.697	—	1.9	59	77	5

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
DATE 5-3-01
LOCATION Cold Dust No. 1
STACK I.D. 192.0" Inside Diameter
BAROMETRIC PRESSURE, in. Hg 29.14 29.6
STACK GAUGE PRESSURE, in. H₂O See each run
OPERATORS COGGINS LUTHER

$$\begin{aligned} \text{CO}_2 &= 0.0 \\ \text{O}_2 &= 20.9 \end{aligned}$$

SCHEMATIC OF TRAVERSE POINT LAYOUT

TRAVERSE POINT NUMBER Run 1	VELOCITY HEAD (Δp_s), in. H ₂ O	STACK TEMPERATURE (T_s), °F
1	1.89	99
2	1.90	99
3	1.81	99
4	1.88	99
5	2.06	100
6	2.188	100
7	1.81	101
8	1.79	101
1	1.80	102
2	1.95	101
3	1.91	99
4	1.88	100
5	1.95	101
6	1.89	102
7	1.89	102
8	1.94	103
1	1.90	120
2	1.92	120
3	1.90	120
4	1.75	120
5	2.10	118
6	2.05	118
7	1.90	117
8	1.89	117

[illegible]

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
 DATE 5-3-01
 LOCATION Cold Duct No. 2
 STACK I.D. 120.0"
 BAROMETRIC PRESSURE, in.Hg 30.44 29.74/29.66 (R2+R3)
 STACK GAUGE PRESSURE, in.H₂O _____
 OPERATORS COGGINS/LUTHER

SCHEMATIC OF TRAVERSE POINT LAYOUT

@ 1150 (static = -2.06)

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), in.H ₂ O	STACK TEMPERATURE (T_s), °F
1	0.40	100
2	0.22	101
3	0.13	101
4	0.09	101
5	0.08	101
6	0.05	101
7	0.05	101
8	0.10	98
1	0.06	99
2	0.11	100
3	0.11	100
4	0.12	100
5	0.17	100
6	0.21	100
7	0.22	99
8	0.28	100
1	0.00	92
2	0.00	93
3	0.00	93
4	0.00	93
5	0.00	93
6	0.00	93
7	0.01	94
8	0.02	100

@ 2029

@ 1604 (static = -2.51)

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), in.H ₂ O	STACK TEMPERATURE (T_s), °F
1	0.01	103
2	0.01	103
3	0.01	107
4	0.02	108
5	0.01	109
6	0.01	110
7	0.00	110
8	0.00	109
1	0.01	109
2	0.01	110
3	0.00	110
4	0.01	110
5	0.01	100
6	0.00	100
7	0.00	100
8	0.01	101
1	0.00	99
2	0.00	100
3	0.00	100
4	0.00	101
5	0.00	95
6	0.01	94
7	0.00	94
8	0.00	94

(static = -2.43)

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
 DATE 5-3-01
 LOCATION Furnace A
 STACK I.D. 108.0" Inside diameter
 BAROMETRIC PRESSURE, in.Hg 29.74 / 29.66 / 29.64
 STACK GAUGE PRESSURE, in.H₂O _____
 OPERATORS Coggins / Luther

SCHEMATIC OF TRAVERSE POINT LAYOUT

@100' (Static = 4.4)

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), in.H ₂ O	STACK TEMPERATURE (T_s), °F
1	0.79	546
2	0.81	548
3	0.77	557
4	0.82	558
5	0.83	540
6	0.81	526
7	0.75	531
8	0.80	547
9	0.65	554
10	0.66	548
11	0.73	530
12	0.78	544
1	0.08	151
2	0.09	150
3	0.08	149
4	0.08	150
5	0.07	151
6	0.07	151
7	0.07	151
8	0.08	151
9	0.07	151
10	0.08	151
11	0.06	151
12	0.07	150

@195' (Static = 5.9)

@11.40' (Static = 3.7)

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), in.H ₂ O	STACK TEMPERATURE (T_s), °F
1	0.05 0.71	123540
2	0.06 0.79	123544
3	0.07 0.83	124546
4	0.06 0.87	124542
5	0.05 0.89	124545
6	0.05 0.91	124535
7	0.05 0.88	124546
8	0.04 0.84	123553
9	0.06 0.87	124529
10	0.07	123
11	0.06	123
12	0.05	123

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
 DATE 5-3-01
 LOCATION Furnace C
 STACK I.D. 120.0" Inside diameter
 BAROMETRIC PRESSURE, in. Hg 29.74/29.66/29.66
 STACK GAUGE PRESSURE, in. H₂O _____
 OPERATORS Coggins/Luther

SCHEMATIC OF TRAVERSE POINT LAYOUT

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), in. H ₂ O	STACK TEMPERATURE (T_s), °F	TRAVERSE POINT NUMBER	VELOCITY HEAD (Δp_s), in. H ₂ O	STACK TEMPERATURE (T_s), °F
1	0.16	103	1	0.71	540
2	0.14	103	2	0.79	544
3	0.16	103	3	0.83	546
4	0.17	103	4	0.87	542
5	0.14	103	5	0.89	545
6	0.15	103	6	0.91	535
7	0.11	103	7	0.88	546
8	0.08	104	8	0.87	553
1	0.10	104	1	0.12	481
2	0.10	104	2	0.25	496
3	0.10	104	3	0.42	486
4	0.11	103	4	0.52	481
5	0.11	104	5	0.64	467
6	0.10	104	6	0.63	470
7	0.10	104	7	0.65	469
8	0.11	102	8	0.70	462
1	0.76	453	1	0.68	529
2	0.79	457	2	0.60	537
3	0.82	473	3	0.75	536
4	0.88	469	4	0.76	541
5	0.89	488	5	0.75	523
6	0.85	494	6	0.85	541
7	0.88	486	7	0.86	555
8	0.81	482	8	0.83	546

@ 1020 (static = 420)

@ 1629 (static = 399)

@ 2005

(static = 425)

PRELIMINARY VELOCITY TRAVERSE

PLANT Gallatin Steel
 DATE 5-2-01
 LOCATION LMF
 STACK I.D. 60.0" Inside Diameter
 BAROMETRIC PRESSURE, in.Hg 29.74 / 29.64 / 29.66
 STACK GAUGE PRESSURE, in.H₂O
 OPERATORS COGGINS / LUTHER

SCHEMATIC OF TRAVERSE POINT LAYOUT

@ 1045 (static = -4.15)

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δps), in.H ₂ O	STACK TEMPERATURE (T _s), °F
1	0.06	156
2	0.09	157
3	0.10	158
4	0.10	159
5	0.12	157
6	0.08	144
1	0.11	152
2	0.13	157
3	0.12	162
4	0.13	166
5	0.12	167
6	0.14	164
1	0.10	173
2	0.10	175
3	0.11	176
4	0.10	178
5	0.11	178
6	0.12	179
1	0.20	167
2	0.17	176
3	0.20	182
4	0.17	185
5	0.09	183
6	0.06	176

@ 1940 (static = -4.20)

@ 1657 (static = -4.61)

TRAVERSE POINT NUMBER	VELOCITY HEAD (Δps), in.H ₂ O	STACK TEMPERATURE (T _s), °F
1	0.21	173
2	0.08	169
3	0.08	168
4	0.08	168
5	0.09	166
6	0.08	164
1	0.03	144
2	0.01	149
3	0.03	154
4	0.02	153
5	0.01	150
6	0.01	150

AAS Inc.

AMBIENT AIR SERVICES INCORPORATED
ENVIRONMENTAL CONSULTANTS

PITOT TUBE CALIBRATION MEASUREMENTS

DATE CALIBRATED 5-10-0 PITOT TUBE Furnace "C" Duct

Pitot tube assembly level? ✓ Yes No

Pitot tube openings damaged? Yes (explain below) ✓ No

$\alpha_1 = \underline{2.0}^\circ (<10^\circ)$, $\alpha_2 = \underline{2.0}^\circ (<10^\circ)$, $\beta_1 = \underline{1.5}^\circ (<5^\circ)$,

$\beta_2 = \underline{1.0}^\circ (<5^\circ)$

$\gamma = \underline{1.0}^\circ$, $\theta = \underline{1.0}^\circ$, $A = \underline{1.076}$ in. = $(P_a + P_b)$

$z = A \sin \gamma = \underline{0.019}$ in.; <0.32 / $<1/8$ in.

$w = A \sin \theta = \underline{0.019}$ in.; <0.08 / $<1/32$ in.

$P_a \underline{0.538}$ in. $P_b \underline{0.538}$ in. $D_t = \underline{0.375}$ "

Calibration required? Yes ✓ No

PITOT TUBE CALIBRATION MEASUREMENTSDATE CALIBRATED 5-10-01 PITOT TUBE Furnace "A" DuctPitot tube assembly level? ✓ Yes NoPitot tube openings damaged? Yes (explain below) ✓ No $\alpha_1 = \underline{1.0}^\circ (<10^\circ)$, $\alpha_2 = \underline{1.0}^\circ (<10^\circ)$, $\beta_1 = \underline{1.0}^\circ (<5^\circ)$, $\beta_2 = \underline{1.0}^\circ (<5^\circ)$ $\gamma = \underline{1.0}$, $\theta = \underline{1.0}^\circ$, $A = \underline{1.078}$ in. = $(P_a + P_b)$ $z = A \sin \gamma = \underline{0.019}$ in.; <0.32 / $<1/8$ in. $w = A \sin \theta = \underline{0.019}$ in.; <0.08 / $<1/32$ in. $P_a = \underline{0.539}$ in. $P_b = \underline{0.539}$ in. $D_c = \underline{0.375}$ "Calibration required? Yes ✓ No

PITOT TUBE CALIBRATION MEASUREMENTSDATE CALIBRATED 5-10-01 PITOT TUBE Cold Duct No. 2Pitot tube assembly Level? ✓ Yes NoPitot tube openings damaged? Yes (explain below) ✓ No $\alpha_1 = \underline{2.0}^\circ (<10^\circ)$, $\alpha_2 = \underline{2.0}^\circ (<10^\circ)$, $\beta_1 = \underline{1.0}^\circ (<5^\circ)$, $\beta_2 = \underline{1.0}^\circ (<5^\circ)$ $\gamma = \underline{1.0}^\circ$, $\theta = \underline{2.0}^\circ$, $A = \underline{1.058}$ in. = (Pa + Pb) $z = A \sin \gamma = \underline{\hspace{1cm}}$ in.; <0.32 / $<1/8$ in. $w = A \sin \theta = \underline{\hspace{1cm}}$ in.; <0.08 / $<1/32$ in. $P_a = \underline{0.529}$ in. $P_b = \underline{0.529}$ in. $D_c = \underline{0.375}''$ Calibration required? Yes ✓ No

AAS Inc.

AMBIENT AIR SERVICES INCORPORATED
ENVIRONMENTAL CONSULTANTS

PITOT TUBE CALIBRATION MEASUREMENTS

DATE CALIBRATED 5-9-01 PITOT TUBE Cold Duct No. 1

Pitot tube assembly level? ✓ Yes No

Pitot tube openings damaged? Yes (explain below) ✓ No

α_1 1.0 ° (<10°), α_2 = 4.0 ° (<10°), β_1 = 1.0 ° (<5°),

β_2 = 1.0 ° (<5°)

γ = 1.0 °, θ = 1.0 °, A = 1.069 in. = (P_a + P_b)

z = $A \sin \gamma$ = 0.019 in.; <0.32 / <1/8 in.

w = $A \sin \theta$ = 0.019 in.; <0.08 / <1/32 in.

P_a 0.534 in. P_b 0.535 in. D_c = 0.375"

Calibration required? Yes ✓ No

AAS Inc.

AMBIENT AIR SERVICES INCORPORATED
ENVIRONMENTAL CONSULTANTS

PITOT TUBE CALIBRATION MEASUREMENTS

DATE CALIBRATED 5-9-01 PITOT TUBE LMF DUCT

Pitot tube assembly level? ✓ Yes No

Pitot tube openings damaged? Yes (explain below) ✓ No

$\alpha_1 = \underline{1.0}^\circ (<10^\circ)$, $\alpha_2 = \underline{1.0}^\circ (<10^\circ)$, $\beta_1 = \underline{1.0}^\circ (<5^\circ)$,

$\beta_2 = \underline{1.0}^\circ (<5^\circ)$

$\gamma = \underline{3.0}^\circ$, $\theta = \underline{1.0}^\circ$, $A = \underline{1.106}$ in. = $(P_a + P_b)$

$z = A \sin \gamma = \underline{0.058}$ in.; <0.32 / $<1/8$ in.

$w = A \sin \theta = \underline{0.01}$ in.; <0.08 / $<1/32$ in.

$P_a \underline{0.553}$ in. $P_b \underline{0.553}$ in. $D_c = \underline{0.375}$ "

Calibration required? Yes ✓ No

AMBIENT AIR SERVICES, INC.
106 Ambient Air Way
Starke, Florida

THERMOCOUPLE CALIBRATION FORM

Date 5-10-01 Time 1030
Ambient Temperature 75°F Source Lab
Barometric Pressure 30.05 Source Lab
Technician's Signature Paul Coggins

Standard Thermometer Type Entco 64619
Manufacturer Mercury in glass
Serial Number 64619
Pyrometer Manufacturer Atkins Model 386
Serial Number 386-2 Meter Box

TEMPERATURE SOURCE (A)		Crushed Ice			Ambient Air			Boiling H ₂ O			Hot Oil		
REFERENCE THERMOMETER	Actual Reading	32°F			75°F			212°F			510°F		
	Corrected Temperature												
CALIBRATED THERMOCOUPLE		Indicated Temp.	Difference (B)	Percent Diff. (C)	Indicated Temp.	Difference	Percent Diff.	Indicated Temp.	Difference	Percent Diff.	Indicated Temp.	Difference	Percent Diff.
Serial Number	Location												
	Furnace A				74	1		212	0		513	3	
	Furnace C				74	1		212	0		514	4	
	Cold Duct 1	32	0		74	1		212	0				
	Cold Duct 2	32	0		74	1		212	0				
	LMF	32	0		74	1		212	0				

Comments: Hot Oil reference temperatures were obtained utilizing Mercury in glass, Curtin Matheson Scientific, model 09302

Calibration Tolerances Stack = 1.5% of value, Filter Box = ±5.4°F, Impinger = ±2°F, Meter = ±5.4°F (40CFR Pt 60, App. A Method 5, and QA Handbook Section 3.4, Method 5, page 13, Rev. O)

(A) Type of calibration system used (B) Reference - Indicated = Difference

(C)
$$\left[\frac{(\text{ref. temp. } ^\circ\text{F} + 460) - (\text{indicated temp. } ^\circ\text{F} + 460)}{(\text{reference temp. } ^\circ\text{F} + 460)} \right] \times 100$$

AMBIENT AIR SERVICES, INC.
106 Ambient Air Way
Starke, Florida

THERMOCOUPLE CALIBRATION FORM

Date 5-10-01 Time 1:30
Ambient Temperature 75°F Source abs
Barometric Pressure 30.05 Source hale
Technician's Signature Earl Cox

Standard Thermometer	Type	<u>Ertco Mercury in glass</u>	
	Manufacturer	<u>Ertco</u>	
	Serial Number	<u>64619</u>	
Pyrometer Manufacturer	<u>Omega</u>	Model	<u>9414</u>
Serial Number	<u>BB2B1-K-4</u>	Meter Box	<u>4</u>

[illegible]

Comments

Calibration Tolerances **Stack** = 1.5% of value, **Filter Box** = $\pm 5.4^{\circ}\text{F}$, **Impinger** = $\pm 2^{\circ}\text{F}$, **Meter** = $\pm 5.4^{\circ}\text{F}$ (40CFR Pt 60, App. A Method 5, and QA Handbook Section 3.4, Method 5, page 13, Rev. O)

(A) Type of calibration system used (B) Reference - Indicated = Difference

$$(C) \quad \left[\frac{(\text{ref. temp. } ^\circ\text{F} + 460) \cdot (\text{indicated temp. } ^\circ\text{F} + 460)}{(\text{reference temp. } ^\circ\text{F} + 460)} \right] \times 100$$

AASI 68A

POSTTEST DRY GAS METER CALIBRATION DATA (ENGLISH UNITS)

Test numbers: All

Date: 5-9-01

Meter Box number: 4

Barometric Pressure: 29.99 inches Hg.

Dry Gas Meter Number: 4 Pretest Y: 0.99

Plant: Gallatin Steel

Location: Ghent, Kentucky

Orifice manomtr setting (DH), inches H2O	Gas volume		Temperature				Time in minutes	Vacuum setting inches Hg	Yi
	Wet test meter (Vw), cu.ft.	Dry gas meter (Vd), cu.ft.	Wet test meter (Tw), deg F	Dry gas meter					
				Inlet (Tdi), deg F	Outlet (Tdo), deg F	Average (Td), deg F			
1.90	10.320	10.764	77.50	112.5	89.5	101.00	13.38	5.0	0.9960
1.90	10.768	11.282	78.75	114.0	91.5	102.75	14.01	5.0	0.9923
1.90	12.983	13.613	79.75	112.5	91.5	102.00	16.87	5.0	0.9884
									0.992

If there is only one thermometer on the dry gas meter, record the temperature under Td

Vw= Gas volume passing through the wet test meter, in cubic feet

Vd= Gas volume passing through the dry gas meter, in cubic feet

Tw= Temperature of the gas in the wet test meter, degrees fahrenheit

Tdi= Temperature of the inlet gas of the dry gas meter, degrees fahrenheit

Tdo= Temperature of the outlet gas of the dry gas meter, degrees fahrenheit

Td= Average temperature of the gas in the dry gs meter, obtained by the average of Tdi and Tdo, degrees fahrenheit

DH= Pressure differential across orifice, inches H2O

Yi= Ratio of accuracy of wet test meter to dry gas meter for each run.

Y= Average ratio of accuracy of wet test meter to dry gas meter for all three runs;
tolerance = pretest Y plus/minus 0.05Y

Pb= Barometric pressure, inches Mercury

Time= Time of calibration run, in minutes.

APPENDIX F

- PRODUCTION DATA**
- TEST NOTIFICATION LETTER**

Gallatin Steel Company - Fan Amps, Damper Positions and Furnace Static Pressure Readings for May 3, 2001

RUN 1:	MA 1 RUNNING AMPS	DP14A % OPEN	MA 2 RUNNING AMPS	DP14B % OPEN	MA 3 RUNNING AMPS	DP14C % OPEN	MA 4 RUNNING AMPS	DP14D % OPEN	MA 5 RUNNING AMPS	DP14E % OPEN	HG 1 RUNNING AMPS	DP13A % OPEN	HG 2 RUNNING AMPS	DP13B % OPEN	HG 3 RUNNING AMPS	DP13C % OPEN	DP 1A % OPEN	DP 2A % OPEN	DP 2 % OPEN	DP 1 % OPEN	DP 4 % OPEN	DP 4A % OPEN	DP 7A % OPEN	DP 7C % OPEN	DP 8 % OPEN	DP 7B % OPEN	DP 3 C&D % COE	DP 3 A&E % OPEN	DP 6 % OPEN	DP 5 % OPEN	DP 9 % OPEN	EAF C ROOF PRESSURE PT 2 Inches / 100	EAF A ROOF PRESSURE PT 1 Inches /100	
9:38	125	76	114	71	126	77	122	74	126	77	53	67	0	0	46	58	41	0	0	40	43	0	0	0	0	0	100	100	0	23	0	0.00	-0.13	
9:52	121	74	114	70	124	76	121	74	121	74	46	58	0	0	41	52	10	0	0	99	21	0	0	0	0	0	100	100	0	12	0	0.00	-0.03	
10:07	120	73	111	68	122	74	121	74	121	74	45	57	0	0	41	52	20	0	0	99	98	0	0	0	0	0	100	100	0	22	0	0.01	-0.03	
10:22	118	72	114	70	124	76	122	74	123	75	47	59	0	0	43	54	20	0	0	96	60	0	0	0	0	0	100	100	0	22	0	0.02	-0.07	
10:37	125	76	116	71	128	78	124	74	124	76	50	63	0	0	46	58	91	0	0	19	21	0	0	0	0	0	100	100	0	22	67	0.20	-0.05	
10:52	118	72	111	68	121	74	119	73	120	73	47	59	0	0	42	53	91	0	0	0	43	0	0	0	0	0	100	100	0	12	67	0.20	-0.02	
11:07	118	72	111	68	121	74	119	73	121	74	46	58	0	0	41	52	91	0	0	19	21	0	0	0	0	0	100	100	0	23	0	0.10	-0.05	
11:22	118	72	111	68	121	74	119	73	121	74	47	59	0	0	41	52	91	0	0	19	43	0	0	0	0	0	100	100	0	23	0	-0.04	-0.05	
11:37	120	73	114	70	124	76	121	74	121	74	50	63	0	0	46	58	11	0	0	55	21	0	0	0	0	0	100	100	0	13	68	0.06	-0.1	
11:52	115	70	110	67	121	74	119	73	118	72	45	57	0	0	41	52	20	0	0	99	21	0	0	0	0	0	100	100	0	23	68	0.00	-0.01	
12:07	115	70	107	65	118	72	116	71	116	71	45	57	0	0	41	52	21	0	0	99	21	0	0	0	0	0	100	100	0	12	0	0.02	-0.05	
12:22	120	73	114	70	124	76	121	74	121	74	49	62	0	0	44	56	77	0	0	39	43	0	0	0	0	0	100	100	0	22	0	-0.02	-0.06	
12:37	118	72	111	68	121	74	119	73	121	74	46	58	0	0	42	53	41	0	0	99	21	0	0	0	0	0	100	100	0	22	0	-0.02	-0.06	
12:47	118	72	111	68	119	73	116	71	116	71	46	58	0	0	42	53	91	0	0	0	4	0	0	0	0	0	100	100	0	22	0	0.16	-0.04	
RUN 2:																																		
15:03	111	74	114	70	122	74	121	74	121	74	51	65	0	0	46	58	21	0	0	39	2	0	0	0	0	0	100	100	0	22	0	0.04	-0.11	
15:18	111	70	110	67	118	72	116	71	116	71	45	57	0	0	41	52	11	0	0	99	2	0	0	0	0	0	100	100	0	23	0	0.01	-0.05	
15:33	111	70	111	68	118	72	118	72	116	71	45	57	0	0	41	52	11	0	0	99	2	0	0	0	0	0	100	100	0	11	0	0.05	-0.04	
15:48	111	70	110	67	119	73	119	73	116	71	45	57	0	0	41	52	20	0	0	83	4	0	0	0	0	0	100	100	0	22	0	0.02	-0.06	
16:03	111	74	116	71	126	77	124	76	126	77	55	70	0	0	46	58	91	0	0	20	36	0	0	0	0	0	100	100	0	22	0	0.04	-0.05	
16:18	111	71	111	68	119	73	119	73	118	72	46	58	0	0	42	53	91	0	0	0	2	0	0	0	0	0	100	100	0	13	0	0.20	-0.03	
16:33	115	70	107	65	116	71	116	71	116	71	47	59	0	0	42	53	91	0	0	19	6	0	0	0	0	0	100	100	0	13	0	0.17	-0.04	
16:48	111	72	111	68	119	74	119	73	121	74	47	59	0	0	42	53	91	0	0	19	4	0	0	0	0	0	100	100	0	23	0	0	-0.04	
17:03	120	73	114	70	121	74	121	74	121	74	50	63	0	0	46	58	11	0	0	72	4	0	0	0	0	0	100	100	0	22	0	-0.01	-0.05	
17:18	118	72	113	69	122	74	119	73	121	74	47	59	0	0	43	54	20	0	0	99	2	0	0	0	0	0	100	100	0	22	0	0.01	-0.04	
17:33	115	70	110	67	118	72	119	73	116	71	45	57	0	0	41	52	20	0	0	99	4	0	0	0	0	0	100	100	0	23	0	0.02	-0.02	
17:48	123	75	116	71	124	76	124	76	123	75	51	63	0	0	48	61	41	0	0	0	2	0	0	0	0	0	100	100	0	13	67	-0.03	-0.05	
17:55	124	74	114	70	124	78	122	74	121	74	50	63	0	0	45	57	91	0	0	0	2	0	0	0	0	0	100	100	0	22	67	0.2	-0.04	

Gallatin Steel Company - Fan Amps, Damper Positions and Furnace Static Pressure Readings for May 3, 2001

RUN 1:	MA 1 RUNNING AMPS	DP14A % OPEN	MA 2 RUNNING AMPS	DP14B % OPEN	MA 3 RUNNING AMPS	DP14C % OPEN	MA 4 RUNNING AMPS	DP14D % OPEN	MA 5 RUNNING AMPS	DP14E % OPEN	HG 1 RUNNING AMPS	DP13A % OPEN	HG 2 RUNNING AMPS	DP13B % OPEN	HG 3 RUNNING AMPS	DP13C % OPEN	DP 1A % OPEN	DP 2A % OPEN	DP 2 % OPEN	DP 1 % OPEN	DP 4 % OPEN	DP 4A % OPEN	DP 7A % OPEN	DP 7C % OPEN	DP 8 % OPEN	DP 7B % OPEN	DP 3 C&D % OPEN	DP 3 A&B % OPEN	DP 6 % OPEN	DP 5 % OPEN	DP 9 % OPEN	EAF C ROOF PRESSURE PT 2 Inches / 100	EAF A ROOF PRESSURE PT 1 Inches /100	
RUN 3:																																		
18:39	121	74	114	70	122	74	121	74	121	74	50	63	0	0	46	58	21	0	0	39	21	0	0	0	0	0	0	100	100	0	22	0	-0.01	-0.12
18:54	115	70	111	68	116	71	116	71	116	71	47	59	0	0	43	54	11	0	0	85	21	0	0	0	0	0	0	100	100	0	12	0	0	-0.09
19:09	118	72	113	69	121	74	121	74	120	73	46	58	0	0	42	53	20	0	0	99	21	0	0	0	0	0	0	100	100	0	22	0	0	-0.02
19:24	118	72	110	67	118	72	116	71	118	72	45	57	0	0	41	52	20	0	0	99	21	0	0	0	0	0	0	100	100	0	22	0	0.00	0.02
19:39	121	74	116	71	124	76	122	74	123	75	50	63	0	0	46	58	41	0	0	12	43	0	0	0	0	0	0	100	100	0	11	68	0.06	-0.06
19:54	120	73	114	70	124	76	122	74	121	74	50	63	0	0	43	54	91	0	0	19	21	0	0	0	0	0	0	100	100	0	12	68	0.2	-0.08
20:09	121	74	114	70	124	76	122	74	121	74	49	62	0	0	43	54	91	0	0	19	99	0	0	0	0	0	0	100	100	0	22	0	0.12	-0.07
20:24	121	74	113	69	122	74	121	74	121	74	47	59	0	0	41	52	91	0	0	19	21	0	0	0	0	0	0	100	100	0	22	0	0.01	-0.07
20:39	123	75	116	71	126	77	124	76	121	74	50	63	0	0	46	58	11	0	0	43	21	0	0	0	0	0	0	100	100	0	12	0	-0.01	-0.08
20:54	121	73	114	70	122	74	119	73	121	74	47	59	0	0	41	52	10	0	0	98	43	0	0	0	0	0	0	100	100	0	12	0	0.01	-0.03
21:09	118	72	111	68	121	74	119	73	120	73	45	57	0	0	41	52	20	0	0	99	99	0	0	0	0	0	0	100	100	0	23	0	0.02	-0.04
21:24	118	72	113	69	121	74	119	73	121	74	45	57	0	0	41	52	20	0	0	99	21	0	0	0	0	0	0	100	100	0	23	0	0.02	-0.06
21:39	121	73	114	70	124	76	122	74	123	75	47	59	0	0	43	54	20	0	0	88	43	0	0	0	67	0	0	100	100	0	23	0	0.02	-0.13
21:54	121	74	116	71	124	76	122	74	123	75	55	70	0	0	47	59	71		0	0	43	0	0	0	67	0	0	100	100	0	22	0	-0.07	-0.04

Damper Legend

DP1A	C Shell water cooled damper
DP2A	C Shell slag damper
DP2	A Shell slag damper
DP1	A Shell water cooled damper
DP4	LMF roof
DP4A	LMF dilution air
DP7A	Ladle tearout
DP7C	Ladle drying
DP8	Ladle dump
DP7B	Ladle preheat
DP3D/DP3C	C Shell canopy
DP3B/DP3A	A Shell canopy
DP5	Caster canopy
DP9	Tundish deskull

MONTH <u>May</u>		MAGNAHELIC CHECKS				YEAR <u>2001</u>	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE <u>5-3-01</u>		Run # <u>1</u>				
TIME	<u>09:38</u>	<u>9:52</u>	<u>10:07</u>	<u>10:22</u>	<u>10:37</u>	<u>10:52</u>	<u>11:07</u>
1	<u>6.4</u>	<u>6.1</u>	<u>CL 6.3</u>	<u>6.0</u>	<u>6.1</u>	<u>6.4</u>	<u>6.1</u>
2	<u>5.6</u>	<u>5.5</u>	<u>CL 5.6</u>	<u>5.5</u>	<u>5.6</u>	<u>5.6</u>	<u>5.6</u>
3	<u>5.7</u>	<u>5.7</u>	<u>6.2</u>	<u>5.6</u>	<u>5.7</u>	<u>5.7</u>	<u>5.8</u>
4	<u>5.3</u>	<u>5.3</u>	<u>5.4</u>	<u>5.4</u>	<u>5.5</u>	<u>5.3</u>	<u>5.5</u>
5	<u>5.5</u>	<u>5.6</u>	<u>6.1</u>	<u>5.5</u>	<u>5.7</u>	<u>5.5</u>	<u>5.7</u>
6	<u>5.5</u>	<u>5.7</u>	<u>6.3</u>	<u>5.7</u>	<u>5.8</u>	<u>5.5</u>	<u>6.0</u>
7	<u>5.5</u>	<u>5.4</u>	<u>5.9</u>	<u>5.4</u>	<u>5.5</u>	<u>5.4</u>	<u>5.5</u>
8	<u>5.4</u>	<u>5.5</u>	<u>6.1</u>	<u>5.5</u>	<u>5.6</u>	<u>5.5</u>	<u>5.7</u>
9	<u>cleaning 5.1</u>	<u>5.5</u>	<u>6.0</u>	<u>5.4</u>	<u>5.6</u>	<u>5.3</u>	<u>5.6</u>
10	<u>4.5</u>	<u>5.4</u>	<u>6.0</u>	<u>5.1</u>	<u>5.3</u>	<u>CL 5.1</u>	<u>5.1</u>
11	<u>5.5</u>	<u>5.0</u>	<u>5.5</u>	<u>5.0</u>	<u>5.2</u>	<u>5.5</u>	<u>5.2</u>
12	<u>6.0</u>	<u>5.5</u>	<u>6.0</u>	<u>5.4</u>	<u>5.7</u>	<u>6.0</u>	<u>5.6</u>
13	<u>5.8</u>	<u>5.4</u>	<u>5.6</u>	<u>5.1</u>	<u>5.2</u>	<u>5.7</u>	<u>5.5</u>
14	<u>4.9</u>	<u>5.0</u>	<u>5.5</u>	<u>5.0</u>	<u>5.0</u>	<u>5.5</u>	<u>5.2</u>
15	<u>5.4</u>	<u>5.0</u>	<u>5.3</u>	<u>5.0</u>	<u>5.0</u>	<u>5.3</u>	<u>5.1</u>
16	<u>5.7</u>	<u>5.5</u>	<u>5.7</u>	<u>5.1</u>	<u>5.3</u>	<u>5.7</u>	<u>5.5</u>
17	<u>6.1</u>	<u>5.8</u>	<u>6.3</u>	<u>CL 5.5</u>	<u>5.7</u>	<u>6.0</u>	<u>6.0</u>
18	<u>6.0</u>	<u>5.8</u>	<u>6.1</u>	<u>6.4</u>	<u>5.5</u>	<u>6.0</u>	<u>5.9</u>
19	<u>5.5</u>	<u>5.3</u>	<u>5.5</u>	<u>5.6</u>	<u>5.0</u>	<u>5.5</u>	<u>5.3</u>
20	<u>5.5</u>	<u>5.3</u>	<u>5.5</u>	<u>5.7</u>	<u>5.0</u>	<u>5.5</u>	<u>5.3</u>
21	<u>5.6</u>	<u>5.2</u>	<u>5.6</u>	<u>5.8</u>	<u>5.0</u>	<u>5.6</u>	<u>5.2</u>
22	<u>5.8</u>	<u>5.3</u>	<u>5.8</u>	<u>6.1</u>	<u>5.2</u>	<u>5.7</u>	<u>5.5</u>
23	<u>5.7</u>	<u>5.0</u>	<u>5.6</u>	<u>6.0</u>	<u>5.2</u>	<u>5.6</u>	<u>5.0</u>
24	<u>5.7</u>	<u>CL 5.0</u>	<u>5.5</u>	<u>6.0</u>	<u>5.3</u>	<u>5.6</u>	<u>4.5</u>

MONTH <u>May</u>		MAGNAHELIC CHECKS				YEAR <u>2001</u>	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE <u>5-3-01</u>		Run # <u>1</u>				
	TIME						
	11:22	11:37	11:52	12:07	12:22	12:37	12:47
1	6.5	6.0	6.3	6.5	6.4	6.5	6.3
2	5.6	5.4	5.6	5.8	5.8	5.8	5.7
3	CL 5.8	5.5	5.8	6.1	5.9	6.0	5.9
4	6.0	5.3	5.5	5.8	5.7	5.4	5.6
5	5.7	5.5	5.9	6.0	6.0	CL 5.5	5.8
6	6.4	5.6	6.0	6.0	6.0	6.5	5.9
7	5.9	5.3	5.5	5.7	5.6	5.9	5.5
8	6.1	5.2	5.6	5.9	5.7	6.2	5.6
9	6.1	5.3	5.7	5.7	5.8	6.1	5.6
10	4.9	5.1	5.6	5.5	5.5	6.0	5.4
11	5.7	4.8	5.3	5.0	5.3	5.7	5.0
12	6.1	5.3	5.7	CL 5.5	5.8	6.0	5.5
13	5.7	5.1	5.6	6.0	5.3	5.8	5.7
14	5.4	5.0	5.4	5.8	5.1	5.5	5.3
15	5.3	4.9	5.1	5.6	4.9	5.3	5.1
16	5.7	5.2	5.6	6.1	5.2	5.7	CL 5.4
17	6.2	5.5	6.0	6.5	5.7	6.3	6.5
18	6.0	CL 5.3	5.7	6.3	5.7	6.3	6.5
19	5.5	5.5	5.4	5.8	5.1	5.6	6.0
20	5.5	5.5	5.5	5.9	5.2	5.6	6.0
21	5.6	5.6	5.4	6.0	5.1	5.6	6.0
22	5.9	6.0	5.6	6.2	5.3	6.0	6.4
23	5.7	5.6	5.4	6.0	5.2	5.8	6.0
24	5.5	5.5	5.5	5.8	5.1	5.8	5.9

MONTH <u>May</u>		MAGNAHELIC CHECKS				YEAR <u>2001</u>	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE <u>05/03/01</u>		Run # <u>2</u>				
TIME	<u>15:03</u>	<u>15:18</u>	<u>15:33</u>	<u>15:48</u>	<u>16:03</u>	<u>16:18</u>	<u>16:33</u>
1	<u>6.5</u>	<u>6.5</u>	<u>6.9</u>	<u>5.9</u>	<u>6.5</u>	<u>6.6</u>	<u>6.7</u>
2	<u>6.0</u>	<u>5.7</u>	<u>6.1</u>	<u>6.0</u>	<u>5.9</u>	<u>5.7</u>	<u>6.0</u>
3	<u>6.1</u>	<u>6.0</u>	<u>6.3</u>	<u>6.1</u>	<u>6.0</u>	<u>6.0</u>	<u>6.2</u>
4	<u>5.6</u>	<u>5.7</u>	<u>6.0</u>	<u>5.9</u>	<u>5.8</u>	<u>5.5</u>	<u>5.8</u>
5	<u>CL 5.7</u>	<u>6.8</u>	<u>6.2</u>	<u>6.1</u>	<u>5.9</u>	<u>5.7</u>	<u>6.2</u>
6	<u>6.8</u>	<u>6.2</u>	<u>6.5</u>	<u>6.3</u>	<u>6.0</u>	<u>CL 5.7</u>	<u>6.3</u>
7	<u>6.2</u>	<u>5.7</u>	<u>6.0</u>	<u>5.9</u>	<u>5.6</u>	<u>6.0</u>	<u>5.9</u>
8	<u>6.4</u>	<u>5.9</u>	<u>6.2</u>	<u>6.0</u>	<u>5.8</u>	<u>6.0</u>	<u>6.1</u>
9	<u>6.5</u>	<u>5.9</u>	<u>6.1</u>	<u>5.9</u>	<u>5.9</u>	<u>6.1</u>	<u>6.0</u>
10	<u>6.3</u>	<u>5.8</u>	<u>6.0</u>	<u>5.5</u>	<u>5.1</u>	<u>4.8</u>	<u>5.9</u>
11	<u>6.0</u>	<u>5.5</u>	<u>5.8</u>	<u>5.3</u>	<u>5.3</u>	<u>5.7</u>	<u>5.8</u>
12	<u>6.3</u>	<u>5.8</u>	<u>6.0</u>	<u>5.6</u>	<u>5.7</u>	<u>6.2</u>	<u>6.0</u>
13	<u>6.0</u>	<u>5.8</u>	<u>6.0</u>	<u>CL 5.8</u>	<u>5.4</u>	<u>5.9</u>	<u>6.0</u>
14	<u>5.7</u>	<u>5.4</u>	<u>5.7</u>	<u>6.3</u>	<u>4.8</u>	<u>5.0</u>	<u>5.5</u>
15	<u>5.7</u>	<u>5.3</u>	<u>5.5</u>	<u>6.1</u>	<u>5.0</u>	<u>5.5</u>	<u>5.4</u>
16	<u>6.1</u>	<u>5.5</u>	<u>5.9</u>	<u>6.5</u>	<u>5.3</u>	<u>5.9</u>	<u>5.7</u>
17	<u>6.5</u>	<u>6.0</u>	<u>6.3</u>	<u>6.8</u>	<u>5.0</u>	<u>5.5</u>	<u>5.3</u>
18	<u>6.4</u>	<u>5.7</u>	<u>6.2</u>	<u>6.8</u>	<u>5.7</u>	<u>6.3</u>	<u>6.1</u>
19	<u>5.8</u>	<u>5.5</u>	<u>5.7</u>	<u>6.5</u>	<u>5.2</u>	<u>5.7</u>	<u>5.8</u>
20	<u>5.5</u>	<u>CL 5.5</u>	<u>5.6</u>	<u>6.0</u>	<u>5.0</u>	<u>5.5</u>	<u>5.3</u>
21	<u>6.3</u>	<u>6.0</u>	<u>5.9</u>	<u>6.4</u>	<u>5.2</u>	<u>5.8</u>	<u>CL 5.5</u>
22	<u>6.3</u>	<u>6.3</u>	<u>6.1</u>	<u>6.7</u>	<u>5.4</u>	<u>6.1</u>	<u>6.4</u>
23	<u>6.0</u>	<u>6.3</u>	<u>5.9</u>	<u>6.5</u>	<u>5.3</u>	<u>5.9</u>	<u>6.3</u>
24	<u>6.5.8</u>	<u>5.9</u>	<u>5.5</u>	<u>6.2</u>	<u>5.0</u>	<u>5.7</u>	<u>6.0</u>

MONTH <u>May</u>		MAGNAHELIC CHECKS				YEAR <u>2001</u>	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE <u>05/03/01</u>		Run # <u>2</u>				
	TIME						
1	16:48	17:03	17:18	17:33	17:48	17:55	
2	5.9	6.4	6.7	7.0	6.7	6.5	
3	6.0	5.7	6.0	6.0	5.9	5.7	
4	6.4	5.8	6.1	6.0	6.0	6.0	
5	6.0	5.5	5.8	5.7	5.8	5.7	
6	6.3	5.7	6.2	6.0	6.0	6.0	
7	6.5	6.0	6.3	5.9	6.1	6.0	
8	6.1	5.5	5.9	5.6	5.7	5.6	
9	6.5	5.6	6.0	CL 6.0	6.0	5.7	
10	6.5	5.6	6.0	6.4	5.9	5.7	
11	6.4	5.2	4.8	4.9	5.5	5.5	
12	6.0	4.8	5.2	5.7	5.3	5.3	
13	6.3	5.3	6.0	6.3	5.8	5.7	
14	6.0	5.5	5.8	6.3	5.6	5.4	
15	5.7	5.0	5.5	6.0	5.4	5.3	
16	5.6	CL 5.0	5.3	6.0	5.3	5.1	
17	5.9	6.0	5.7	6.2	5.5	5.5	
18	5.5	5.5	5.5	5.7	5.2	5.0	
19	6.5	6.3	6.1	6.7	5.9	5.8	
20	5.8	6.0	5.5	6.0	5.5	5.3	
21	5.5	5.8	5.2	5.9	5.1	5.1	
22	5.9	6.0	5.5	6.1	5.2	5.2	
23	6.3	6.2	5.7	6.5	5.7	5.6	
24	6.0	6.0	5.8	4.3	CL 5.0	5.5	
25	5.8	5.9	5.5	6.0	6.0	5.3	

MONTH <u>MAY</u>		MAGNAHELIC CHECKS				YEAR <u>2001</u>	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE <u>5/03/01</u>		Run # <u>3</u>				
TIME	<u>18:39</u>	<u>18:54</u>	<u>19:09</u>	<u>19:24</u>	<u>19:39</u>	<u>19:54</u>	<u>20:09</u>
1	<u>7.0</u>	<u>6.8</u>	<u>6.6</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>6.5</u>
2	<u>CLEANING</u>	<u>5.8</u>	<u>5.8</u>	<u>6.0</u>	<u>6.0</u>	<u>5.9</u>	<u>5.6</u>
3	<u>6.5</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>CLEANING</u>	<u>5.9</u>
4	<u>6.0</u>	<u>5.5</u>	<u>5.5</u>	<u>5.6</u>	<u>5.8</u>	<u>6.0</u>	<u>5.6</u>
5	<u>6.5</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.2</u>	<u>5.9</u>
6	<u>6.5</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.2</u>	<u>6.4</u>	<u>5.9</u>
7	<u>6.0</u>	<u>5.6</u>	<u>5.6</u>	<u>5.8</u>	<u>5.8</u>	<u>6.0</u>	<u>5.5</u>
8	<u>6.5</u>	<u>5.8</u>	<u>5.8</u>	<u>6.0</u>	<u>6.0</u>	<u>6.4</u>	<u>5.7</u>
9	<u>6.4</u>	<u>5.8</u>	<u>5.8</u>	<u>5.6</u>	<u>6.0</u>	<u>6.4</u>	<u>5.6</u>
10	<u>5.0</u>	<u>5.5</u>	<u>5.5</u>	<u>CLEANING</u>	<u>5.5</u>	<u>6.0</u>	<u>4.4</u>
11	<u>5.9</u>	<u>5.2</u>	<u>5.4</u>	<u>6.0</u>	<u>5.5</u>	<u>5.6</u>	<u>4.5</u>
12	<u>6.2</u>	<u>5.5</u>	<u>5.6</u>	<u>6.2</u>	<u>5.8</u>	<u>6.0</u>	<u>5.5</u>
13	<u>6.0</u>	<u>5.6</u>	<u>5.5</u>	<u>6.2</u>	<u>5.7</u>	<u>6.0</u>	<u>5.5</u>
14	<u>5.6</u>	<u>5.5</u>	<u>5.4</u>	<u>6.0</u>	<u>5.5</u>	<u>5.5</u>	<u>5.4</u>
15	<u>5.5</u>	<u>5.2</u>	<u>5.2</u>	<u>6.0</u>	<u>5.5</u>	<u>5.5</u>	<u>5.0</u>
16	<u>5.9</u>	<u>CLEANING</u>	<u>5.5</u>	<u>6.0</u>	<u>5.7</u>	<u>6.0</u>	<u>5.4</u>
17	<u>5.4</u>	<u>5.5</u>	<u>5.0</u>	<u>5.5</u>	<u>6.0</u>	<u>6.2</u>	<u>5.6</u>
18	<u>6.0</u>	<u>6.5</u>	<u>5.9</u>	<u>6.5</u>	<u>6.0</u>	<u>6.0</u>	<u>5.4</u>
19	<u>5.6</u>	<u>6.0</u>	<u>5.4</u>	<u>6.0</u>	<u>5.2</u>	<u>5.5</u>	<u>CL 5.3</u>
20	<u>5.5</u>	<u>6.0</u>	<u>5.0</u>	<u>5.6</u>	<u>5.0</u>	<u>5.5</u>	<u>5.6</u>
21	<u>5.6</u>	<u>6.0</u>	<u>5.5</u>	<u>6.0</u>	<u>5.0</u>	<u>5.7</u>	<u>5.9</u>
22	<u>6.0</u>	<u>6.5</u>	<u>5.8</u>	<u>6.5</u>	<u>5.5</u>	<u>6.0</u>	<u>6.1</u>
23	<u>5.9</u>	<u>6.0</u>	<u>5.5</u>	<u>6.0</u>	<u>5.2</u>	<u>5.7</u>	<u>6.0</u>
24	<u>5.6</u>	<u>6.0</u>	<u>5.2</u>	<u>6.0</u>	<u>5.0</u>	<u>5.7</u>	<u>5.9</u>

MONTH <u>MAY</u>		MAGNAHELIC CHECKS				YEAR <u>2001</u>	
COMP. NUMBER	PRESSURE DIFFERENTIAL IN COMPARTMENTS						
	DATE <u>5/03/01</u>		Run # <u>3</u>				
	TIME						
	20:24	20:39	20:54	21:09	21:24	21:39	21:45
1	6.8	6.5	6.5	6.9	6.5	6.7	6.7
2	6.0	5.5	5.7	6.9	5.6	6.0	5.7
3	6.0	5.6	5.9	6.0	6.0	6.0	5.7
4	5.6	5.5	5.5	5.4	5.5	5.7	5.2
5	6.0	5.5	5.7	CLEANING	5.9	6.0	CLEANING
6	6.2	5.6	5.9	5.5	6.0	6.2	6.5
7	5.8	5.4	5.5	6.0	5.6	5.9	6.0
8	6.0	5.5	5.6	6.1	5.9	6.0	6.2
9	6.0	5.5	5.6	6.1	5.7	6.0	6.2
10	4.5	4.2	4.2	4.7	5.5	5.8	6.0
11	5.0	4.9	5.2	5.7	5.0	5.2	5.5
12	5.8	CLEANING	5.6	6.0	5.6	5.9	6.0
13	5.6	5.9	5.2	6.0	5.6	5.7	5.8
14	5.5	5.5	5.0	5.6	5.4	5.5	5.5
15	5.0	5.3	5.0	5.5	5.0	5.2	5.5
16	5.5	5.6	5.2	5.9	5.5	5.5	5.7
17	5.0	5.2	4.6	5.2	6.0	6.0	6.2
18	6.0	6.0	5.5	6.0	5.6	5.8	6.0
19	5.5	5.8	5.0	5.6	5.5	5.5	5.5
20	5.5	5.8	5.0	5.8	CLEANING	5.5	5.6
21	5.5	5.9	5.0	5.8	6.0	5.5	5.7
22	5.9	6.0	5.4	6.0	6.5	6.0	6.0
23	5.5	5.8	5.0	5.6	6.0	5.5	5.8
24	5.5	5.6	5.0	5.5	6.0	5.5	5.6



GALLATIN STEEL

ISO 9002 CERTIFIED
QS 9000 CERTIFIED

March 28, 2001

Mr. Gerald Slucher
Source Sampling and Data Management
Section
Technical Services Branch
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601-1403

RE: Gallatin Steel Company, Warsaw, KY, ID # 079-1380-0018
Permit Number V-99-003
Compliance Test Protocol for Emissions Testing

Dear Mr. Slucher:

Gallatin Steel's air testing firm, Ambient Air Services, Inc., is scheduled to be at Gallatin Steel the first week of May to conduct emissions testing on emission point E1 (01) for NOx and SO₂. In accordance with the conditions in our permit, we are not required to conduct testing for VOC, PM, CO, and lead emissions this year based on our test results for the 1998 and 1999.

The protocol submitted to your attention on January 7, 1998 will be followed for the testing of NOx and SO₂ with the following listed changes:

- 1) For NOx, three runs each of three heat cycles in duration will be performed with the inlet probe being positioned in the discharge plenum of the baghouse.
- 2) For SO₂, in order to obtain statistically valid sampling of levels in the baghouse (since there is not homogeneity in the baghouse), we will be testing compartments in pairs (instead of testing one single compartment) over a total of four runs, each run consisting of three heats. We are requesting to test 8 of the 24 compartments during the four runs, two compartments tested during each run. The results of the sampling will provide more accurate information and will produce an average ppm level for the baghouse emissions. Please note that 40 CFR 60 supports and addresses multiple measurement sites for correctly testing particulate emissions. This same logic is also applicable to SO₂ emissions, and supports the use of an "alternate" method to produce more accurate results. Mr. Frazier approved the use of this procedure for the annual SO₂ testing that occurred last year on May 5.

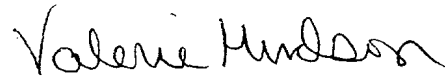
The performance testing is tentatively scheduled to begin on Thursday, May 3 and we will provide you with notification of the exact test date and start time at least 10 days prior to the testing. A source testing report that presents the results of the performance tests will be submitted to the DAQ **within 45** days after the completion of the fieldwork in accordance with the permit.

R.R. 1 Box 320
Ghent Ky 41045-9704
859.567.3100
859.567.3165 fax
www.gallatinsteel.com

Letter to Gerald Slucher
March 28, 2001
Page Two

If you have any questions or comments, please contact me at RR# 1, Box 320, Ghent, KY 41045 or by telephone at 859-567-3141.

Sincerely yours,



Valerie A. Hudson, P.E.
Process Manager - Environmental Systems

cc: Edd Frazier, **DAQ** - Permit Review Branch
Clay Redmond, DAQ - Florence Regional Office
Joe Cooksey, Ambient Air Services, Inc.



APPENDIX G

PROJECT PARTICIPANTS

PROJECT PARTICIPANTS

AMBIENT AIR SERVICES, INC.

Joe Cooksey
Earl Coggins
Alan Luther

GALLATIN STEEL

Valerie Hudson
Joe Dougherty

STATE OBSERVER

Gerald Slucher



GALLATIN
STEEL

ISO 9002 CERTIFIED
QS 9000 CERTIFIED

March 28, 2001

Mr. Gerald Slucher
Source Sampling and Data Management
Section
Technical Services Branch
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601-1403

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R.R. 1 Box 320

Ghent, Ky 41045-9704

859.567.3100

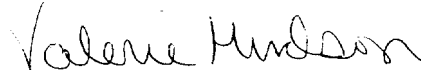
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Letter to Gerald Slucher
March 28, 2001
Page Two

If you have any questions or comments, please contact me at RR# 1, Box 320, Ghent, KY 41045 or by telephone at 859-567-3141.

Sincerely yours,

A handwritten signature in cursive script that reads "Valerie Hudson".

Valerie A. Hudson, P.E.
Process Manager - Environmental Systems

cc: Edd Frazier, DAQ - Permit Review Branch
Clay Redmond, DAQ - Florence Regional Office
Joe Cooksey, Ambient Air Services, Inc.