PARTICULATE MATTER
AND
DIOXIN/FURAN EMISSION
MEASUREMENTS

Kiln/Raw Mill/Clinker Cooler System

TITAN AMERICA
Pennsuco Cement Plant
Miami-Dade County, Florida

Permit No. 0250020-013-AV

Test Dates: November 16-19, 2004
Report Date: January 12, 2005

Koogler & Associates, Inc.
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654-04-01

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

To the best of my knowledge, all applicable field and analytical procedures comply with the Florida Department of Environmental Protection requirements and all test data and plant operating data are true and correct.

John B. Koogler, Ph.D., P.E.

State of Florida
Registration No. 12925

1/12/05

Date

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1.0 INTRODUCTION

Titan America (Titan) owns and operates the Pennsuco Cement Plant, a preheater/precalciner Portland cement plant, located at 11000 N.W. 121 Way, Medley, Miami-Dade County, Florida. The plant is rated at a clinker production capacity of 250 tph on a 24-hour block average basis.

During the period November 16-19, 2004, Koogler & Associates, Inc. of Gainesville, Florida, conducted dioxin/furan (D/F) emission measurements and particulate matter emission measurements on the kiln/raw mill/clinker cooler exhaust stack in accordance with EPA Method 23 and Method 5, respectively, (40 CFR 60, Appendix A). At the Titan Pennsuco Cement Plant the kiln, raw mill and clinker cooler are all exhausted through a common baghouse and stack. The D/F and particulate matter emission measurements were conducted with the raw mill operating and with the raw mill off-line. All D/F was presumed to originate in the kiln system.

The purpose of the testing was to demonstrate compliance with the D/F emission limiting Standard of the *National Emission Standards For Hazardous Air Pollutants (NESHAP) for the Portland Cement Manufacturing Industry* and to demonstrate compliance with the particulate matter emission limiting standard of Permit 0250020-013-AV. The NESHAP for the Portland cement manufacturing industry includes Maximum Achievable Control Technology (MACT) Standards for Portland cement plants which are codified at 40 CFR 63, Subpart LLL.

Portland cement plants must meet the following dioxin/furan emission limiting standards:

- 0.4 nanograms D/F TEQ per dry standard cubic meter corrected to seven percent oxygen when the average particulate matter control device inlet temperature is 204°C (400°F) or less,; or
- 0.2 nanograms D/F TEQ per dry standard cubic meter corrected to seven percent oxygen when the average temperature at the particulate matter control device inlet exceeds 204°C (400°F), corrected to seven percent oxygen.

The NESHAP further requires emission measurements to be conducted while both the kiln and raw mill are operating and again with only the kiln operating (with the raw mill shut down). The clinker cooler operates at all times the kiln operates.

The dioxin/furan emission measurements with the kiln and raw mill both operating were conducted on November 17 and 19, 2004. During the test period, the preheater feed rate averaged 328 tons per hour, the clinker production rate averaged 212 tons per hour and the baghouse inlet temperature averaged 204°F. During the test period, the dioxin/furan concentration in the stack exhausting the baghouse controlling emissions from the kiln/raw mill/clinker cooler system (all exhausting through a common baghouse and stack) averaged 0.013 nanograms D/F TEQ per dry standard cubic meter, corrected to seven percent oxygen. The dioxin/furan emission limit established by the NESHAP is 0.4 nanograms per dry

standard cubic meter, corrected seven percent oxygen, at test conditions (baghouse inlet temperature less than 400°F).

The dioxin/furan emission measurements with the kiln only operating (the raw mill shut down) were conducted on November 16 and 18, 2004. During this test period, the feed rate to the preheater averaged 303.8 tons per hour, the clinker production rate averaged 204.7 tons per hour and the temperature at the inlet of the baghouse averaged 397°F. During this test period, the dioxin/furan stack gas concentration averaged 0.010 nanograms D/F TEQ per dry standard cubic meter, corrected to seven percent oxygen. The NESHAP limits the dioxin/furans to 0.4 nanograms per dry standard cubic meter, corrected to seven percent oxygen, under test conditions (baghouse inlet temperature less than 400°F).

The particulate matter emissions on the kiln/raw mill/cooler were conducted on November 17 and 18, 2004 with the raw mill operating and on November 16 and 18, 2004 with the raw mill down. During the test period on November 17 and 18, 2004, the preheater feed rate averaged 323 tons per hour and the clinker production rate averaged 217 tons per hour. The particulate matter emission rate averaged 6.88 pounds per hour, or 0.02 pounds per ton of feed. On November 16 and 18, 2004 (with the raw mill down), the preheater feed rate averaged 317 tons per hour and the clinker production rate averaged 213 tons per hour. The particulate matter emission rate averaged 9.03 pounds per hour, or 0.03 pounds per tons of feed. The permit limit for particulate matter (expressed as PM10) is 0.105 pounds per ton of

feed or 33 pounds per hour. Opacity data (COMS) for the particulate matter test periods are included in the Appendix. With the raw mill operating the opacity averaged 0.0 percent, and with the raw mill down the opacity averaged 0.0 percent.

Based on the data presented herein, it can be concluded that during the test period of November 16-19, 2004, the dioxin/furan emissions and particulate matter emissions from the kiln/raw mill/clinker cooler system of the Titan Pennsuco Cement Plant were well within the concentration limits established by the NESHAP for the Portland Cement Industry and Permit 0250020-013-AV.

2.0 LOCATION OF SAMPLE PORTS

The locations of the sampling points are shown in Figure 1. Stack gas flow rate measurements and sample collection for dioxin/furan and particulate matter emission measurements were made through four sampling ports located 90 degrees to one another in the 168 inch diameter stack. The ports are located 354 feet above ground level in the 420 foot stack. A total of 12 sampling points were used for the velocity and sampling traverses. The sampling points were located in accordance with criteria established by EPA Test Method 1 (40 CFR 60, Appendix A).

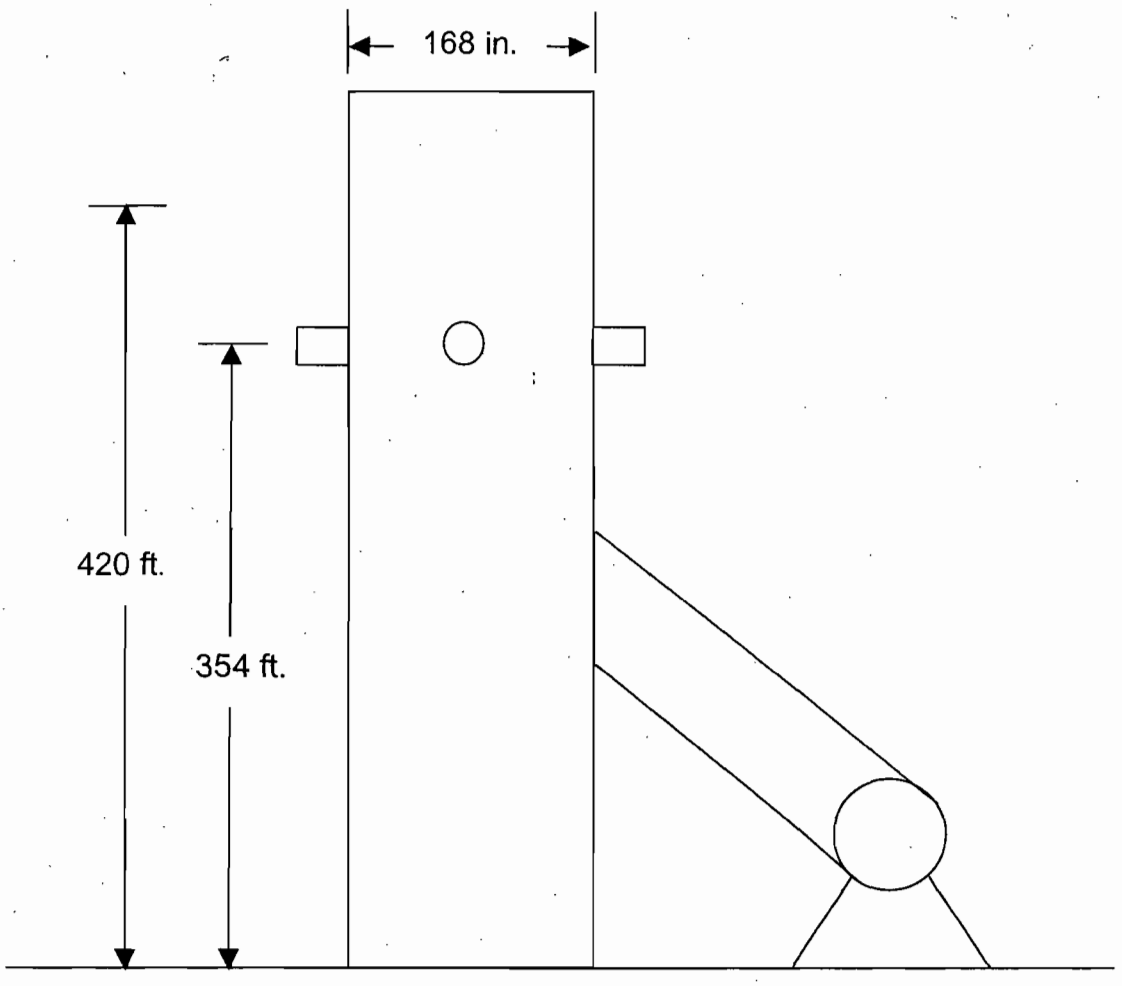
FIGURE 1

SAMPLING POINT LOCATIONS

TITAN AMERICA

PENNSUCO CEMENT PLANT

MIAMI, FLORIDA



***Drawing is not to scale.**

Traverse Points	Distance from Inside Stack Wall (in.)
1	13.4
2	30.5
3	55.8

3.0 FIELD AND ANALYTICAL PROCEDURES

Dioxin/furan emission measurements were made on the kiln/raw mill/clinker cooler stack in accordance with EPA Method 23. The requirements of this method were followed with the exception that toluene was substituted as the rinse solvent for all portions of the sample train where methylene chloride is specified by Method 23. A letter from the EPA office of Air Quality and Planning and Standards has authorized this substitution and a copy of the letter is provided in the Appendix of this report. As required by the applicable NESHAP, the sample time of each test run was three hours and the sample volume of each test run exceeded 2.5 dry standard cubic meters (90 dry standard cubic feet). Particulate matter emission measurements were conducted in accordance with EPA Method 5, with all particulate matter presumed to be PM10.

The sampling point locations were established in accordance with EPA Method 1, the stack gas velocity measurements and stack gas moisture measurements were made in conjunction with the EPA Method 23 and Method 5 tests in accordance with EPA Methods 2 and 4. Measurements to determine the dry molecular weight of the stack gas and to correct the dioxin/furan concentration measurements to seven percent oxygen were made in accordance with EPA Method 3. All EPA test methods are described in 40 CFR 60, Appendix A and have been adopted by reference by FDEP by Rule 62-297.401, F.A.C.

Four sample components for D/F were submitted to the laboratory for each of the test runs under each of the two operating conditions. These components included the filter, the XAD trap, the acetone/toluene equipment rinse and the toluene equipment rinse. Additionally, four components representing a single field blank for all test runs (test runs under each of two operating conditions) and an EPA audit sample were also submitted to the laboratory. The laboratory reported only the total mass of each of 17 dioxin/furan isomers for each of the samples, the one field blank and the audit sample. QA/QC measures and the results of the audit sample analysis are documented in the laboratory report (See Appendix).

The dioxin/furan samples were analyzed by Alta Analytical Perspectives of Wilmington, North Carolina. The laboratory results are summarized in this volume of the test report. The complete laboratory report is available at the Koogler & Associates' office.

The analytical results reported by the laboratory include the mass of individual dioxin/furan isomers. From these masses, the mass equivalences (TEQ) of 2,3,7,8 TCDD were calculated for each of the six test runs and for the field blank. The results of the field blank are reported however the blank value was not used to correct the 2,3,7,8 TCDD TEQ mass of any of the six test runs. It should also be noted that when the mass of a dioxin/furan isomer was reported by the laboratory to be below the limit of detection, the mass was reported as zero in accordance with EPA Method 23, Section 9.9.

4.0 SUMMARY OF RESULTS

4.1 D/F - Raw Mill Operating

During the test period on November 17 and 19, 2004, with the raw mill operating, the feed rate to the preheater averaged 328 tons per hour and the clinker production averaged 212 tons per hour. During the test period, the temperature at the inlet of the baghouse controlling emissions from the common stack exhausting the kiln/raw mill/clinker cooler averaged 204°F.

The pyroprocessing system (kiln and precalciner) was fired with coal. The coal firing rate to the kiln averaged 22.6 tons per hour and was equivalent to a heat input rate of approximately 565 mmBTU per hour. The combined precalciner and kiln heat input is limited by permit to 675 mmBTU per hour.

The stack gas flow rate from the kiln/raw mill/clinker cooler averaged 340,723 dry standard cubic feet per minute at a stack gas temperature of 202°F. The moisture content of the stack gas averaged 15.1 percent and the oxygen concentration averaged 12.7 percent. The dioxin concentration in the stack gas ranged from 0.010 to 0.017 nanograms D/F TEQ per dry standard cubic meter and averaged 0.013 nanograms D/F TEQ per dry standard meter at seven percent oxygen. This concentration compares with the NESHAP limit of 0.4 nanograms TEQ per dry standard cubic meter; all concentrations corrected to seven percent oxygen. These data are summarized in Tables 1 and 2.

4.2 D/F - Raw Mill Off-Line

During the test period on November 16 and 18, 2004, with the raw mill off-line (kiln and clinker cooler only operating), the feed rate to the preheater averaged 304 tons per hour and the clinker production rate averaged 205 tons per hour. During this test period, the temperature at the inlet of the baghouse controlling emissions from the kiln and clinker cooler averaged 397°F.

The coal feed rate to the precalciner and kiln averaged 21.8 tons per hour and was equivalent to a heat input rate of approximately 545 mmBTU per hour. The combined heat input to the precalciner and kiln is limited by permit to 675 mmBTU per hour.

The stack gas flow rate with the raw mill down averaged 332,517 dry standard cubic feet per minute at a stack gas temperature of 359°F. The moisture of the stack gas averaged 8.7 percent and the oxygen concentration averaged 12.3 percent.

The D/F concentration of the stack gas ranged from 0.009 to 0.011 nanograms D/F TEQ per dry standard cubic meter and averaged 0.010 nanograms D/F TEQ per dry standard cubic meter at seven percent oxygen. The NESHAP limit when the temperature at the inlet of the pollution control device exceeds 400°F is 0.2 nanograms TEQ per dry standard cubic meter and 0.4 nanograms TEQ per dry

standard cubic meter (inlet temperature less than 400°F); all concentrations corrected to seven percent oxygen. These data are summarized in Tables 2 and 4.

4.3 Particulate Matter - Raw Mill Operating

Particulate matter emission measurements were conducted on November 17 and 18, 2004 with the raw mill operating. The preheater feed rate averaged 323 tons per hour and the clinker production rate averaged 217 tons per hour.

The stack gas flow rate averaged 334,082 dscfm at 203°F and 14.1 percent moisture. The particulate matter (as PM10) emission rate averaged 6.88 pounds per hour, or 0.021 pounds per ton of feed. The permit limits the PM10 emissions to 33.9 pounds per hour, or to 0.105 pounds per ton of feed. These data are summarized in Table 5. The opacity of emissions from the plant COMS averaged 0.0 percent for the test period (See Appendix).

4.4 Particulate Matter - Raw Mill Not Operating

Particulate matter emission measurements were conducted on November 16 and 18, 2004 with the raw mill not operating. The preheater feed rate averaged 317 tons per hour and the clinker production rate averaged 213 tons per hour.

The stack gas flow rate averaged 326,278 dscfm at 365°F and 8.5 percent moisture. The particulate matter (as PM10) emission rate averaged 9.03 pounds

per hour, or 0.028 pounds per ton of feed. The permit limits the PM10 emissions to 33.3 pounds per hour, or to 0.105 pounds per ton of feed. These data are summarized in Table 6. The opacity of emissions from the plant COMS averaged 0.0 percent (See Appendix).

4.5 Summary

During the November 16-19, 2004 compliance testing for particulate matter and dioxin/furans at the Titan Pennsuco Cement Plant, only two test runs were completed under the kiln operation scenario. The first test run for the particulate matter test and the first test run of the dioxin/furan tests were completed on November 16, 2004. The production of clinker at the maximum production rate requires the operation of the raw mill to provide enough material to the kiln. If the raw mill is not operating, material must be available in the feed silo. The tests were alternated between raw mill up and raw mill down scenarios to maintain an adequate feed level in the silo to operate at the maximum clinker production rate. The plant was unable to operate for a third four-hour test period required for the particulate matter and dioxin/furan test run prior to the expiration of the five consecutive day test period for completing the required three test runs per Rule 62-297.310, F.A.C. The average emissions from the two completed test runs for both dioxin/furans and particulate matter are well below 80 percent of the applicable standards as required by Rule 62-297.310, F.A.C.

Based upon the data reported herein, it can be concluded that the Titan Pennsuco Cement Plant was operating in compliance with all applicable D/F and PM10 emission limiting standards during the test period of November 16-19, 2004.

Table 1

Dioxin / Furan TITAN AMERICA Miami, Florida Cement Kiln / In-line Raw Mill November 17 and 19, 2004 **Raw Mill Operating**								
	Run	Pre-heater	Clinker	Stack Gas Conditions				
	No.	Feed Rate	Production	Flow	Stack	Moisture	O_2	CO_2
Date		(Ton/Hr)	(Ton/Hr)	(dscfm)	(F^o)	(%)	(%)	(%)
17-Nov-04	1	319.5	214.3	349556	220	13.4	13.0	15.0
17-Nov-04	2	343.4	215.7	344752	191	14.6	12.5	14.0
19-Nov-04	3	321.7	206.1	327859	194	17.1	12.5	14.8
	Ave.>	328.2	212.0	340723	202	15.1	12.7	14.6

Dioxin / Furan TITAN AMERICA Miami, Florida Cement Kiln / In-line Raw Mill November 17 and 19, 2004 **Raw Mill Operating**						
Run	Bag House	Sample	Sample	D/F	D/F	D/F
No.	Inlet	Volume	Volume	TEQ	TEQ	TEQ @ 7% O_2
	(F^o)	(dscf)	(dscm)	(ng)	(ng/dscm)	(ng/dscm)
1	223	150.905	4.274	0.029	0.007	0.012
2	192	151.909	4.302	0.027	0.006	0.010
3	197	147.512	4.178	0.044	0.010	0.017
Ave.>	204	150.109	4.251	0.033	0.008	0.013

Table 2

Dioxin / Furan Sample Mass Data
TITAN AMERICA
Miami, Florida
Cement Kiln / In-line Raw Mill
November 17 and 19, 2004
Raw Mill Operating

Analyte	TEQ	Run 1 (Nov-17)		Run 2 (Nov 17)		Run 3 (Nov 19)		Field Blank	
		Lab (2)	TEQ (3)	Lab (2)	TEQ (3)	Lab (2)	TEQ (3)	Lab (2)	TEQ (3)
2378 - TCDD	1	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000
12378 - PeCDD	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
123478 - HxCDD	0.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
123678 - HxCDD	0.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
123789 - HxCDD	0.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1234678 - HpCDD	0.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OCDD	0.001	0.014	0.000	0.022	0.000	0.021	0.000	0.000	0.000
2378 - TCDF	0.1	0.023	0.002	0.015	0.002	0.034	0.003	0.000	0.000
12378 - PeCDF	0.05	0.024	0.001	0.021	0.001	0.034	0.002	0.000	0.000
23478 - PeCDF	0.5	0.038	0.019	0.038	0.019	0.059	0.030	0.000	0.000
123478 - HxCDF	0.1	0.021	0.002	0.023	0.002	0.038	0.004	0.000	0.000
123678 - HxCDF	0.1	0.017	0.002	0.018	0.002	0.033	0.003	0.000	0.000
234678 - HxCDF	0.1	0.011	0.001	0.010	0.001	0.018	0.002	0.000	0.000
123789 - HxCDF	0.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1234678 - HpCDF	0.01	0.012	0.000	0.012	0.000	0.024	0.000	0.000	0.000
1234789 - HpCDF	0.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OCDF	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total TEQ (ng)			0.029		0.027		0.044		0.000

(1) Sample masses reported by laboratory to be BDL are reported to be zero(0.00) per EPA Method 23, Sect. 9.9
(2) Sample mass reported by laboratory in (ng)
(3) TEQ sample mass

Table 3

Dioxin / Furan
TITAN AMERICA
Miami, Florida
Cement Kiln / In-line Raw Mill
November 16 and 18, 2004
Raw Mill Not-Operating

Date	Run No.	Pre-heater Feed Rate (Ton/Hr)	Clinker Production (Ton/Hr)	Stack Gas Conditions				
				Flow (dscfm)	Stack (F^o)	Moisture (%)	O_2 (%)	CO_2 (%)
16-Nov-04	1	302.4	184.8	313827	312	9.6	12.5	15.0
18-Nov-04	2	305.1	224.6	351207	405	7.8	12.0	15.5
	Ave.>	303.8	204.7	332517	359	8.7	12.3	15.3

Dioxin / Furan
TITAN AMERICA
Miami, Florida
Cement Kiln / In-line Raw Mill
November 17 and 19, 2004
Raw Mill Not-Operating

Run No.	Bag House Inlet (F^o)	Sample Volume (dscf)	Sample Volume (dscm)	D/F TEQ (ng)	D/F TEQ (ng/dscm)	D/F TEQ @ 7% O_2 (ng/dscm)
1	377	152.464	4.318	0.029	0.007	0.011
2	418	160.614	4.549	0.027	0.006	0.009
Ave.>	397	156.539	4.433	0.028	0.006	0.010

Table 4

Dioxin / Furan Sample Mass Data
TITAN AMERICA
Miami, Florida
Cement Kiln / In-line Raw Mill
November 16 and 18, 2004
Raw Mill Not-Operating

Analyte	TEQ	Run 1 (Nov 16)		Run 2 (Nov 18)		Field Blank	
		Lab (2)	TEQ (3)	Lab (2)	TEQ (3)	Lab (2)	TEQ (3)
2378 - TCDD	1	0.000	0.000	0.000	0.000	0.000	0.000
12378 - PeCDD	0.5	0.011	0.006	0.000	0.000	0.000	0.000
123478 - HxCDD	0.1	0.000	0.000	0.000	0.000	0.000	0.000
123678 - HxCDD	0.1	0.006	0.001	0.000	0.000	0.000	0.000
123789 - HxCDD	0.1	0.000	0.000	0.000	0.000	0.000	0.000
1234678 - HpCDD	0.01	0.008	0.000	0.010	0.000	0.000	0.000
OCDD	0.001	0.022	0.000	0.025	0.000	0.000	0.000
2378 - TCDF	0.1	0.131	0.013	0.124	0.012	0.000	0.000
12378 - PeCDF	0.05	0.088	0.004	0.054	0.003	0.000	0.000
23478 - PeCDF	0.5	0.146	0.073	0.085	0.042	0.000	0.000
123478 - HxCDF	0.1	0.070	0.007	0.046	0.005	0.000	0.000
123678 - HxCDF	0.1	0.063	0.006	0.038	0.004	0.000	0.000
234678 - HxCDF	0.1	0.032	0.003	0.024	0.002	0.000	0.000
123789 - HxCDF	0.1	0.006	0.001	0.000	0.000	0.000	0.000
1234678 - HpCDF	0.01	0.037	0.000	0.032	0.000	0.000	0.000
1234789 - HpCDF	0.01	0.000	0.000	0.000	0.000	0.000	0.000
OCDF	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Total TEQ (ng)			0.114		0.069		0.000

(1) Sample masses reported by laboratory to be BDL are reported to be zero(0.00) per EPA Method 23, Sect. 9.9
(2) Sample mass reported by laboratory in (ng)
(3) TEQ sample mass

Table 5

SUMMARY OF PARTICULATE MATTER EMISSION TEST DATA

Plant : Titan American
Source/Unit : Kiln - Mill Up
Date: November 17 and 18, 2004

Run No.	Dry Kiln Feed Rate (Tons/hr)	Stack Gas Flow Rate (SCFMD)	Stack Gas Temperature (F)	Stack Gas Moisture (%)	Particulate Matter		
					Conc. (gr/dscf)	Emission Rate (Lbs/Hr)	Emission Rate (lb/ton feed)
1	320.0	323,969	197	14.2	0.0028	7.71	0.024
2	334.8	334,223	200	12.9	0.0021	6.00	0.018
3	313.5	344,055	211	15.2	0.0023	6.92	0.022
Average	322.8	334,082	203	14.1	0.0024	6.88	0.021

Permit Limit = 0.105 lb/ton dry kiln feed = 33.89 lb/hr at 322.8 ton /hr dr

Table 6

SUMMARY OF PARTICULATE MATTER EMISSION TEST DATA

Plant : Titan American
Source/Unit : Kiln - Mill Down
Date: November 16 AND 18, 2004

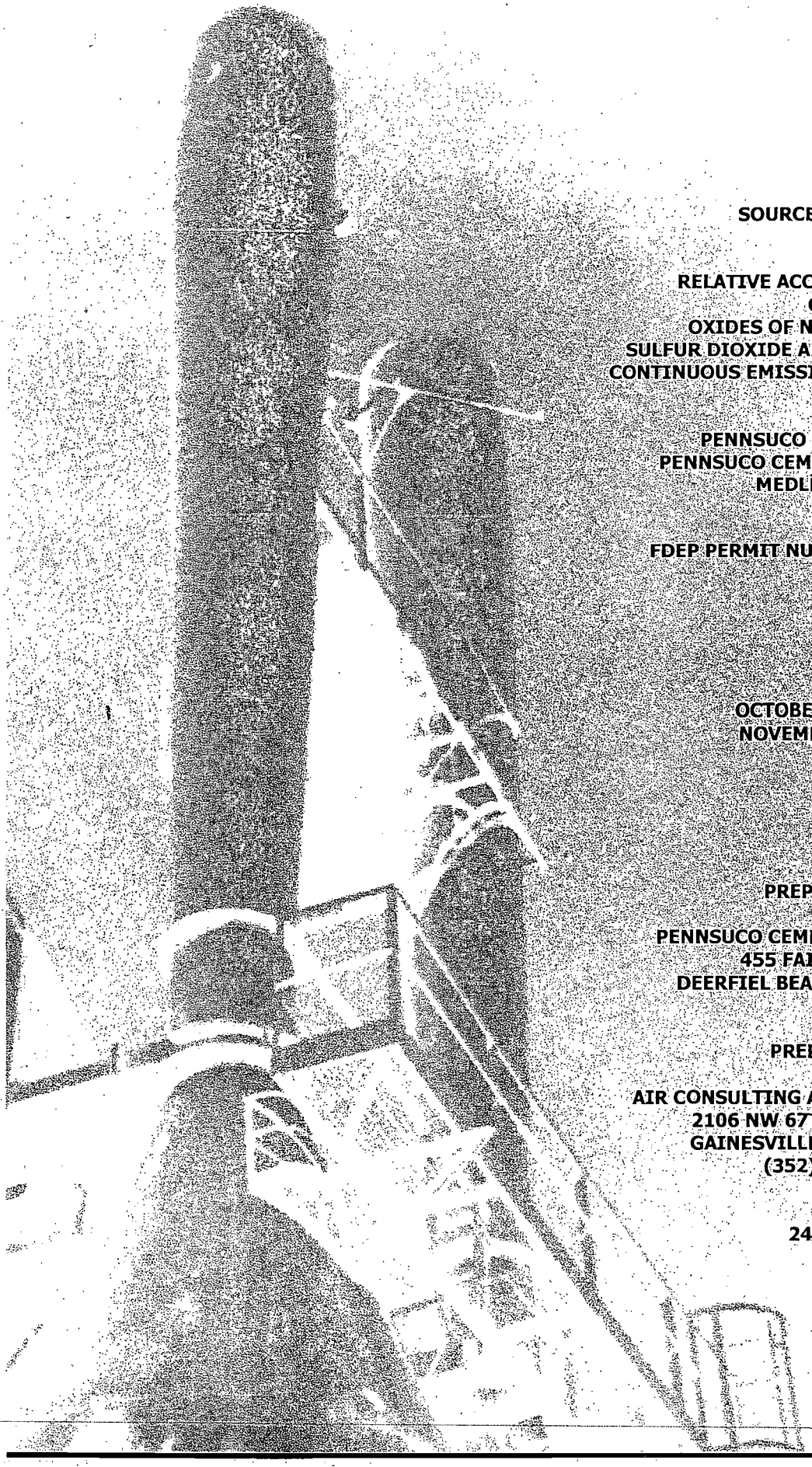
Run No.	Process Weight Rate (Tons/hr)	Stack Gas Flow Rate (SCFMD)	Stack Gas Temperature (F)	Stack Gas Moisture (%)	Particulate Matter		
					Conc. (gr/dscf)	Emission Rate (Lbs/Hr)	Emission Rate (Lbs/ton dry feed)
1	319.7	299,034	377	8.6	0.0040	10.23	0.032
2	314.3	353,523	352	8.3	0.0026	7.82	0.025
Average	317.0	326,278	365	8.5	0.0033	9.03	0.028

Permit Limit = 0.105 lb PM10/ton dry feed = 33.29 lb PM10/hr at 317.0 ton dr

TITAN AMERICA

Plant Operation and CEM Data
PM/PM10 & Dioxins/Furans Compliance Testing
November 2004

Run	Date	Time	Opacity %	Flow 10^3 scfh	Stack Temp °F	PMCD Inlet Temp °F	Clinker tons/hr	Kiln Feed tons/hr	Coal tons/hr
D/F Mill-On									
1	11/17/04	1044 - 1421	0.1	19271.9	217.6	223.1	214.3	319.5	22.3
2	11/17/04	1700 - 2029	0.2	19357.5	190.9	192.0	215.7	343.4	23.0
3	11/19/04	0806 - 1115	0.0	18740.2	193.9	196.7	206.1	321.7	22.5
		Average	0.1	19123.2	200.8	203.9	212.0	328.2	22.6
D/F Mill-Off									
1	11/16/04	1230 - 1859	0.1	17466.4	354.8	376.5	184.8	302.4	21.9
2	11/18/04	1058 - 1406	0.0	24260.9	379.9	418.3	224.6	305.1	21.8
		Average	0.1	20863.6	367.3	397.4	204.7	303.7	21.8
PM Mill-On									
1	11/17/04	0824 - 0930	0.0	18998.0	197.1	199.2	214.9	320.0	21.4
2	11/17/04	1449 - 1602	0.1	19214.8	201.1	203.2	215.2	334.8	22.8
3	11/18/04	1858 - 2002	0.0	20602.1	213.5	196.4	220.8	313.5	23.0
		Average	0.0	19605.0	203.9	199.6	217.0	322.8	22.4
PM Mill-Off									
1	11/16/04	2005 - 2111	0.0	17889.5	381.0	386.9	199.9	319.7	21.6
2	11/18/04	0920 - 1027	0.0	20898.0	354.5	385.4	225.2	314.3	23.2
		Average	0.0	19393.7	367.8	386.1	212.6	317.0	22.4



SOURCE TEST REPORT
FOR

RELATIVE ACCURACY TEST AUDITS
ON THE
OXIDES OF NITROGEN, OXYGEN,
SULFUR DIOXIDE AND TOTAL HYDROCARBON
CONTINUOUS EMISSION MONITORING SYSTEMS

PENNSUCO CEMENT KILN PK5
PENNSUCO CEMENT – TITAN AMERICA
MEDLEY, FLORIDA

FDEP PERMIT NUMBER 0250020-010-AC

OCTOBER 20-22, 2004
NOVEMBER 4-5, 2004

PREPARED FOR:

PENNSUCO CEMENT – TITAN AMERICA
455 FAIRWAY DRIVE
DEERFIEL BEACH, FLORIDA 33441

PREPARED BY:

AIR CONSULTING AND ENGINEERING, INC.
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GAINESVILLE, FLORIDA 32653
(352) 335-1889

247-04-03

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ACE
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& ENGINEERING, INC.

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(352) 335-1889 FAX (352) 335-1891

REPORT CERTIFICATION

To the best of my knowledge, all applicable field and analytical procedures comply with the Florida Department of Environmental Protection requirements and all test data and plant operating data are true and correct.

Dagmar Fick

Dagmar Fick, Mechanical Engineer

11/29/2004

Date

1.0 INTRODUCTION

On October 20-22, and November 4-5, 2004, Air Consulting and Engineering, Inc. (ACE) performed Relative Accuracy Test Audits (RATA) for Oxides of Nitrogen (NO_x), Oxygen (O_2), Sulfur Dioxide (SO_2) and Total Hydrocarbons (THC) on the Continuous Emission Monitoring Systems (CEMS) serving Kiln PK5 at Pennsuco Cement/Titan Florida in Medley, Florida.

The purpose of the testing was to demonstrate CEMS compliance while firing coal as specified in the Florida Department of Environmental Protection (FDEP) Construction Permit Number 0250020-010-AC (see Appendix A).

The unit was tested using United States Environmental Protection Agency (EPA) Method 7E for NO_x, EPA Method 3A for O_2, EPA Method 6for SO_2 and EPA Method 25A for THC. RATA results were compared to the plant CEMS values on a pounds per hour (lbs/hr) basis.

Mr. Scott Quass of Pennsuco coordinated testing and provided CEM and production data.

Mr. Russell A. Wilder of the Florida Department of Environmental Protection (FDEP) and Mr. Adien Toledo of DERM witnessed a portion of the test.

2.0 SUMMARY AND DISCUSSION OF RESULTS

The NOx CEMS (Table 1) demonstrated a relative accuracy of 2.36% and a mean difference from the RM testing of -0.9 lbs/hr.

The SO_2 CEMS (Table 2) demonstrated a relative accuracy of 0.0% and a mean difference from the RM testing of 0.0 lbs/hr.

The O_2 CEMS (Table 3) demonstrated a relative accuracy of 1.32% and a mean difference from the RM testing of – 0.11%.

The THC CEMS (Table 4) demonstrated a relative accuracy of 8.27% and a mean difference from the RM testing of – 0.24 lbs/hr.

Emission summaries, strip chart and data logger copies, and volumetric flow rates are presented in Appendices B, C and D, respectively.

Plant CEM records are provided in Appendix F.

TABLE 1. CONTINUOUS EMISSION MONITOR CERTIFICATION - NOx
PENNSUCO CEMENT
KILN PK5
MEDLEY, FLORIDA
OCTOBER 21-22, 2004

	START	END		NOx LBS/HR			
RUN NO.	TIME	TIME	DATE	RM	M	DIFF	
1	12:27	13:28	10/21/04	426.5	424.9	1.6	
2	14:04	15:06		468.0	451.2	16.8	
3	15:27	16:29		464.8	492.5	-27.7	
4	14:18	14:40	10/22/04	457.7	455.2	2.5	
5	14:52	15:14		432.7	428.2	4.5	
6	16:40	17:02		400.1	468.7	-68.6	DELETE
7	17:37	17:58		487.3	490.8	-3.5	
8	18:09	18:30		455.7	451.2	4.5	
9	18:44	19:05		458.5	471.5	-13.0	
10	19:10	19:31		437.3	430.8	6.5	
AVERAGE:				454.3	455.1	-0.9	

TOTAL DATA POINTS USED:	9
T-VALUE:	2.306
STANDARD DEVIATION:	12.8388
CONFIDENCE COEFFICIENT:	9.8687
RELATIVE ACCURACY:	**2.36**
BIAS ADJUSTMENT FACTOR:	**NA**

TABLE 2. CONTINUOUS EMISSION MONITOR CERTIFICATION - SO2
PENNSUCO CEMENT
KILN PK5
MEDLEY, FLORIDA
OCTOBER 20-22, 2004

RUN NO.	START TIME	END TIME	DATE	SO2 PPM RM	SO2 PPM M	SO2 PPM DIFF
1	15:32	16:36	10/20/04	0.00	0.00	0.00
2	10:05	11:12	10/21/04	0.00	0.00	0.00
3	12:07	13:18		0.00	0.00	0.00
4	16:29	16:50	10/22/04	0.00	0.00	0.00
5	17:04	17:25		0.00	0.00	0.00
6	17:37	17:58		0.00	0.00	0.00
7	18:10	18:31		0.00	0.00	0.00
8	18:41	19:02		0.00	0.00	0.00
9	19:10	19:31		0.00	0.00	0.00
AVERAGE:				0.00	0.00	0.00

TOTAL DATA POINTS USED:	9
T-VALUE:	2.306
STANDARD DEVIATION:	0.00
CONFIDENCE COEFFICIENT:	0.00
RELATIVE ACCURACY:	**0.00**
BIAS ADJUSTMENT FACTOR:	**NA**

TABLE 3. CONTINUOUS EMISSION MONITOR CERTIFICATION - O2
PENNSUCO CEMENT
KILN PK5
MEDLEY, FLORIDA
OCTOBER 22, 2004

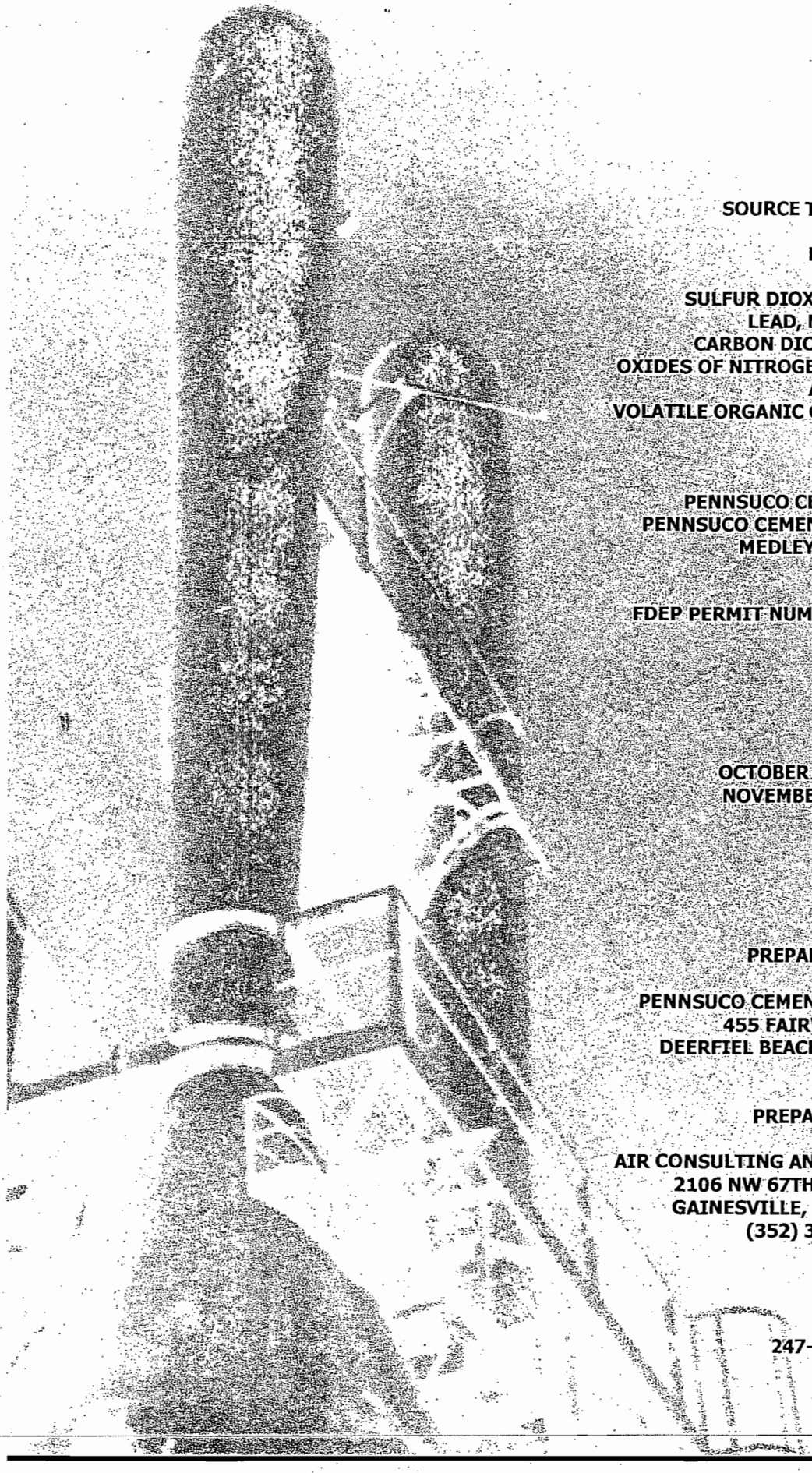
RUN NO.	START TIME	END TIME	RM	O2 % M	DIFF
1	14:18	14:40	11.50	11.53	-0.03
2	14:52	15:14	11.65	11.68	-0.03
3	15:24	15:46	11.84	11.90	-0.06
4	16:03	16:25	11.83	11.99	-0.16
5	16:40	17:02	13.45	13.64	-0.19
6	17:37	17:58	11.47	11.59	-0.12
7	18:09	18:30	11.63	11.76	-0.13
8	18:44	19:05	11.33	11.48	-0.15
9	19:10	19:31	11.40	11.53	-0.13
AVERAGE:			11.79	11.90	-0.11

TOTAL DATA POINTS USED:	9
T-VALUE:	2.306
STANDARD DEVIATION:	0.06
CONFIDENCE COEFFICIENT:	0.04
RELATIVE ACCURACY:	**1.32**
BIAS ADJUSTMENT FACTOR:	**NA**

TABLE 4. CONTINUOUS MONITOR CERTIFICATION - VOC AS CARBON
PENNSUCO CEMENT
KILN PK5
MEDLEY, FLORIDA
NOVEMBER 4-5, 2004

RUN NO.	START TIME	END TIME	VOC lbs/hr AS CARBON RM	M	DIFF
1	14:27	14:48	27.81	23.76	4.05
2	15:48	16:09	21.75	25.06	-3.31
3	17:10	17:31	27.29	25.67	1.62
4	17:53	18:14	25.66	25.62	0.04
5	18:32	18:53	22.94	25.02	-2.08
6	19:11	19:32	26.77	25.78	0.99
7	7:31	7:52	30.75	29.19	1.56
8	8:12	8:33	27.95	29.70	-1.75
9	8:50	9:11	26.97	30.27	-3.30
AVERAGE:			26.43	26.67	-0.24

TOTAL DATA POINTS USED:	9
T-VALUE:	2.306
STANDARD DEVIATION:	2.53
CONFIDENCE COEFFICIENT:	1.94
RELATIVE ACCURACY:	**8.27**
BIAS ADJUSTMENT FACTOR:	**NA**



SOURCE TEST REPORT

FOR

SULFUR DIOXIDE, ACID MIST,
LEAD, MERCURY,
CARBON DIOXIDE, OXYGEN,
OXIDES OF NITROGEN, CARBON MONOXIDE
AND
VOLATILE ORGANIC COMPOUND EMISSIONS

PENNSUCO CEMENT KILN PK5
PENNSUCO CEMENT – TITAN AMERICA
MEDLEY, FLORIDA

FDEP PERMIT NUMBER 0250020-010-AC

OCTOBER 20-22, 2004
NOVEMBER 4-5, 2004

PREPARED FOR:

PENNSUCO CEMENT – TITAN AMERICA
455 FAIRWAY DRIVE
DEERFIEL BEACH, FLORIDA 33441

PREPARED BY:

AIR CONSULTING AND ENGINEERING, INC.
2106 NW 67TH PLACE, SUITE 4
GAINESVILLE, FLORIDA 32653
(352) 335-1889

247-04-03

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ACE
AIR CONSULTING
& ENGINEERING, INC.

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(352) 335-1889 FAX (352) 335-1891

REPORT CERTIFICATION

To the best of my knowledge, all applicable field and analytical procedures comply with the Florida Department of Environmental Protection requirements and all test data and plant operating data are true and correct.

Dagmar Fick

Dagmar Fick, Mechanical Engineer

12/1/2004

Date

1.0 INTRODUCTION

On October 20-22, and November 4-5, 2004, Air Consulting and Engineering, Inc. (ACE) performed Compliance testing for Oxides of Nitrogen (NO_x), Carbon Dioxide (CO_2), Oxygen (O_2), Sulfur Dioxide (SO_2), Acid Mist, Lead, Mercury, Carbon Monoxide (CO) and Volatile Organic Compound (VOC) Emissions on the exhaust stack of Kiln PK5 at Pennsuco Cement - Titan Florida in Medley, Florida.

The purpose of the testing was to demonstrate compliance as specified in the Florida Department of Environmental Protection (FDEP) Construction Permit Number 0250020-010-AC (see Appendix A). During the emissions tests the unit was fired with bituminous coal.

The unit was tested using the following United States Environmental Protection Agency (EPA) Methods:

PARAMETER	**EPA METHOD**
SO_2	EPA 6
ACID MIST	EPA 8
O_2 AND CO_2	EPA 3A
LEAD AND MERCURY	EPA 29
CO	EPA 10
NOx	EPA 7E
VOC	EPA 25A
VOLUMETRIC FLOW	EPA 2-4

Mr. Scott Quass of Pennsuco coordinated testing and provided CEM and production data.

Mr. Russell A. Wilder of the Florida Department of Environmental Protection (FDEP) and Mr. Adien Toledo of DERM witnessed a portion of the test.

2.0 SUMMARY AND DISCUSSION OF RESULTS

Sulfur Dioxide and Acid Mist emissions, presented in Table 1, averaged 0.0 pounds per hour (lbs/hr) and 1.14 lbs/hr.

Lead and Mercury emissions are summarized in Table 2 and averaged 0.011 and 0.005 lbs/hr, respectively.

Table 3 summarizes CO, NOx and VOC emissions and flue gas parameters. Emissions are as follows: 113.6 lbs/hr CO, 446.7 lbs/hr NOx and 26.43 lbs/hr VOC and 41.4 ppm propane corrected to 7% O_2. The average clinker productions was 222.5 stph for October 21.

Gaseous emission summaries, strip chart and data logger copies, and volumetric flow rates and SO_2 date are presented in Appendices B, C and D, respectively. Appendices E and F contain Acid Mist and Metals data.

Plant production records are provided in Appendix H.

Table 1. SO2 and Acid Mist Emission Summary
Kiln PK5
Pennsuco Cement - Titan America
Medley, Florida
October 20-21, 2004

Run Number	Time	Actual Flow Rate acfm	Dry Standard Flow Rate dscfm	SO2 Emissions ppm	SO2 Emissions lbs/hr	Acid Mist Emissions ppm	Acid Mist Emissions lbs/hr
1	1532-1636 10/21/04	508475	348338	0.00	0.00	0.20	0.86
2	1005-1112	465760	305152	0.00	0.00	0.20	0.83
3	1207-1318	493809	337108	0.00	0.00	0.30	1.74
Average	--	489348	330199	0.00	0.00	0.23	1.14

Table 2. Metals Emission Summary
Kiln PK5
Pennsuco Cement - Titan America
Medley, Florida
October 21-22, 2004

Run Number	Time	Actual Flow Rate acfm	Dry Standard Flow Rate dscfm	Lead Emissions ppm	Lead Emissions lbs/hr	Mercury Emissions ppm	Mercury Emissions lbs/hr
1	1406-1633 10/22/04	507296	343360	0.0012	0.013	0.0003	0.003
2	0916-1232	525770	363349	0.0002	0.003	0.0006	0.007
3	1252-1506	488008	338688	0.0015	0.016	0.0006	0.006
Average	--	507025	348466	0.0010	0.011	0.0005	0.005

lbs/hr = mg/(lb/453600mg)/Vol. x Flow Rate x 60 min/hr

Table 3. CO, NOx and VOC Emission Summary
Kiln PK5
Pennsuco Cement - Titan America
Medley, Florida
October 21, 2004

Run Number	Time	Clinker Production stph	Dry Standard Flow Rate dscfm	Oxygen %	Carbon Dioxide %	NOx Emissions lbs/hr	CO Emissions lbs/hr
1*	1227-1318	217.5	337108	11.48	18.33	426.5	127.1
2	1404-1506	217.5	343360	12.25	17.84	468.0	118.0
3	1527-1629	222.4	343360	12.86	16.10	464.8	108.7
4	1650-1750	227.5	343360	12.42	16.83	407.2	114.1
Average	--	222.5	343360	12.51	16.92	446.7	113.6

* Run 1 was excluded from average because it was only 51 minutes long

November 4-5, 2004

Run Number	Time	Dry Standard Flow Rate dscfm	Oxygen %	Propane ppm corrected to 7% O2	VOC Emissions lbs/hr as Carbon
1	1427-1731	357060	12.33	41.5	25.60
2	1753-1932	343761	11.80	38.5	25.13
3	11/5/2004 0731-0911	330499	11.93	44.2	28.56
Average	--	343773	12.02	41.4	26.43

3.0 PROCESS DESCRIPTION AND OPERATION

Cement Kiln PK5 is operated on bituminous coal. Particulate matter emissions are controlled by a baghouse. Plant operating and CEM data are provided in Appendix H.

SUMMARY

				Clinker	Field Measurement - Air Consulting Engineering										Continuous Emission Monitoring System										RATA
				Prod	Flow	O_2	CO_2	H_2O	NOx	CO	NOx	NOx	CO	CO	Flow	O_2	H_2O	NOx	NOx	NOx	CO	CO	VOC	VOC	
Run #	Date	Start	Stop	stph	dscfm	%dry	%dry	%	ppm	ppm	lbs/hr	lbs/st	lbs/hr	lbs/st	dscfm	%dry	%	ppm	lbs/hr	lbs/st	lbs/hr	lbs/st	lbs/hr	lbs/st	Parameters
1	21/10/04	12:27	13:27	217.5	343100	11.08	17.64	13.14	169.7	83.24	424.4	1.951	126.7	0.583	319586	11.62	14.01	182.7	424.9	1.954	114.7	0.527	9.32	0.043	NO_x/CO
2	21/10/04	14:04	15:04	217.5	342318	11.79	16.86	15.16	178.9	73.29	457.1	2.102	114.0	0.524	325546	12.20	13.74	190.4	451.2	2.075	99.8	0.459	8.32	0.038	NO_x/CO
3	21/10/04	15:27	16:27	222.4	342318	12.46	15.39	15.16	173.2	68.60	442.3	1.988	106.7	0.480	357567	12.91	12.54	189.3	492.5	2.214	109.7	0.493	8.50	0.038	NO_x/CO
4	21/10/04	16:50	17:50	227.7	342318	12.13	16.40	15.16	161.8	--	406.4	1.784	--		340568	12.50	13.63	167.3	413.4	1.815	107.2	0.471	8.34	0.037	NO_x[6]
5	22/10/04	14:18	14:39	219.4	301883	11.50	18.18	14.75	182.2	--	462.2	2.106	--		301883	11.53	13.82	207.5	455.2	2.075	80.5	0.367	9.02	0.041	NO_x
6	22/10/04	14:52	15:13	220.2	300928	11.75	18.01	14.75	172.5	--	436.0	1.980	--		300928	11.68	13.97	195.8	428.2	1.945	86.2	0.391	9.02	0.041	NO_x
7	22/10/04	15:24	15:45	219.2	338795	12.09	17.52	14.75	177.8	--	506.0	2.308	--		313893	11.90	13.45	193.8	440.2	2.008	90.1	0.411	9.32	0.043	NO_x
8	22/10/04	16:03	16:24	218.2	372957	11.81	17.26	14.31	198.6	--	619.1	2.838	--		316075	11.99	13.75	214.1	490.0	2.246	89.6	0.411	9.09	0.042	NO_x
9	22/10/04	16:40	17:01	218.2	372957	13.48	13.88	14.31	157.5	--	491.1	2.251	--		384993	13.64	11.81	167.9	468.7	2.149	86.5	0.396	9.33	0.043	NO_x
10	22/10/04	16:29	16:50	218.1											368030	13.25	12.33	182.3	483.5	2.216	87.9	0.403	9.40	0.043	SO_2
11	22/10/04	17:04	17:25	216.1											302750	11.64	14.53	207.4	456.1	2.110	87.7	0.406	9.23	0.043	SO_2
12	22/10/04	17:36	17:57	217.4											293305	11.59	14.42	230.3	490.8	2.258	97.2	0.447	8.83	0.041	SO_2
13	22/10/04	18:09	18:30	217.6											303485	11.76	13.41	205.1	451.2	2.073	88.8	0.408	8.95	0.041	SO_2
14	22/10/04	18:42	19:03	217.6											296250	11.48	13.24	219.0	471.5	2.167	88.8	0.408	8.60	0.039	SO_2
15	22/10/04	19:11	19:32	217.6											296772	11.53	13.77	199.7	430.8	1.979	97.3	0.447	9.11	0.042	SO_2
Average				219.0	339731	12.01	16.79	14.61	174.7	75.04	471.6	2.145	116	0.529	321442	12.08	13.50	196.8	456.5	2.086	94.13	0.430	8.96	0.041	

1	Oct/20	1532-1636	PM/SO2
2	Oct/21	1005-1112	PM/SO2
3	Oct/21	1207-1318	PM/SO2
4	Oct/21	1406-1633	Metals
5	Oct/22	0916-1232	Metals
6	Oct/22	1252-1506	Metals

Pennsuco Cement

RATA Data

PM/SO2 -1

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
20-10-2004 15:32	12.76	0.00	249.45	4.12	7.63	2.34	13.18	18083.42	189.27
20-10-2004 15:33	12.52	0.00	256.99	4.26	7.96	1.68	13.55	17696.22	189.51
20-10-2004 15:34	12.22	0.00	244.50	4.00	8.06	1.73	13.88	17204.72	189.71
20-10-2004 15:35	11.95	0.00	241.51	4.06	8.11	1.90	13.77	17092.59	189.86
20-10-2004 15:36	11.90	0.00	228.16	3.57	8.45	1.80	13.75	17400.66	190.12
20-10-2004 15:37	11.98	0.00	234.15	4.03	8.42	2.00	14.21	17604.25	190.39
20-10-2004 15:38	11.86	0.00	215.50	3.75	8.36	2.03	14.15	17922.44	190.59
20-10-2004 15:39	11.96	0.00	229.06	3.83	8.30	2.14	13.71	18438.82	190.74
20-10-2004 15:40	12.13	0.00	232.40	4.24	8.04	2.19	13.42	18785.34	191.03
20-10-2004 15:41	12.37	0.00	232.27	4.16	7.84	2.38	13.01	18893.59	191.27
20-10-2004 15:42	12.55	0.00	225.94	3.80	7.92	2.57	12.94	19003.16	191.62
20-10-2004 15:43	12.64	0.00	231.43	4.25	8.05	2.75	13.09	18674.76	191.97
20-10-2004 15:44	12.56	0.00	232.81	4.19	8.14	3.08	13.07	18044.99	192.09
20-10-2004 15:45	12.39	0.00	230.09	4.02	8.37	2.48	13.34	17636.45	192.18
20-10-2004 15:46	12.08	0.00	235.41	4.02	8.52	2.63	13.62	17179.71	192.18
20-10-2004 15:47	11.80	0.00	235.59	3.93	8.59	2.73	13.90	17174.00	192.18
20-10-2004 15:48	11.67	0.00	233.08	3.97	8.64	2.66	14.09	17182.59	192.23
20-10-2004 15:49	11.67	0.00	235.83	3.73	8.69	2.72	14.30	17178.20	192.21
20-10-2004 15:50	11.61	0.00	242.44	3.83	8.84	2.77	13.88	17185.92	192.18
20-10-2004 15:51	11.59	0.00	239.68	3.94	8.73	2.68	13.95	17290.77	192.21
20-10-2004 15:52	11.58	0.00	240.88	4.02	8.75	2.70	14.29	17599.35	192.35
20-10-2004 15:53	11.73	0.00	236.19	3.88	8.74	2.84	13.86	18254.45	192.35
20-10-2004 15:54	11.97	0.00	234.78	3.91	8.50	2.84	13.30	19388.66	192.59
20-10-2004 15:55	12.37	0.00	240.36	3.94	8.24	3.88	12.97	19778.37	192.91
20-10-2004 15:56	12.67	0.00	238.84	4.44	8.08	2.85	12.70	19882.31	193.32
20-10-2004 15:57	12.77	0.00	232.04	4.11	8.03	2.82	12.53	19905.97	193.64
20-10-2004 15:58	12.76	0.00	230.49	4.46	7.96	2.74	12.39	19581.21	193.99
20-10-2004 15:59	12.78	0.00	221.38	4.37	8.06	2.57	12.67	19104.38	194.40
20-10-2004 16:00	12.75	0.00	221.19	4.69	8.22	2.59	12.95	18399.50	194.64
20-10-2004 16:01	12.51	0.00	236.93	4.15	8.35	2.63	12.79	17953.92	194.78
20-10-2004 16:02	12.08	0.00	236.77	4.12	8.51	2.54	13.36	17733.10	194.96
20-10-2004 16:03	11.83	0.00	230.39	4.03	8.65	2.39	13.42	17566.79	195.22
20-10-2004 16:04	11.73	0.00	230.57	4.02	8.63	2.47	13.11	17998.33	195.46
20-10-2004 16:05	11.79	0.00	232.62	3.86	8.53	2.35	13.14	18431.36	195.93

PM/SO2 -1

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
20-10-2004 16:06	11.98	0.00	246.77	4.02	8.40	2.54	13.36	19204.19	196.48
20-10-2004 16:07	12.27	0.00	248.74	4.31	8.27	3.35	13.15	19800.99	196.95
20-10-2004 16:08	12.64	0.00	249.14	4.23	8.05	2.25	12.84	19965.01	197.25
20-10-2004 16:09	12.79	0.00	243.17	4.29	7.95	2.21	13.08	19742.56	197.39
20-10-2004 16:10	12.79	0.00	244.64	4.27	7.92	2.08	13.07	19582.20	197.27
20-10-2004 16:11	12.87	0.00	238.37	4.57	7.95	1.98	12.75	19507.24	197.16
20-10-2004 16:12	12.88	0.00	249.51	4.32	8.04	1.83	12.74	18916.87	197.01
20-10-2004 16:13	12.70	0.00	263.73	4.36	8.13	1.84	13.43	18041.83	196.89
20-10-2004 16:14	12.26	0.00	257.98	4.12	8.35	1.71	13.79	17614.62	196.63
20-10-2004 16:15	11.94	0.00	256.51	4.06	8.54	1.73	13.66	17293.74	196.40
20-10-2004 16:16	11.76	0.00	259.62	3.98	8.59	1.79	13.32	17524.51	196.28
20-10-2004 16:17	11.74	0.00	248.49	3.91	8.53	1.92	13.58	17787.45	196.45
20-10-2004 16:18	11.87	0.00	258.87	3.99	8.50	2.80	13.58	18719.91	196.72
20-10-2004 16:19	12.24	0.00	265.41	4.25	8.25	2.30	12.97	19684.27	196.98
20-10-2004 16:20	12.50	0.00	256.17	4.10	8.03	2.08	12.43	19757.45	197.45
20-10-2004 16:21	12.72	0.00	251.66	4.23	7.81	2.13	12.26	19736.70	198.04
20-10-2004 16:22	12.86	0.00	249.36	4.03	7.91	1.80	12.95	19796.27	198.53
20-10-2004 16:23	12.89	0.00	243.30	4.19	8.10	1.82	13.20	19874.46	198.68
20-10-2004 16:24	12.93	0.00	255.23	4.15	7.99	1.64	13.14	19271.46	198.71
20-10-2004 16:25	12.80	0.00	248.38	4.15	8.06	1.48	13.30	18621.97	198.68
20-10-2004 16:26	12.64	0.00	240.90	4.05	8.24	1.13	13.60	18046.33	198.48
20-10-2004 16:27	12.32	0.00	239.68	3.78	8.42	1.05	14.11	17610.15	198.24
20-10-2004 16:28	12.09	0.00	240.68	3.66	8.47	0.80	14.37	17377.15	198.04
20-10-2004 16:29	11.98	0.00	233.49	3.50	8.72	0.86	14.59	17615.96	197.66
20-10-2004 16:30	11.99	0.00	245.68	3.95	8.69	1.96	14.00	17958.73	197.33
20-10-2004 16:31	11.99	0.00	244.06	4.09	8.58	0.55	13.80	18538.45	197.27
20-10-2004 16:32	12.18	0.00	244.07	3.80	8.38	0.28	13.52	19000.25	197.27
20-10-2004 16:33	12.49	0.00	249.54	3.88	8.09	0.20	13.23	19114.45	197.27
20-10-2004 16:34	12.72	0.00	253.57	3.91	8.03	0.00	13.14	19371.99	197.39
20-10-2004 16:35	12.87	0.00	252.66	4.24	8.02	0.00	13.04	19218.09	197.45
Average	12.81	0.00	251.06	4.18	7.82	1.17	13.11	18650.76	193.36
Maximum	12.87	0.00	252.66	4.24	8.02	2.34	13.18	19218.09	197.45
Minimum	12.76	0.00	249.45	4.12	7.63	0.00	13.04	18083.42	189.27
Stdev	0.07	0.00	2.27	0.08	0.28	1.66	0.10	802.33	5.78

Pennsuco Cement

RATA Data

PM/SO2 -2

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
21-10-2004 10:05	11.92	0.00	206.69	3.77	9.31	0.00	12.29	19353.55	234.29
21-10-2004 10:06	11.83	0.00	200.47	4.09	9.59	0.00	12.45	19306.33	232.32
21-10-2004 10:07	11.65	0.00	200.32	4.14	9.84	0.00	12.45	18965.25	230.65
21-10-2004 10:08	11.48	0.00	193.73	3.84	9.89	0.98	12.61	18903.85	229.48
21-10-2004 10:09	11.36	0.00	181.85	3.54	9.87	1.01	12.99	18808.20	228.31
21-10-2004 10:10	11.34	0.00	170.82	3.63	9.79	0.88	13.02	18778.37	227.49
21-10-2004 10:11	11.32	0.00	166.33	3.40	10.08	1.01	12.93	19272.22	226.81
21-10-2004 10:12	11.42	0.00	165.04	3.82	10.02	1.16	12.68	21132.53	226.20
21-10-2004 10:13	11.93	0.00	162.66	4.45	9.57	1.30	12.14	21634.00	225.82
21-10-2004 10:14	12.59	0.00	168.75	4.28	9.31	1.54	11.59	22064.72	225.55
21-10-2004 10:15	12.85	0.00	172.73	4.42	9.17	2.45	11.43	22198.41	225.23
21-10-2004 10:16	12.93	0.09	176.95	4.65	9.17	1.23	11.58	22144.91	224.70
21-10-2004 10:17	12.98	0.00	182.73	4.60	9.00	1.18	11.56	21853.55	224.12
21-10-2004 10:18	12.99	0.00	191.71	4.39	8.94	1.23	11.50	20775.94	223.47
21-10-2004 10:19	12.84	0.00	192.93	4.73	9.09	1.00	12.05	19863.67	222.71
21-10-2004 10:20	12.41	0.00	195.51	4.42	9.51	1.05	12.94	19615.22	221.80
21-10-2004 10:21	12.07	0.00	191.82	4.55	9.78	1.13	12.90	19404.77	220.78
21-10-2004 10:22	11.94	0.00	182.84	4.35	9.67	1.05	12.85	19486.35	219.93
21-10-2004 10:23	11.96	0.00	175.89	4.19	9.85	1.08	13.14	19613.85	219.02
21-10-2004 10:24	11.94	0.00	176.43	4.47	10.20	1.17	13.02	19434.41	218.11
21-10-2004 10:25	11.82	0.00	174.29	4.36	10.22	1.32	13.05	19507.60	217.29
21-10-2004 10:26	11.71	0.00	176.97	4.33	10.33	2.22	13.27	19549.43	216.53
21-10-2004 10:27	11.62	0.00	175.73	4.37	10.25	1.93	13.07	19334.59	215.79
21-10-2004 10:28	11.52	0.00	167.93	4.57	10.17	1.26	13.56	19011.94	215.12
21-10-2004 10:29	11.43	0.00	161.69	4.12	10.31	1.22	13.87	18853.12	214.48
21-10-2004 10:30	11.41	0.00	157.19	4.20	10.61	1.20	14.06	19060.68	213.68
21-10-2004 10:31	11.41	0.00	154.90	4.47	10.77	1.20	13.78	19197.69	212.98
21-10-2004 10:32	11.37	0.00	152.39	4.19	10.84	1.32	13.79	20296.42	212.48
21-10-2004 10:33	11.60	0.00	152.99	4.40	10.60	1.30	13.68	21731.04	212.10
21-10-2004 10:34	12.19	0.00	154.84	4.55	9.67	1.23	12.94	22012.59	211.58
21-10-2004 10:35	12.69	0.00	163.88	4.72	9.36	1.19	12.67	22064.55	210.93
21-10-2004 10:36	12.80	0.00	170.80	4.69	9.29	1.13	12.77	21903.78	210.29
21-10-2004 10:37	12.90	0.00	172.47	4.72	9.28	1.02	12.92	21319.34	209.32
21-10-2004 10:38	12.93	0.00	177.46	5.09	9.51	1.63	13.17	20051.45	208.26
21-10-2004 10:39	12.59	0.00	181.49	4.85	10.02	0.73	13.78	19417.06	207.24

PM/SO2 -2

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
21-10-2004 10:40	12.07	0.00	181.37	4.36	10.06	0.57	14.06	19098.87	206.15
21-10-2004 10:41	11.91	0.00	183.82	4.62	9.98	0.64	14.10	19351.88	205.07
21-10-2004 10:42	11.84	0.00	185.98	4.48	10.01	0.48	14.43	19291.01	204.01
21-10-2004 10:43	11.81	0.00	176.05	4.30	10.18	0.45	14.28	19202.38	202.84
21-10-2004 10:44	11.75	0.00	168.09	4.37	10.34	0.31	14.14	19381.50	201.64
21-10-2004 10:45	11.74	0.00	165.39	4.38	10.41	0.28	14.28	19332.12	200.56
21-10-2004 10:46	11.58	0.00	163.59	4.64	10.54	0.18	14.28	19219.42	199.59
21-10-2004 10:47	11.56	0.00	169.74	4.15	10.31	0.26	13.96	19056.36	198.68
21-10-2004 10:48	11.46	0.00	165.27	3.81	10.20	0.24	14.02	18952.37	197.89
21-10-2004 10:49	11.49	0.00	168.63	4.22	10.30	0.16	14.02	18929.39	197.27
21-10-2004 10:50	11.45	0.00	173.06	4.34	10.56	0.22	14.01	18871.42	196.81
21-10-2004 10:51	11.36	0.00	181.12	4.40	10.62	0.22	14.38	19023.93	196.42
21-10-2004 10:52	11.29	0.00	173.60	4.14	10.88	0.24	14.58	18867.96	195.90
21-10-2004 10:53	11.25	0.00	165.89	4.04	10.77	0.35	14.58	18748.25	195.43
21-10-2004 10:54	11.30	0.00	166.87	4.11	10.57	0.33	14.35	18788.34	194.96
21-10-2004 10:55	11.40	0.00	171.47	4.44	10.51	0.55	14.68	18940.59	194.52
21-10-2004 10:56	11.44	0.00	173.93	4.24	10.41	2.28	14.36	18998.12	194.05
21-10-2004 10:57	11.50	0.00	177.31	4.36	10.55	0.77	14.31	19354.69	193.67
21-10-2004 10:58	11.54	0.00	185.10	4.07	10.46	0.74	14.50	19189.58	193.23
21-10-2004 10:59	11.60	0.00	189.32	3.96	10.49	0.94	14.11	19195.06	192.82
21-10-2004 11:00	11.64	0.00	190.04	4.15	10.43	0.68	14.05	19330.78	192.53
21-10-2004 11:01	11.68	0.00	189.06	4.24	10.31	0.54	14.33	19107.10	192.15
21-10-2004 11:02	11.72	0.00	186.94	4.22	10.24	0.50	14.18	19199.62	191.74
21-10-2004 11:03	11.75	0.00	186.88	4.07	10.28	0.43	14.02	19337.02	191.24
21-10-2004 11:04	11.77	0.00	195.90	4.18	10.37	0.41	14.02	19288.94	190.95
21-10-2004 11:05	11.71	0.00	202.27	4.36	10.54	0.47	14.14	19260.84	190.68
21-10-2004 11:06	11.71	0.00	205.99	3.76	10.45	0.46	13.99	19303.66	190.33
21-10-2004 11:07	11.72	0.00	200.42	3.98	10.40	1.01	13.86	19191.74	190.10
21-10-2004 11:08	11.72	0.00	198.17	4.04	10.31	0.98	13.69	19219.14	190.07
21-10-2004 11:09	11.67	0.00	201.03	4.54	10.28	0.30	13.74	19284.01	190.07
21-10-2004 11:10	11.61	0.00	203.17	3.86	10.34	0.32	13.88	19269.59	190.07
21-10-2004 11:11	11.56	0.00	208.11	3.47	10.34	0.43	13.92	19228.06	190.07
Average	11.74	0.00	207.40	3.62	9.83	0.21	13.11	19290.80	212.18
Maximum	11.92	0.00	208.11	3.77	10.34	0.43	13.92	19353.55	234.29
Minimum	11.56	0.00	206.69	3.47	9.31	0.00	12.29	19228.06	190.07
Stdev	0.25	0.00	1.01	0.21	0.72	0.30	1.15	88.73	31.27

RUN 1

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	SO2Tot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/21/2004 12:27	11.77	173.16	14.26	19007	190.86	217.55	0.00	8.72	0.00	1.43	0.04
10/21/2004 12:28	11.72	180.91	13.81	19155	190.77	217.51	0.00	9.06	0.00	1.49	0.04
10/21/2004 12:29	11.71	182.03	13.84	19258	190.80	217.39	0.00	9.04	0.00	1.51	0.04
10/21/2004 12:30	11.71	182.48	13.77	19139	190.92	217.04	0.00	8.93	0.00	1.51	0.04
10/21/2004 12:31	11.67	180.38	13.90	19177	190.97	218.20	0.00	9.20	0.00	1.48	0.04
10/21/2004 12:32	11.69	176.76	13.89	19085	191.03	217.39	0.00	9.25	0.00	1.45	0.04
10/21/2004 12:33	11.72	176.66	13.56	19215	191.12	217.32	0.00	8.91	0.00	1.46	0.04
10/21/2004 12:34	11.68	177.19	13.69	19154	191.15	217.42	0.00	9.32	0.00	1.46	0.04
10/21/2004 12:35	11.69	179.96	13.47	19310	191.41	217.47	0.00	9.35	0.00	1.49	0.04
10/21/2004 12:36	11.68	185.65	13.58	19228	191.68	217.47	0.00	9.37	0.00	1.53	0.04
10/21/2004 12:37	11.65	178.21	13.86	19154	191.97	217.35	0.00	9.16	0.00	1.46	0.04
10/21/2004 12:38	11.66	174.73	14.00	19119	192.00	216.71	0.00	9.31	0.00	1.43	0.04
10/21/2004 12:39	11.65	177.05	13.91	19137	192.00	218.12	0.00	9.40	0.00	1.45	0.04
10/21/2004 12:40	11.67	181.40	13.88	19135	192.00	217.65	0.00	9.38	0.00	1.48	0.04
10/21/2004 12:41	11.65	179.37	13.62	19087	192.12	217.54	0.00	9.04	0.00	1.47	0.04
10/21/2004 12:42	11.64	175.50	13.69	19344	192.21	217.50	0.00	9.10	0.00	1.45	0.04
10/21/2004 12:43	11.66	180.50	14.00	19174	192.35	217.49	0.00	9.11	0.00	1.48	0.04
10/21/2004 12:44	11.62	181.71	13.93	19166	192.35	217.57	0.00	9.40	0.00	1.49	0.04
10/21/2004 12:45	11.63	183.76	14.46	19138	192.32	217.61	0.00	9.67	0.00	1.50	0.04
10/21/2004 12:46	11.66	182.09	14.70	18922	192.09	217.40	0.00	9.61	0.00	1.48	0.04
10/21/2004 12:47	11.67	178.10	14.17	19155	191.68	217.45	0.00	9.53	0.00	1.46	0.04
10/21/2004 12:48	11.64	190.86	13.95	19242	191.47	217.47	0.00	9.43	0.00	1.57	0.04
10/21/2004 12:49	11.55	191.15	14.24	19174	191.27	217.26	0.00	9.70	0.00	1.56	0.04
10/21/2004 12:50	11.56	188.22	14.37	19172	191.09	217.77	0.00	9.40	0.00	1.52	0.04
10/21/2004 12:51	11.58	183.44	14.40	19262	190.83	217.70	0.00	9.93	0.00	1.50	0.05
10/21/2004 12:52	11.60	183.44	14.41	19139	190.53	217.35	0.00	9.57	0.00	1.50	0.04
10/21/2004 12:53	11.61	183.41	13.96	19150	190.24	217.39	0.00	9.58	0.00	1.50	0.04
10/21/2004 12:54	11.53	184.39	14.21	19120	190.18	217.41	0.00	9.63	0.00	1.49	0.04
10/21/2004 12:55	11.56	182.13	13.72	19216	190.07	217.46	0.00	9.35	0.00	1.48	0.04
10/21/2004 12:56	11.59	186.18	13.85	19377	190.21	218.15	0.00	9.47	0.00	1.53	0.04
10/21/2004 12:57	11.51	188.28	14.05	19205	190.24	217.14	0.00	9.44	0.00	1.53	0.04
10/21/2004 12:58	11.56	186.87	14.08	19203	190.24	217.38	0.00	9.52	0.00	1.53	0.04
10/21/2004 12:59	11.57	185.53	13.91	19109	190.24	217.54	0.00	9.32	0.00	1.50	0.04

RUN 1

10/21/2004 13:00	11.56	187.97	13.84	19196	190.24	217.48	0.00	9.65	0.00	1.53	0.04
10/21/2004 13:01	11.51	185.45	13.95	19322	190.36	217.45	0.00	9.83	0.00	1.51	0.05
10/21/2004 13:02	11.50	185.67	14.17	19161	190.42	217.25	0.00	9.63	0.00	1.50	0.04
10/21/2004 13:03	11.47	181.36	14.10	19067	190.30	217.98	0.00	9.19	0.00	1.45	0.04
10/21/2004 13:04	11.51	177.37	13.92	19135	190.24	216.88	0.00	9.11	0.00	1.43	0.04
10/21/2004 13:05	11.57	176.88	14.03	19269	190.27	217.39	0.00	9.37	0.00	1.45	0.04
10/21/2004 13:06	11.56	186.87	14.13	19117	190.30	217.70	0.00	9.65	0.00	1.52	0.04
10/21/2004 13:07	11.50	192.25	14.17	19222	190.24	217.56	0.00	9.40	0.00	1.55	0.04
10/21/2004 13:08	11.54	186.04	14.48	19181	190.24	217.45	0.00	9.60	0.00	1.51	0.04
10/21/2004 13:09	11.62	181.77	14.24	19121	190.10	217.19	0.00	9.44	0.00	1.48	0.04
10/21/2004 13:10	11.59	188.16	14.13	19108	189.89	216.98	0.00	8.98	0.00	1.54	0.04
10/21/2004 13:11	11.57	185.16	14.33	18952	189.86	218.37	0.00	8.96	0.00	1.49	0.04
10/21/2004 13:12	11.65	184.00	14.17	19106	189.71	217.64	0.00	9.37	0.00	1.50	0.04
10/21/2004 13:13	11.67	185.19	13.92	19143	189.57	217.35	0.00	9.69	0.00	1.52	0.04
10/21/2004 13:14	11.64	193.53	14.05	19256	189.63	217.46	0.00	9.31	0.00	1.59	0.04
10/21/2004 13:15	11.63	187.77	14.19	19192	189.71	217.40	0.00	9.30	0.00	1.54	0.04
10/21/2004 13:16	11.65	189.97	13.96	19194	189.71	217.94	0.00	9.35	0.00	1.56	0.04
10/21/2004 13:17	11.64	188.60	13.89	19197	189.71	217.10	0.00	9.22	0.00	1.55	0.04
10/21/2004 13:18	11.66	182.52	14.25	19134	189.80	217.28	0.00	9.15	0.00	1.50	0.04
10/21/2004 13:19	11.65	179.49	14.02	19117	189.77	217.64	0.00	9.09	0.00	1.47	0.04
10/21/2004 13:20	11.61	183.31	14.06	19155	189.89	217.51	0.00	9.06	0.00	1.50	0.04
10/21/2004 13:21	11.63	181.30	14.09	19191	189.89	217.48	0.00	9.22	0.00	1.49	0.04
10/21/2004 13:22	11.61	182.40	13.99	19045	189.92	217.85	0.00	9.15	0.00	1.48	0.04
10/21/2004 13:23	11.55	181.38	14.04	19098	190.10	217.52	0.00	9.18	0.00	1.47	0.04
10/21/2004 13:24	11.58	181.95	13.92	19161	190.24	216.43	0.00	9.14	0.00	1.49	0.04
10/21/2004 13:25	11.63	175.56	13.79	19191	190.48	218.01	0.00	9.07	0.00	1.44	0.04
10/21/2004 13:26	11.64	174.68	13.75	19347	190.80	217.66	0.00	9.12	0.00	1.44	0.04
10/21/2004 13:27	11.61	176.07	13.93	19676	191.15	217.51	0.00	9.10	0.00	1.47	0.04
Average	**11.62**	**182.69**	**14.01**	**19175**	**190.70**	**217.49**	**0.00**	**9.32**	**0.00**	**1.49**	**0.04**
Maximum	**11.77**	**193.53**	**14.70**	**19676**	**192.35**	**218.37**	**0.00**	**9.93**	**0.00**	**1.59**	**0.05**
Minimum	**11.47**	**173.16**	**13.47**	**18922**	**189.57**	**216.43**	**0.00**	**8.72**	**0.00**	**1.43**	**0.04**
Stdev	**0.06**	**4.74**	**0.24**	**106**	**0.83**	**0.33**	**0.00**	**0.25**	**0.00**	**0.04**	**0.00**

RUN 1

Flow	319586	scfm dry	-6.85%
Pitot State	343100	scfm dry	
Pitot FLS		scfm dry	-100.00%

Gas Density Calc, %wet

Oxygen	9.79	1.428
Moisture	13.14	0.803
C-dioxide	15.59	1.963
	61.48	1.249
		1.319 Kg/Nm3
		0.0824 #/ncf
		0.0779 #/scf

Flow	514092	Nm3/hr dry
NOx	**425**	#/hr
NOx	**1.954**	#/st

RUN 2

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	SO2Tot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/21/2004 14:04	11.82	187.97	14.76	18914	188.42	217.39	0.00	8.14	0.00	1.55	0.04
10/21/2004 14:05	11.80	193.26	14.37	19000	187.96	217.48	0.00	8.27	0.00	1.60	0.04
10/21/2004 14:06	11.78	195.38	14.27	19085	187.63	217.47	0.00	8.08	0.00	1.62	0.04
10/21/2004 14:07	11.77	199.06	14.39	18873	187.43	217.37	0.00	8.30	0.00	1.64	0.04
10/21/2004 14:08	11.75	198.49	14.36	18884	187.25	217.76	0.00	7.92	0.00	1.62	0.04
10/21/2004 14:09	11.75	196.32	14.24	18966	187.11	217.89	0.00	8.22	0.00	1.61	0.04
10/21/2004 14:10	11.76	196.26	14.41	18814	187.08	216.98	0.00	8.23	0.00	1.60	0.04
10/21/2004 14:11	11.73	194.10	14.39	18870	186.99	217.42	0.00	8.35	0.00	1.59	0.04
10/21/2004 14:12	11.82	196.42	14.11	19012	186.90	217.44	0.00	8.26	0.00	1.62	0.04
10/21/2004 14:13	11.79	201.79	14.08	19076	186.90	217.46	0.00	8.43	0.00	1.68	0.04
10/21/2004 14:14	11.80	205.80	14.21	18952	186.90	217.57	0.00	8.30	0.00	1.69	0.04
10/21/2004 14:15	11.78	203.68	14.11	18870	186.90	216.78	0.00	8.11	0.00	1.67	0.04
10/21/2004 14:16	11.84	199.69	14.31	19028	186.90	217.37	0.00	8.25	0.00	1.66	0.04
10/21/2004 14:17	11.88	203.91	14.37	19017	186.90	217.92	0.00	8.10	0.00	1.70	0.04
10/21/2004 14:18	11.92	202.95	14.29	18986	186.73	217.58	0.00	8.33	0.00	1.69	0.04
10/21/2004 14:19	11.91	199.06	14.01	19091	186.73	217.49	0.00	8.43	0.00	1.67	0.04
10/21/2004 14:20	11.91	202.36	13.85	19087	186.73	218.66	0.00	8.58	0.00	1.70	0.04
10/21/2004 14:21	11.88	199.72	14.02	18886	186.73	217.32	0.00	8.35	0.00	1.66	0.04
10/21/2004 14:22	11.88	194.55	14.21	18912	186.73	217.66	0.00	8.16	0.00	1.61	0.04
10/21/2004 14:23	11.98	185.37	14.14	19129	186.73	216.68	0.00	8.40	0.00	1.57	0.04
10/21/2004 14:24	11.93	195.69	14.61	19021	186.67	217.25	0.00	8.18	0.00	1.64	0.04
10/21/2004 14:25	11.89	196.97	14.22	18938	186.43	217.37	0.00	8.17	0.00	1.64	0.04
10/21/2004 14:26	11.96	196.36	13.97	19047	186.23	217.52	0.00	8.31	0.00	1.65	0.04
10/21/2004 14:27	11.90	197.74	14.34	18945	186.20	216.45	0.00	8.19	0.00	1.66	0.04
10/21/2004 14:28	11.92	194.14	14.44	18923	186.17	218.29	0.00	8.29	0.00	1.61	0.04
10/21/2004 14:29	12.02	196.68	14.23	18989	186.02	217.54	0.00	8.31	0.00	1.67	0.04
10/21/2004 14:30	12.03	196.01	14.32	19032	185.96	217.51	0.00	8.52	0.00	1.67	0.04
10/21/2004 14:31	12.01	199.61	14.30	19134	185.85	217.49	0.00	8.66	0.00	1.69	0.04
10/21/2004 14:32	12.07	200.45	13.96	18920	185.79	216.35	0.00	8.42	0.00	1.71	0.04
10/21/2004 14:33	12.00	198.29	13.57	19063	185.85	218.85	0.00	8.51	0.00	1.67	0.04
10/21/2004 14:34	12.01	195.26	14.14	19088	186.05	216.89	0.00	8.52	0.00	1.66	0.04
10/21/2004 14:35	12.10	189.60	13.95	19099	186.20	217.76	0.00	8.17	0.00	1.62	0.04
10/21/2004 14:36	12.22	194.51	13.58	19021	186.23	217.57	0.00	7.88	0.00	1.68	0.04

RUN 2

10/21/2004 14:37	12.11	195.81	13.52	19238	186.40	217.48	0.00	8.25	0.00	1.70	0.04
10/21/2004 14:38	12.07	193.24	13.48	19216	186.70	218.41	0.00	8.43	0.00	1.66	0.04
10/21/2004 14:39	12.09	193.55	13.31	19249	187.02	215.89	0.00	8.36	0.00	1.69	0.04
10/21/2004 14:40	12.19	195.18	13.44	19920	187.49	218.10	0.00	8.23	0.00	1.75	0.04
10/21/2004 14:41	12.32	186.57	13.84	20148	187.87	217.47	0.00	8.65	0.00	1.74	0.04
10/21/2004 14:42	12.43	187.67	13.57	20198	187.96	217.45	0.00	8.51	0.00	1.77	0.04
10/21/2004 14:43	12.52	185.69	13.26	20635	188.07	217.47	0.00	8.70	0.00	1.80	0.04
10/21/2004 14:44	12.69	180.85	13.00	20508	188.28	217.20	0.00	8.31	0.00	1.78	0.04
10/21/2004 14:45	12.71	178.45	12.71	20661	188.57	217.42	0.00	8.16	0.00	1.78	0.04
10/21/2004 14:46	12.78	173.34	12.94	20665	188.98	217.95	0.00	8.26	0.00	1.74	0.04
10/21/2004 14:47	12.76	176.11	13.15	20336	189.39	217.48	0.00	8.19	0.00	1.75	0.04
10/21/2004 14:48	12.73	174.09	13.10	20325	189.74	217.34	0.00	8.25	0.00	1.71	0.04
10/21/2004 14:49	12.79	178.08	13.36	20365	190.12	217.42	0.00	8.57	0.00	1.77	0.04
10/21/2004 14:50	12.66	186.28	13.42	20467	190.33	217.40	0.00	8.69	0.00	1.83	0.04
10/21/2004 14:51	12.62	177.94	13.19	20739	190.62	218.21	0.00	8.68	0.00	1.75	0.04
10/21/2004 14:52	12.79	174.50	12.93	21292	190.92	217.30	0.00	8.45	0.00	1.81	0.04
10/21/2004 14:53	12.96	172.02	12.52	21693	191.30	217.17	0.00	8.65	0.00	1.86	0.04
10/21/2004 14:54	13.14	169.17	12.43	21950	191.82	217.35	0.00	8.54	0.00	1.89	0.04
10/21/2004 14:55	13.21	167.38	12.46	21877	192.29	217.44	0.00	8.47	0.00	1.88	0.04
10/21/2004 14:56	13.22	169.80	12.32	21290	192.64	217.62	0.00	8.17	0.00	1.87	0.04
10/21/2004 14:57	13.11	166.48	12.62	20522	192.88	217.66	0.00	8.06	0.00	1.75	0.04
10/21/2004 14:58	12.92	172.85	13.17	19695	193.03	217.01	0.00	7.65	0.00	1.70	0.04
10/21/2004 14:59	12.63	178.96	13.49	19383	192.91	217.76	0.00	8.00	0.00	1.67	0.04
10/21/2004 15:00	12.35	184.17	13.79	19091	192.79	217.50	0.00	8.09	0.00	1.63	0.04
10/21/2004 15:01	12.17	190.58	13.60	19151	192.62	217.41	0.00	8.27	0.00	1.66	0.04
10/21/2004 15:02	12.10	195.38	13.70	19144	192.47	217.25	0.00	8.37	0.00	1.69	0.04
10/21/2004 15:03	12.02	193.04	13.85	18869	192.29	217.39	0.00	8.46	0.00	1.63	0.04
10/21/2004 15:04	11.95	199.10	13.99	18829	192.18	218.27	0.00	8.33	0.00	1.65	0.04
10/21/2004 15:05	12.00	202.12	13.47	18903	192.00	217.30	0.00	8.47	0.00	1.70	0.04
Average	**12.20**	**190.42**	**13.74**	**19533**	**188.40**	**217.48**	**0.00**	**8.32**	**0.00**	**1.69**	**0.04**
Maximum	**13.22**	**205.80**	**14.76**	**21950**	**193.03**	**218.85**	**0.00**	**8.70**	**0.00**	**1.89**	**0.04**
Minimum	**11.73**	**166.48**	**12.32**	**18814**	**185.79**	**215.89**	**0.00**	**7.65**	**0.00**	**1.55**	**0.04**
Stdev	**0.43**	**10.62**	**0.61**	**861**	**2.39**	**0.49**	**0.00**	**0.21**	**0.00**	**0.08**	**0.00**

RUN 2

Flow	325546	scfm dry	-4.90%
Pitot State	342318	scfm dry	
Pitot FLS		scfm dry	-100.00%

Gas Density Calc

10.42	1.428
15.16	0.803
14.90	1.963
59.52	1.249
	1.307 Kg/Nm3
	0.0816 #/ncf
	0.0772 #/scf

Flow	523679	Nm3/hr dry
NOx	**451**	#/hr
NOx	**2.075**	#/st

RUN 3

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	SO2Tot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/21/2004 15:27	11.81	220.59	14.14	18809	192.85	217.37	0.00	8.62	0.00	1.81	0.04
10/21/2004 15:28	11.80	219.25	14.02	18752	192.70	217.12	0.00	8.42	0.00	1.79	0.04
10/21/2004 15:29	11.88	220.61	13.68	19032	192.53	215.44	0.00	8.59	0.00	1.86	0.04
10/21/2004 15:30	11.89	223.24	13.52	19495	192.67	203.95	0.00	8.67	0.00	2.03	0.04
10/21/2004 15:31	11.99	224.64	13.43	20186	192.85	222.77	0.00	8.83	0.00	1.96	0.04
10/21/2004 15:32	12.18	225.54	13.50	20259	193.08	229.06	0.00	8.80	0.00	1.97	0.04
10/21/2004 15:33	12.34	213.19	13.27	20151	193.23	214.99	0.00	8.33	0.00	2.00	0.04
10/21/2004 15:34	12.54	189.72	12.91	20446	193.23	218.76	0.00	8.55	0.00	1.82	0.04
10/21/2004 15:35	12.77	197.78	12.90	20063	193.35	218.34	0.00	9.04	0.00	1.93	0.04
10/21/2004 15:36	12.54	208.38	12.99	19320	193.49	218.48	0.00	8.30	0.00	1.91	0.04
10/21/2004 15:37	12.22	205.39	13.76	18959	193.73	218.87	0.00	8.17	0.00	1.76	0.04
10/21/2004 15:38	12.13	203.83	13.77	18919	193.76	216.14	0.00	8.06	0.00	1.74	0.04
10/21/2004 15:39	12.03	216.69	13.67	18669	193.76	213.21	0.00	7.99	0.00	1.85	0.04
10/21/2004 15:40	11.87	210.22	13.73	18809	193.76	211.69	0.00	7.96	0.00	1.79	0.04
10/21/2004 15:41	11.99	212.94	13.34	19277	193.96	210.34	0.00	8.45	0.00	1.88	0.04
10/21/2004 15:42	12.17	221.00	13.01	19956	194.34	210.01	0.00	8.28	0.00	2.05	0.04
10/21/2004 15:43	12.40	226.48	12.71	20590	194.87	210.58	0.00	8.38	0.00	2.23	0.04
10/21/2004 15:44	12.71	219.09	12.05	21107	195.55	210.50	0.00	8.49	0.00	2.30	0.04
10/21/2004 15:45	13.03	212.98	11.65	21338	196.48	210.05	0.00	8.07	0.00	2.35	0.04
10/21/2004 15:46	13.24	195.32	12.00	21484	197.57	221.12	0.00	8.05	0.00	2.15	0.04
10/21/2004 15:47	13.43	196.74	11.51	21787	198.68	227.82	0.00	8.09	0.00	2.16	0.04
10/21/2004 15:48	13.46	198.88	11.71	22073	199.77	226.10	0.00	7.83	0.00	2.24	0.03
10/21/2004 15:49	13.58	194.30	10.97	23174	200.94	222.21	0.00	8.07	0.00	2.35	0.04
10/21/2004 15:50	13.77	192.14	10.57	24537	202.29	221.32	0.00	8.63	0.00	2.55	0.04
10/21/2004 15:51	14.03	190.46	10.63	25691	203.90	221.71	0.00	8.84	0.00	2.73	0.04
10/21/2004 15:52	14.31	175.07	9.84	26686	205.42	220.37	0.00	8.71	0.00	2.74	0.04
10/21/2004 15:53	14.70	165.93	10.07	26947	206.86	220.80	0.00	8.48	0.00	2.79	0.04
10/21/2004 15:54	14.75	163.88	10.71	26572	208.18	221.29	0.00	8.26	0.00	2.74	0.04
10/21/2004 15:55	14.71	161.01	10.77	24620	208.64	221.65	0.00	7.97	0.00	2.50	0.04
10/21/2004 15:56	14.38	162.19	10.44	22807	208.03	221.59	0.00	7.72	0.00	2.21	0.03
10/21/2004 15:57	13.91	164.73	11.25	21278	207.38	221.55	0.00	7.65	0.00	1.97	0.03
10/21/2004 15:58	13.27	168.05	12.20	20261	206.89	222.04	0.00	7.77	0.00	1.73	0.03
10/21/2004 15:59	12.71	169.90	13.18	19730	206.36	222.37	0.00	8.07	0.00	1.59	0.04

RUN 3

10/21/2004 16:00	12.41	182.28	13.89	19151	205.63	221.95	0.00	8.13	0.00	1.60	0.04
10/21/2004 16:01	12.06	193.55	13.68	19068	204.78	221.81	0.00	8.33	0.00	1.63	0.04
10/21/2004 16:02	11.97	191.13	13.50	19080	204.10	221.33	0.00	8.35	0.00	1.58	0.04
10/21/2004 16:03	11.84	196.11	13.58	18864	203.58	223.38	0.00	8.43	0.00	1.58	0.04
10/21/2004 16:04	11.87	186.55	13.17	19085	203.28	225.36	0.00	8.49	0.00	1.50	0.04
10/21/2004 16:05	11.89	194.30	13.47	19036	203.25	225.23	0.00	8.38	0.00	1.58	0.04
10/21/2004 16:06	11.80	198.49	13.64	19271	203.22	225.37	0.00	8.47	0.00	1.61	0.04
10/21/2004 16:07	11.86	195.36	13.84	19773	203.08	227.14	0.00	8.82	0.00	1.62	0.04
10/21/2004 16:08	11.97	192.27	14.14	20517	202.84	227.31	0.00	9.10	0.00	1.67	0.04
10/21/2004 16:09	12.23	186.63	13.23	21452	202.52	227.73	0.00	9.02	0.00	1.74	0.04
10/21/2004 16:10	12.72	180.14	12.73	22177	202.43	229.20	0.00	9.00	0.00	1.83	0.04
10/21/2004 16:11	13.09	180.93	12.76	22581	202.55	230.56	0.00	9.26	0.00	1.93	0.04
10/21/2004 16:12	13.19	179.16	12.85	23264	202.46	229.78	0.00	9.10	0.00	2.02	0.04
10/21/2004 16:13	13.45	176.72	12.56	24337	202.29	227.34	0.00	9.27	0.00	2.16	0.04
10/21/2004 16:14	13.80	171.35	12.11	25459	201.85	226.25	0.00	9.21	0.00	2.33	0.04
10/21/2004 16:15	14.07	166.14	11.02	26451	201.52	227.22	0.00	9.39	0.00	2.43	0.04
10/21/2004 16:16	14.38	157.86	10.73	26585	201.38	227.78	0.00	8.98	0.00	2.42	0.04
10/21/2004 16:17	14.48	153.13	10.91	24817	201.61	229.45	0.00	8.54	0.00	2.24	0.04
10/21/2004 16:18	14.47	151.42	11.51	22573	201.47	228.78	0.00	8.00	0.00	1.99	0.03
10/21/2004 16:19	13.66	172.43	11.79	22466	201.00	227.99	0.00	8.62	0.00	2.04	0.04
10/21/2004 16:20	13.38	177.41	12.05	22515	200.97	227.70	0.00	8.95	0.00	2.01	0.04
10/21/2004 16:21	13.31	177.09	12.20	22273	201.08	226.23	0.00	8.70	0.00	1.99	0.04
10/21/2004 16:22	13.24	175.76	12.57	21894	201.14	223.81	0.00	8.42	0.00	1.94	0.04
10/21/2004 16:23	13.17	169.45	12.74	21284	201.05	231.69	0.00	8.63	0.00	1.74	0.04
10/21/2004 16:24	12.94	170.68	12.97	20757	200.73	232.71	0.00	8.51	0.00	1.65	0.04
10/21/2004 16:25	12.62	168.62	12.86	20700	200.38	233.66	0.00	8.57	0.00	1.56	0.04
10/21/2004 16:26	12.53	164.73	13.17	20877	200.03	232.35	0.00	8.96	0.00	1.52	0.04
10/21/2004 16:27	12.50	165.20	13.34	20606	199.59	230.05	0.00	8.82	0.00	1.52	0.04
Average	**12.91**	**189.26**	**12.54**	**21454**	**200.01**	**222.44**	**0.00**	**8.50**	**0.00**	**1.98**	**0.04**
Maximum	**14.75**	**226.48**	**14.14**	**26947**	**208.64**	**233.66**	**0.00**	**9.39**	**0.00**	**2.79**	**0.04**
Minimum	**11.80**	**151.42**	**9.84**	**18669**	**192.53**	**203.95**	**0.00**	**7.65**	**0.00**	**1.50**	**0.03**
Stdev	**0.91**	**21.06**	**1.16**	**2395**	**4.85**	**6.62**	**0.00**	**0.42**	**0.00**	**0.34**	**0.00**

Flow 357567 scfm dry #DIV/0!

RUN 3

Pitot State	[redacted]	scfm dry	
Pitot FLS	[redacted]	scfm dry	#DIV/0!

Gas Density Calc

11.02	1.428
15.16	0.803
13.61	1.963
60.21	1.249
	1.298 Kg/Nm3
	0.0811 #/ncf
	0.0767 #/scf

Flow	575188	Nm3/hr dry
NOx	**493**	#/hr
NOx	**2.214**	#/st

RUN 4

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/21/2004 16:50	14.09	139.82	11.24	1.68	26367	199.85	208.14	446.48	8.45	0.00	2.15	0.04
10/21/2004 16:51	14.33	142.53	11.47	1.67	26130	199.91	208.61	451.04	8.23	0.00	2.16	0.04
10/21/2004 16:52	14.45	136.02	11.64	1.60	25021	199.71	209.65	412.21	7.86	0.00	1.97	0.04
10/21/2004 16:53	14.45	136.59	11.93	1.51	23589	199.03	210.88	390.16	7.49	0.00	1.85	0.04
10/21/2004 16:54	14.16	144.87	12.23	1.45	22522	198.15	217.86	395.12	7.34	0.00	1.81	0.03
10/21/2004 16:55	13.80	158.79	12.76	1.42	21934	197.45	217.28	421.75	7.42	0.00	1.94	0.03
10/21/2004 16:56	13.52	165.08	13.11	1.37	21199	197.10	218.15	423.77	7.50	0.00	1.94	0.03
10/21/2004 16:57	13.33	164.31	13.25	1.31	20193	196.84	219.84	401.79	7.37	0.00	1.83	0.03
10/21/2004 16:59	12.65	158.71	14.19	1.05	19177	196.29	230.19	442.32	7.82	0.00	1.92	0.03
10/21/2004 17:00	12.44	196.42	14.42	1.26	19177	196.01	229.96	456.17	7.81	0.00	1.98	0.03
10/21/2004 17:01	12.38	207.00	14.65	1.26	19145	195.69	229.06	479.95	8.08	0.00	2.10	0.04
10/21/2004 17:03	12.26	195.33	14.28	1.15	19234	195.08	227.81	500.49	8.15	0.00	2.20	0.04
10/21/2004 17:04	12.16	208.12	14.22	1.26	19292	194.61	229.68	486.25	8.18	0.00	2.12	0.04
10/21/2004 17:05	12.12	196.56	14.61	1.27	19281	194.32	226.25	458.98	8.27	0.00	2.03	0.04
10/21/2004 17:06	12.04	194.12	14.69	1.27	19259	193.88	229.08	452.75	7.96	0.00	1.98	0.03
10/21/2004 17:07	11.97	195.42	14.61	1.28	19410	193.32	229.33	459.37	8.16	0.00	2.00	0.04
10/21/2004 17:08	11.93	191.88	14.40	1.26	19261	192.70	229.14	447.59	8.07	0.00	1.95	0.04
10/21/2004 17:09	11.75	191.23	14.31	1.25	19111	192.29	230.44	442.57	8.23	0.00	1.92	0.04
10/21/2004 17:10	11.72	180.97	14.42	1.25	19088	191.94	229.77	418.39	8.25	0.00	1.82	0.04
10/21/2004 17:11	11.61	172.36	14.49	1.23	18822	191.68	229.23	392.91	8.40	0.00	1.71	0.04
10/21/2004 17:12	11.46	167.52	14.62	1.22	18627	191.56	229.91	377.93	8.68	0.00	1.64	0.04
10/21/2004 17:13	11.31	163.82	14.79	1.24	18833	191.62	229.28	373.59	9.04	0.00	1.63	0.04
10/21/2004 17:14	11.30	159.36	14.68	1.36	20625	191.85	229.87	398.05	9.58	0.00	1.73	0.04
10/21/2004 17:15	11.78	155.45	13.67	1.38	21291	192.32	229.65	400.81	9.57	0.00	1.75	0.04
10/21/2004 17:16	12.48	145.20	13.27	1.39	21505	192.91	229.83	378.15	8.74	0.00	1.65	0.04
10/21/2004 17:17	12.76	142.69	13.20	1.41	21833	193.41	229.92	377.26	8.71	0.00	1.64	0.04
10/21/2004 17:18	12.94	147.37	13.44	1.44	22199	193.76	230.34	396.44	8.66	0.00	1.72	0.04
10/21/2004 17:19	13.09	152.58	13.16	1.45	22450	193.76	229.44	414.42	8.56	0.00	1.81	0.04
10/21/2004 17:20	13.27	155.94	12.87	1.46	22643	193.55	229.72	427.53	8.68	0.00	1.86	0.04
10/21/2004 17:21	13.47	159.69	12.95	1.40	21652	193.17	229.77	418.89	8.12	0.00	1.82	0.04
10/21/2004 17:22	13.46	163.70	13.02	1.29	20062	192.56	230.74	397.71	7.69	0.00	1.72	0.03
10/21/2004 17:23	13.06	178.84	13.70	1.25	19271	191.88	229.23	418.01	7.83	0.00	1.82	0.03
10/21/2004 17:24	12.51	191.35	14.45	1.25	19025	191.21	229.73	441.38	8.14	0.00	1.92	0.04
10/21/2004 17:25	12.14	197.42	14.75	1.25	19107	190.48	230.70	456.85	7.99	0.00	1.98	0.03
10/21/2004 17:26	12.08	196.28	14.66	1.26	19168	189.71	230.09	455.55	8.15	0.00	1.98	0.04

RUN 4

10/21/2004 17:27	12.07	189.32	14.62	1.25	19110	188.86	230.54	438.04	7.97	0.00	1.90	0.03
10/21/2004 17:28	12.00	186.37	14.54	1.24	19033	188.16	229.66	429.54	8.03	0.00	1.87	0.03
10/21/2004 17:29	11.90	180.44	14.14	1.24	18989	187.52	230.86	414.93	8.47	0.00	1.80	0.04
10/21/2004 17:30	11.82	170.59	13.75	1.22	18889	187.02	231.21	390.21	8.65	0.00	1.69	0.04
10/21/2004 17:31	11.66	168.36	13.88	1.21	18687	186.90	230.56	381.00	8.36	0.00	1.65	0.04
10/21/2004 17:32	11.44	162.72	14.05	1.20	18430	186.90	231.30	363.18	8.60	0.00	1.57	0.04
10/21/2004 17:33	11.29	162.60	14.42	1.20	18463	187.08	230.80	363.56	8.92	0.00	1.58	0.04
10/21/2004 17:34	11.28	156.92	14.43	1.21	18495	187.40	230.35	351.48	8.80	0.00	1.53	0.04
10/21/2004 17:35	11.39	154.86	14.33	1.24	19054	187.81	230.30	357.38	8.95	0.00	1.55	0.04
10/21/2004 17:36	11.57	156.49	14.28	1.33	20334	188.22	231.38	385.36	9.33	0.00	1.67	0.04
10/21/2004 17:37	11.95	153.09	13.59	1.39	21426	188.66	231.43	397.24	9.30	0.00	1.72	0.04
10/21/2004 17:38	12.49	147.42	12.92	1.39	21611	189.10	230.81	385.82	8.93	0.00	1.67	0.04
10/21/2004 17:39	12.79	149.82	12.66	1.40	21780	189.48	230.90	395.18	8.58	0.00	1.71	0.04
10/21/2004 17:40	12.94	156.33	12.46	1.41	22109	189.89	230.66	418.59	8.54	0.00	1.81	0.04
10/21/2004 17:41	13.06	151.44	12.51	1.40	21901	190.33	230.85	401.75	8.75	0.00	1.74	0.04
10/21/2004 17:42	13.20	150.37	12.94	1.35	21068	190.53	231.69	383.54	8.15	0.00	1.66	0.04
10/21/2004 17:43	13.06	162.33	13.02	1.33	20611	190.48	231.26	405.20	8.09	0.00	1.75	0.03
10/21/2004 17:44	12.73	166.69	13.07	1.32	20511	190.27	230.74	414.02	8.23	0.00	1.79	0.04
10/21/2004 17:45	12.59	166.91	13.20	1.32	20495	190.18	232.63	414.27	8.28	0.00	1.78	0.04
10/21/2004 17:46	12.55	167.60	13.09	1.30	20228	189.98	230.33	410.59	8.39	0.00	1.78	0.04
10/21/2004 17:47	12.47	164.20	13.39	1.27	19753	189.83	229.31	392.81	7.92	0.00	1.71	0.03
10/21/2004 17:48	12.26	162.13	13.73	1.27	19594	189.63	227.33	384.72	8.53	0.00	1.69	0.04
10/21/2004 17:49	12.02	165.69	13.48	1.24	19104	189.54	226.02	383.35	8.62	0.00	1.70	0.04
Average	**12.50**	**167.35**	**13.63**	**1.32**	**20434**	**192.13**	**227.75**	**413.35**	**8.34**	**0.00**	**1.82**	**0.04**
Maximum	**14.45**	**208.12**	**14.79**	**1.68**	**26367**	**199.91**	**232.63**	**500.49**	**9.58**	**0.00**	**2.20**	**0.04**
Minimum	**11.28**	**136.02**	**11.24**	**1.05**	**18430**	**186.90**	**208.14**	**351.48**	**7.34**	**0.00**	**1.53**	**0.03**
Stdev	**0.85**	**18.85**	**0.91**	**0.12**	**1836**	**3.53**	**5.99**	**33.18**	**0.51**	**0.00**	**0.16**	**0.00**

RUN 4

Flow	340568	scfm dry	-0.51%
Pitot State	342318	scfm dry	
Pitot FLS		scfm dry	-100.00%

Gas Density Calc

10.53	1.428	
15.16	0.803	
14.24	1.963	
60.07	1.249	
	1.302	Kg/Nm3
	0.0813	#/ncf
	0.0769	#/scf

Flow	547845	Nm3/hr dry
NOx	**415**	#/hr
NOx	**1.821**	#/st

RUN 5

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	NOx Tot	VOC Tot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 14:18	11.55	215.63	13.82	1.21	18191	186.55	217.52	475.04	9.05	0.00	2.18	0.04
10/22/2004 14:19	11.45	209.65	13.90	1.22	18269	186.49	217.48	463.83	9.15	0.00	2.13	0.04
10/22/2004 14:20	11.53	207.67	14.03	1.21	18170	186.32	217.58	456.99	9.10	0.00	2.10	0.04
10/22/2004 14:21	11.56	204.84	14.04	1.20	18000	186.11	216.98	446.53	8.77	0.00	2.06	0.04
10/22/2004 14:22	11.57	203.97	14.07	1.21	18089	185.88	218.00	446.86	8.68	0.00	2.05	0.04
10/22/2004 14:23	11.56	212.19	13.91	1.21	18126	185.61	217.44	465.78	8.92	0.00	2.14	0.04
10/22/2004 14:24	11.55	211.58	14.03	1.20	18040	185.44	219.06	462.22	8.68	0.00	2.11	0.04
10/22/2004 14:25	11.45	208.59	13.59	1.21	18234	185.17	220.16	460.62	9.27	0.00	2.09	0.04
10/22/2004 14:26	11.57	210.44	13.55	1.20	18109	185.14	220.02	461.50	9.27	0.00	2.10	0.04
10/22/2004 14:27	11.39	202.97	13.88	1.19	17928	185.14	220.26	440.70	8.82	0.00	2.00	0.04
10/22/2004 14:28	11.51	209.63	13.76	1.20	18079	185.14	221.03	458.97	8.89	0.00	2.08	0.04
10/22/2004 14:29	11.61	209.75	13.67	1.19	17919	185.14	219.71	455.16	8.64	0.00	2.07	0.04
10/22/2004 14:30	11.54	208.79	13.85	1.21	18173	185.14	220.01	459.52	8.99	0.00	2.09	0.04
10/22/2004 14:31	11.57	210.99	13.69	1.21	18157	185.14	220.16	463.96	8.88	0.00	2.11	0.04
10/22/2004 14:32	11.51	205.07	13.73	1.21	18152	185.14	219.38	450.83	9.22	0.00	2.05	0.04
10/22/2004 14:33	11.43	203.50	13.76	1.20	18100	185.14	220.62	446.10	8.98	0.00	2.02	0.04
10/22/2004 14:34	11.47	205.25	13.76	1.20	18082	185.14	219.32	449.48	9.13	0.00	2.05	0.04
10/22/2004 14:35	11.53	205.60	13.74	1.21	18180	185.03	221.08	452.66	9.52	0.00	2.05	0.04
10/22/2004 14:36	11.60	205.23	13.87	1.20	17982	184.97	220.46	446.94	8.82	0.00	2.03	0.04
10/22/2004 14:37	11.58	201.14	13.85	1.21	18137	184.97	220.27	441.82	9.03	0.00	2.01	0.04
10/22/2004 14:38	11.61	205.54	13.79	1.21	18255	184.97	220.97	454.31	9.68	0.00	2.06	0.04
Average	**11.53**	**207.52**	**13.82**	**1.21**	**18113**	**185.42**	**219.40**	**455.23**	**9.02**	**0.00**	**2.07**	**0.04**
Maximum	**11.61**	**215.63**	**14.07**	**1.22**	**18269**	**186.55**	**221.08**	**475.04**	**9.68**	**0.00**	**2.18**	**0.04**
Minimum	**11.39**	**201.14**	**13.55**	**1.19**	**17919**	**184.97**	**216.98**	**440.70**	**8.64**	**0.00**	**2.00**	**0.04**
Stdev	**0.06**	**3.62**	**0.14**	**0.01**	**98**	**0.52**	**1.35**	**8.82**	**0.27**	**0.00**	**0.05**	**0.00**

Flow	301883	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 6

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 14:52	11.75	206.33	13.45	1.20	18203	183.94	220.39	454.85	8.90	0.00	2.06	0.04
10/22/2004 14:53	11.81	203.58	13.80	1.19	17979	183.91	220.28	443.27	8.83	0.00	2.01	0.04
10/22/2004 14:54	11.83	200.26	13.84	1.20	18015	183.74	220.21	436.92	8.84	0.00	1.98	0.04
10/22/2004 14:55	11.83	199.86	13.81	1.21	18230	183.71	220.17	441.24	8.94	0.00	2.00	0.04
10/22/2004 14:56	11.76	196.15	13.72	1.21	18178	183.65	220.31	431.82	8.92	0.00	1.96	0.04
10/22/2004 14:57	11.75	196.58	13.79	1.21	18225	183.74	220.27	433.86	9.27	0.00	1.97	0.04
10/22/2004 14:58	11.79	195.52	13.91	1.20	18092	183.74	221.08	428.40	9.02	0.00	1.94	0.04
10/22/2004 14:59	11.72	192.59	14.15	1.21	18178	183.68	219.97	424.02	9.28	0.00	1.93	0.04
10/22/2004 15:00	11.81	201.02	13.62	1.20	18034	183.53	219.72	439.01	8.92	0.00	2.00	0.04
10/22/2004 15:01	11.73	197.13	13.87	1.22	18333	183.38	220.09	437.72	8.98	0.00	1.99	0.04
10/22/2004 15:02	11.66	192.08	14.23	1.21	18109	183.36	219.83	421.25	8.63	0.00	1.92	0.04
10/22/2004 15:03	11.63	189.66	14.14	1.19	17846	183.15	220.29	409.92	8.84	0.00	1.86	0.04
10/22/2004 15:04	11.56	188.52	14.08	1.20	17930	182.95	219.95	409.36	9.02	0.00	1.86	0.04
10/22/2004 15:05	11.60	186.83	14.21	1.21	18110	182.68	220.67	409.77	9.28	0.00	1.86	0.04
10/22/2004 15:06	11.64	188.73	14.22	1.20	17925	182.45	220.24	409.68	9.69	0.00	1.86	0.04
10/22/2004 15:07	11.59	190.96	14.08	1.20	18062	182.21	220.17	417.70	9.38	0.00	1.90	0.04
10/22/2004 15:08	11.66	198.58	13.93	1.20	17987	181.92	220.08	432.56	9.20	0.00	1.97	0.04
10/22/2004 15:09	11.48	193.26	14.23	1.19	17904	181.71	220.18	419.07	8.90	0.00	1.90	0.04
10/22/2004 15:10	11.52	195.85	14.23	1.20	18024	181.39	219.78	427.52	8.24	0.00	1.95	0.04
10/22/2004 15:11	11.64	202.06	14.01	1.20	17970	181.10	220.33	439.74	9.25	0.00	2.00	0.04
10/22/2004 15:12	11.59	196.97	14.13	1.19	17835	180.81	220.37	425.50	9.02	0.00	1.93	0.04
Average	**11.68**	**195.84**	**13.97**	**1.20**	**18056**	**182.89**	**220.21**	**428.25**	**9.02**	**0.00**	**1.94**	**0.04**
Maximum	**11.83**	**206.33**	**14.23**	**1.22**	**18333**	**183.94**	**221.08**	**454.85**	**9.69**	**0.00**	**2.06**	**0.04**
Minimum	**11.48**	**186.83**	**13.45**	**1.19**	**17835**	**180.81**	**219.72**	**409.36**	**8.24**	**0.00**	**1.86**	**0.04**
Stdev	**0.10**	**5.30**	**0.22**	**0.01**	**135**	**1.00**	**0.30**	**12.70**	**0.30**	**0.00**	**0.06**	**0.00**

Flow	300928	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 7

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 15:24	11.38	202.52	14.07	1.19	17921	178.14	220.34	439.59	9.81	0.00	2.00	0.04
10/22/2004 15:25	11.59	205.01	13.68	1.21	18280	177.96	220.26	453.87	8.75	0.00	2.06	0.04
10/22/2004 15:26	11.67	207.47	13.73	1.21	18283	177.85	220.23	459.43	9.07	0.00	2.09	0.04
10/22/2004 15:27	11.59	217.13	13.59	1.21	18387	177.79	220.52	483.52	9.14	0.00	2.19	0.04
10/22/2004 15:28	11.62	220.68	13.90	1.21	18245	177.82	221.33	487.57	9.52	0.00	2.20	0.04
10/22/2004 15:29	11.62	211.46	13.86	1.21	18278	177.76	219.39	468.08	9.20	0.00	2.13	0.04
10/22/2004 15:30	11.75	211.64	13.66	1.22	18385	177.76	219.83	471.26	9.33	0.00	2.14	0.04
10/22/2004 15:31	11.77	207.00	13.51	1.22	18520	177.76	220.07	464.29	9.17	0.00	2.11	0.04
10/22/2004 15:32	12.01	205.60	13.28	1.23	18710	177.93	220.10	465.88	9.54	0.00	2.12	0.04
10/22/2004 15:33	11.97	198.90	13.26	1.22	18554	178.17	221.27	446.93	8.99	0.00	2.02	0.04
10/22/2004 15:34	11.95	201.87	13.51	1.22	18512	178.49	218.60	452.54	9.10	0.00	2.07	0.04
10/22/2004 15:35	12.04	191.41	13.53	1.22	18418	178.75	220.11	427.01	9.25	0.00	1.94	0.04
10/22/2004 15:36	11.99	188.34	13.48	1.21	18303	178.81	220.64	417.49	8.94	0.00	1.89	0.04
10/22/2004 15:37	11.94	187.20	13.71	1.20	18075	179.08	220.32	409.77	8.92	0.00	1.86	0.04
10/22/2004 15:38	11.87	188.58	13.88	1.22	18408	179.31	220.24	420.41	9.57	0.00	1.91	0.04
10/22/2004 15:39	11.99	189.19	13.78	1.23	18500	179.49	218.12	423.87	9.19	0.00	1.94	0.04
10/22/2004 15:40	11.88	176.17	13.62	1.24	18703	179.72	217.14	398.99	9.20	0.00	1.84	0.04
10/22/2004 15:41	11.90	175.50	13.50	1.29	19570	180.10	217.09	415.97	9.71	0.00	1.92	0.04
10/22/2004 15:42	12.06	169.66	12.79	1.36	20732	180.60	215.97	425.85	9.74	0.00	1.97	0.05
10/22/2004 15:43	12.50	159.79	12.12	1.38	21235	181.30	216.15	410.91	9.81	0.00	1.90	0.05
10/22/2004 15:44	12.88	154.48	12.05	1.40	21485	182.18	216.13	401.93	9.79	0.00	1.86	0.05
Average	**11.90**	**193.79**	**13.45**	**1.24**	**18834**	**178.89**	**219.23**	**440.25**	**9.32**	**0.00**	**2.01**	**0.04**
Maximum	**12.88**	**220.68**	**14.07**	**1.40**	**21485**	**182.18**	**221.33**	**487.57**	**9.81**	**0.00**	**2.20**	**0.05**
Minimum	**11.38**	**154.48**	**12.05**	**1.19**	**17921**	**177.76**	**215.97**	**398.99**	**8.75**	**0.00**	**1.84**	**0.04**
Stdev	**0.32**	**18.37**	**0.53**	**0.06**	**1027**	**1.28**	**1.74**	**27.34**	**0.33**	**0.00**	**0.12**	**0.00**

Flow	313893	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 8

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 16:03	11.52	211.74	14.09	1.22	18280	187.37	218.55	468.71	8.76	0.00	2.14	0.04
10/22/2004 16:04	11.57	219.15	14.53	1.22	18088	187.08	216.91	480.08	8.85	0.00	2.21	0.04
10/22/2004 16:05	11.58	223.59	14.50	1.22	18202	186.70	218.16	492.86	8.74	0.00	2.26	0.04
10/22/2004 16:06	11.59	222.28	14.20	1.22	18249	186.26	218.82	491.26	9.32	0.00	2.25	0.04
10/22/2004 16:07	11.60	224.30	14.02	1.23	18411	185.93	218.29	500.10	9.20	0.00	2.29	0.04
10/22/2004 16:08	11.60	219.47	14.05	1.26	18819	185.85	218.17	500.19	9.73	0.00	2.29	0.04
10/22/2004 16:09	11.64	217.85	13.61	1.31	19658	185.67	217.74	518.66	9.82	0.00	2.38	0.05
10/22/2004 16:10	11.96	207.65	13.30	1.37	20612	185.67	219.20	518.17	9.88	0.00	2.36	0.05
10/22/2004 16:11	12.41	196.52	12.88	1.39	21135	185.82	218.61	502.97	9.36	0.00	2.30	0.04
10/22/2004 16:12	12.81	186.87	12.48	1.40	21391	185.85	217.42	484.10	9.08	0.00	2.23	0.04
10/22/2004 16:13	13.05	186.59	12.34	1.37	20896	185.88	217.99	472.21	9.28	0.00	2.17	0.04
10/22/2004 16:14	12.88	185.71	12.60	1.32	20072	185.96	218.04	451.16	8.13	0.00	2.07	0.04
10/22/2004 16:15	12.83	207.37	12.91	1.24	18821	185.85	219.39	472.60	8.20	0.00	2.15	0.04
10/22/2004 16:16	12.26	214.61	13.66	1.21	18194	185.76	216.44	472.09	8.78	0.00	2.18	0.04
10/22/2004 16:17	11.98	221.27	14.17	1.23	18374	185.44	218.28	492.77	9.25	0.00	2.26	0.04
10/22/2004 16:18	11.86	225.11	14.41	1.22	18231	185.05	218.26	496.93	9.90	0.00	2.28	0.05
10/22/2004 16:19	11.83	228.65	14.17	1.21	18102	184.73	218.16	500.98	8.67	0.00	2.30	0.04
10/22/2004 16:20	11.66	219.13	14.10	1.22	18287	184.35	218.18	485.26	9.83	0.00	2.22	0.05
10/22/2004 16:21	11.72	229.49	14.16	1.21	18104	184.18	217.39	503.15	8.67	0.00	2.31	0.04
10/22/2004 16:22	11.69	227.33	14.32	1.21	18060	184.00	218.49	497.19	8.32	0.00	2.28	0.04
10/22/2004 16:23	11.74	220.72	14.20	1.22	18269	183.77	219.25	488.32	9.14	0.00	2.23	0.04
Average	**11.99**	**214.07**	**13.75**	**1.26**	**18965**	**185.58**	**218.18**	**489.99**	**9.09**	**0.00**	**2.25**	**0.04**
Maximum	**13.05**	**229.49**	**14.53**	**1.40**	**21391**	**187.37**	**219.39**	**518.66**	**9.90**	**0.00**	**2.38**	**0.05**
Minimum	**11.52**	**185.71**	**12.34**	**1.21**	**18060**	**183.77**	**216.44**	**451.16**	**8.13**	**0.00**	**2.07**	**0.04**
Stdev	**0.50**	**13.96**	**0.70**	**0.07**	**1144**	**0.95**	**0.73**	**16.52**	**0.55**	**0.00**	**0.07**	**0.00**

Flow	316075	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 9

Date_Time	O2 (%)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Temp (F)	Clink	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 16:40	13.19	182.11	12.09	1.48	22688	186.43	217.97	500.35	9.56	0.00	2.30	0.04
10/22/2004 16:41	13.32	179.06	11.81	1.53	23541	187.11	217.98	510.47	9.80	0.00	2.34	0.04
10/22/2004 16:42	13.62	174.40	11.78	1.61	24677	187.84	218.13	521.07	10.21	0.00	2.39	0.05
10/22/2004 16:43	13.96	161.19	11.23	1.66	25675	188.42	218.18	501.16	10.16	0.00	2.30	0.05
10/22/2004 16:44	14.24	154.21	10.87	1.67	25802	188.98	218.20	481.90	10.03	0.00	2.21	0.05
10/22/2004 16:45	14.32	151.34	10.90	1.64	25346	189.60	217.64	464.56	9.73	0.00	2.13	0.04
10/22/2004 16:46	14.30	151.65	11.11	1.53	23681	190.04	218.61	434.87	8.25	0.00	1.99	0.04
10/22/2004 16:47	14.13	156.37	11.23	1.47	22630	190.01	218.28	427.39	8.36	0.00	1.96	0.04
10/22/2004 16:48	13.84	166.85	11.71	1.43	22022	189.80	218.18	443.99	8.36	0.00	2.03	0.04
10/22/2004 16:49	13.47	175.05	12.17	1.43	21865	189.77	218.19	463.74	8.76	0.00	2.13	0.04
10/22/2004 16:50	13.25	178.65	12.13	1.43	21771	189.98	218.18	471.08	9.58	0.00	2.16	0.04
10/22/2004 16:51	13.10	178.94	12.23	1.44	22011	190.30	218.27	477.22	9.16	0.00	2.19	0.04
10/22/2004 16:52	13.08	185.12	12.50	1.46	22235	190.59	218.50	498.51	10.07	0.00	2.28	0.05
10/22/2004 16:53	13.24	179.28	12.35	1.52	23106	190.89	218.45	501.33	9.73	0.00	2.29	0.04
10/22/2004 16:54	13.46	174.42	11.74	1.56	23976	191.03	217.72	505.79	9.66	0.00	2.32	0.04
10/22/2004 16:55	13.73	165.77	11.34	1.58	24330	191.27	217.98	488.11	9.58	0.00	2.24	0.04
10/22/2004 16:56	13.90	159.75	11.57	1.57	24043	191.53	218.10	465.75	8.83	0.00	2.14	0.04
10/22/2004 16:57	13.92	155.54	11.60	1.51	23197	191.41	217.84	436.80	9.56	0.00	2.01	0.04
10/22/2004 16:58	13.80	156.19	11.79	1.43	21891	191.06	218.26	414.36	9.08	0.00	1.90	0.04
10/22/2004 16:59	13.47	164.77	12.55	1.37	20762	190.62	218.40	414.94	8.23	0.00	1.90	0.04
10/22/2004 17:00	13.08	174.60	13.30	1.32	19843	190.21	218.14	419.92	9.30	0.00	1.93	0.04
Average	**13.64**	**167.87**	**11.81**	**1.51**	**23100**	**189.85**	**218.15**	**468.73**	**9.33**	**0.00**	**2.15**	**0.04**
Maximum	**14.32**	**185.12**	**13.30**	**1.67**	**25802**	**191.53**	**218.61**	**521.07**	**10.21**	**0.00**	**2.39**	**0.05**
Minimum	**13.08**	**151.34**	**10.87**	**1.32**	**19843**	**186.43**	**217.64**	**414.36**	**8.23**	**0.00**	**1.90**	**0.04**
Stdev	**0.41**	**11.06**	**0.60**	**0.09**	**1573**	**1.39**	**0.24**	**34.10**	**0.65**	**0.00**	**0.16**	**0.00**

Flow	384993	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 10

Date_Time	O2 (%)	SO2 (ppm)	NOx (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Tmp (F)	Clink	SO2Tot	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 16:29	13.00	0.00	200.39	12.79	1.41	21449.80	183.77	218	0.00	520.54	9.34	0.00	2.38	0.04
10/22/2004 16:30	13.11	0.00	203.50	12.60	1.38	21067.72	183.91	217	0.00	519.13	8.93	0.00	2.39	0.04
10/22/2004 16:31	12.99	0.00	200.14	12.73	1.33	20285.48	184.06	218	0.00	491.74	8.49	0.00	2.26	0.04
10/22/2004 16:32	12.89	0.00	196.83	12.99	1.29	19563.03	184.09	218	0.00	466.34	8.81	0.00	2.14	0.04
10/22/2004 16:33	12.68	0.00	198.41	13.25	1.26	19072.85	184.26	217	0.00	458.29	9.63	0.00	2.11	0.04
10/22/2004 16:34	12.33	0.00	204.82	13.67	1.26	18928.46	184.35	218	0.00	469.52	9.65	0.00	2.16	0.04
10/22/2004 16:35	12.12	0.00	202.44	13.89	1.29	19386.14	184.53	219	0.00	475.23	9.60	0.00	2.17	0.04
10/22/2004 16:36	12.23	0.00	199.41	13.74	1.38	20729.70	184.76	219	0.00	500.58	10.52	0.00	2.29	0.05
10/22/2004 16:37	12.53	0.00	196.30	13.09	1.40	21250.95	185.03	218	0.00	505.18	9.83	0.00	2.31	0.05
10/22/2004 16:38	12.87	0.00	186.98	12.70	1.43	21823.85	185.38	218	0.00	494.07	9.41	0.00	2.26	0.04
10/22/2004 16:39	13.06	0.00	186.87	12.46	1.46	22233.60	185.88	219	0.00	503.17	10.06	0.00	2.30	0.05
10/22/2004 16:40	13.19	0.00	182.11	12.09	1.48	22688.03	186.43	218	0.00	500.35	9.56	0.00	2.30	0.04
10/22/2004 16:41	13.32	0.00	179.06	11.81	1.53	23540.72	187.11	218	0.00	510.47	9.80	0.00	2.34	0.04
10/22/2004 16:42	13.62	0.00	174.40	11.78	1.61	24677.31	187.84	218	0.00	521.07	10.21	0.00	2.39	0.05
10/22/2004 16:43	13.96	0.00	161.19	11.23	1.66	25675.18	188.42	218	0.00	501.16	10.16	0.00	2.30	0.05
10/22/2004 16:44	14.24	0.00	154.21	10.87	1.67	25801.92	188.98	218	0.00	481.90	10.03	0.00	2.21	0.05
10/22/2004 16:45	14.32	0.00	151.34	10.90	1.64	25346.17	189.60	218	0.00	464.56	9.73	0.00	2.13	0.04
10/22/2004 16:46	14.30	0.00	151.65	11.11	1.53	23681.27	190.04	219	0.00	434.87	8.25	0.00	1.99	0.04
10/22/2004 16:47	14.13	0.00	156.37	11.23	1.47	22629.73	190.01	218	0.00	427.39	8.36	0.00	1.96	0.04
10/22/2004 16:48	13.84	0.00	166.85	11.71	1.43	22021.69	189.80	218	0.00	443.99	8.36	0.00	2.03	0.04
10/22/2004 16:49	13.47	0.00	175.05	12.17	1.43	21864.64	189.77	218	0.00	463.74	8.76	0.00	2.13	0.04
Average	**13.25**	**0.00**	**182.30**	**12.33**	**1.44**	**22081.82**	**186.57**	**218**	**0.00**	**483.49**	**9.40**	**0.00**	**2.22**	**0.04**
Maximum	**14.32**	**0.00**	**204.82**	**13.89**	**1.67**	**25801.92**	**190.04**	**219**	**0.00**	**521.07**	**10.52**	**0.00**	**2.39**	**0.05**
Minimum	**12.12**	**0.00**	**151.34**	**10.87**	**1.26**	**18928.46**	**183.77**	**217**	**0.00**	**427.39**	**8.25**	**0.00**	**1.96**	**0.04**
Stdev	**0.69**	**0.00**	**18.95**	**0.94**	**0.13**	**2114.48**	**2.39**	**0**	**0.00**	**28.04**	**0.68**	**0.00**	**0.13**	**0.00**

Flow	368030	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 11

Date_Time	O2 (%)	H2O (%)	NOx (ppm)	SO2 (ppm)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Tmp (F)	Clink	SO2Tot	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 17:04	11.96	13.93	202.04	0.00	1.26	18916	188.42	215.25	0.00	462.70	8.30	0.00	2.15	0.04
10/22/2004 17:05	11.89	14.20	195.77	0.00	1.27	18927	188.16	216.19	0.00	449.06	9.33	0.00	2.08	0.04
10/22/2004 17:06	11.96	14.29	199.72	0.00	1.27	18977	187.81	216.09	0.00	459.06	9.24	0.00	2.12	0.04
10/22/2004 17:07	11.96	14.35	198.98	0.00	1.24	18534	187.46	216.06	0.00	446.48	9.82	0.00	2.07	0.05
10/22/2004 17:08	11.83	14.13	203.01	0.00	1.24	18574	187.02	216.14	0.00	456.80	9.08	0.00	2.11	0.04
10/22/2004 17:09	11.77	14.58	206.08	0.00	1.23	18372	186.73	215.32	0.00	458.79	9.35	0.00	2.13	0.04
10/22/2004 17:10	11.68	14.73	205.72	0.00	1.22	18096	186.29	217.06	0.00	450.89	8.56	0.00	2.08	0.04
10/22/2004 17:11	11.66	14.78	209.95	0.00	1.22	18075	185.76	216.48	0.00	459.63	8.89	0.00	2.12	0.04
10/22/2004 17:12	11.65	14.77	208.95	0.00	1.22	18141	185.14	215.95	0.00	459.21	8.57	0.00	2.13	0.04
10/22/2004 17:13	11.66	14.93	205.47	0.00	1.23	18208	184.59	216.04	0.00	452.98	9.32	0.00	2.10	0.04
10/22/2004 17:14	11.69	14.68	204.78	0.00	1.22	18159	183.97	216.06	0.00	450.11	9.95	0.00	2.08	0.05
10/22/2004 17:15	11.53	14.39	205.96	0.00	1.20	17988	183.33	215.68	0.00	448.53	9.38	0.00	2.08	0.04
10/22/2004 17:16	11.61	14.47	206.53	0.00	1.20	17954	182.77	216.33	0.00	449.23	8.91	0.00	2.08	0.04
10/22/2004 17:17	11.57	14.60	211.21	0.00	1.20	17954	182.27	216.46	0.00	459.25	9.47	0.00	2.12	0.04
10/22/2004 17:18	11.56	14.53	213.86	0.00	1.20	17902	181.68	216.26	0.00	463.63	8.52	0.00	2.14	0.04
10/22/2004 17:19	11.49	14.50	212.27	0.00	1.19	17777	181.19	216.14	0.00	457.00	9.06	0.00	2.11	0.04
10/22/2004 17:20	11.46	14.58	216.10	0.00	1.20	17885	180.75	216.13	0.00	468.14	9.71	0.00	2.17	0.04
10/22/2004 17:21	11.44	14.71	214.98	0.00	1.20	17897	180.31	217.31	0.00	465.98	9.85	0.00	2.14	0.05
10/22/2004 17:22	11.49	14.56	212.80	0.00	1.18	17636	179.75	215.94	0.00	454.49	9.55	0.00	2.10	0.04
10/22/2004 17:23	11.27	14.67	210.50	0.00	1.19	17747	179.31	215.88	0.00	452.43	9.25	0.00	2.10	0.04
10/22/2004 17:24	11.29	14.82	210.89	0.00	1.19	17746	178.81	215.71	0.00	453.23	9.80	0.00	2.10	0.05
Average	**11.64**	**14.53**	**207.41**	**0.00**	**1.22**	**18165**	**183.88**	**216.12**	**0.00**	**456.08**	**9.23**	**0.00**	**2.11**	**0.04**
Maximum	**11.96**	**14.93**	**216.10**	**0.00**	**1.27**	**18977**	**188.42**	**217.31**	**0.00**	**468.14**	**9.95**	**0.00**	**2.17**	**0.05**
Minimum	**11.27**	**13.93**	**195.77**	**0.00**	**1.18**	**17636**	**178.81**	**215.25**	**0.00**	**446.48**	**8.30**	**0.00**	**2.07**	**0.04**
Stdev	**0.20**	**0.25**	**5.50**	**0.00**	**0.03**	**405**	**3.15**	**0.48**	**0.00**	**6.06**	**0.48**	**0.00**	**0.03**	**0.00**

Flow	302750	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 12

Date_Time	O2 (%)	H2O (%)	NOx (ppm)	SO2 (ppm)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Tmp (F)	Clink	SO2Tot	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 17:36	11.35	14.62	224.56	0.00	1.16	17436	175.30	215.09	0.00	474.18	8.54	0.00	2.20	0.04
10/22/2004 17:37	11.42	14.34	225.30	0.00	1.16	17513	175.12	215.20	0.00	477.82	8.67	0.00	2.22	0.04
10/22/2004 17:38	11.48	14.52	229.26	0.00	1.17	17521	175.09	217.41	0.00	486.49	9.31	0.00	2.24	0.04
10/22/2004 17:39	11.45	14.52	229.53	0.00	1.15	17325	174.95	217.55	0.00	481.56	8.31	0.00	2.21	0.04
10/22/2004 17:40	11.51	14.68	231.30	0.00	1.17	17605	174.95	217.56	0.00	493.17	8.11	0.00	2.27	0.04
10/22/2004 17:41	11.57	14.66	234.84	0.00	1.19	17805	174.80	217.60	0.00	506.38	9.83	0.00	2.33	0.05
10/22/2004 17:42	11.66	14.28	240.42	0.00	1.17	17640	174.62	217.59	0.00	513.60	9.13	0.00	2.36	0.04
10/22/2004 17:43	11.57	14.23	241.07	0.00	1.17	17667	174.59	217.58	0.00	515.77	9.63	0.00	2.37	0.04
10/22/2004 17:44	11.53	14.25	241.19	0.00	1.16	17464	174.42	219.75	0.00	510.10	9.14	0.00	2.32	0.04
10/22/2004 17:45	11.55	14.43	241.72	0.00	1.17	17642	174.42	217.00	0.00	516.46	8.37	0.00	2.38	0.04
10/22/2004 17:46	11.70	14.56	239.19	0.00	1.18	17680	174.42	217.55	0.00	512.15	8.98	0.00	2.35	0.04
10/22/2004 17:47	11.70	14.49	233.94	0.00	1.18	17759	174.33	216.66	0.00	503.15	9.24	0.00	2.32	0.04
10/22/2004 17:48	11.73	14.42	231.05	0.00	1.17	17550	174.24	217.36	0.00	491.09	7.61	0.00	2.26	0.03
10/22/2004 17:49	11.66	14.38	230.59	0.00	1.17	17679	174.33	217.50	0.00	493.67	9.27	0.00	2.27	0.04
10/22/2004 17:50	11.59	14.32	225.86	0.00	1.18	17758	174.48	217.57	0.00	485.74	9.04	0.00	2.23	0.04
10/22/2004 17:51	11.58	14.39	229.69	0.00	1.17	17619	174.59	215.38	0.00	490.09	9.89	0.00	2.28	0.05
10/22/2004 17:52	11.59	14.19	228.73	0.00	1.16	17543	174.65	217.41	0.00	486.08	8.53	0.00	2.24	0.04
10/22/2004 17:53	11.59	14.27	224.11	0.00	1.16	17483	174.83	219.09	0.00	475.58	8.75	0.00	2.17	0.04
10/22/2004 17:54	11.70	14.40	220.53	0.00	1.16	17526	175.00	218.24	0.00	468.56	8.00	0.00	2.15	0.04
10/22/2004 17:55	11.70	14.45	217.50	0.00	1.17	17579	175.21	217.85	0.00	463.04	8.02	0.00	2.13	0.04
10/22/2004 17:56	11.75	14.36	215.16	0.00	1.18	17770	175.36	217.68	0.00	463.05	9.14	0.00	2.13	0.04
Average	**11.59**	**14.42**	**230.26**	**0.00**	**1.17**	**17598**	**174.75**	**217.36**	**0.00**	**490.84**	**8.83**	**0.00**	**2.26**	**0.04**
Maximum	**11.75**	**14.68**	**241.72**	**0.00**	**1.19**	**17805**	**175.36**	**219.75**	**0.00**	**516.46**	**9.89**	**0.00**	**2.38**	**0.05**
Minimum	**11.35**	**14.19**	**215.16**	**0.00**	**1.15**	**17325**	**174.24**	**215.09**	**0.00**	**463.04**	**7.61**	**0.00**	**2.13**	**0.03**
Stdev	**0.11**	**0.14**	**7.72**	**0.00**	**0.01**	**123**	**0.34**	**1.11**	**0.00**	**17.18**	**0.62**	**0.00**	**0.08**	**0.00**

Flow	293305	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 13

Date_Time	O2 (%)	NOx (ppm)	SO2 (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Tmp (F)	Clink	SO2Tot	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 18:09	11.75	213.29	0.00	14.13	1.19	17941	177.96	217.83	0.00	463.45	9.21	0.00	2.13	0.04
10/22/2004 18:10	11.67	212.54	0.00	13.91	1.18	17781	178.37	217.67	0.00	457.67	9.55	0.00	2.10	0.04
10/22/2004 18:11	11.56	212.15	0.00	13.86	1.20	18126	178.84	217.62	0.00	465.71	9.60	0.00	2.14	0.04
10/22/2004 18:12	11.58	215.28	0.00	13.87	1.17	17684	179.34	217.64	0.00	461.05	9.26	0.00	2.12	0.04
10/22/2004 18:13	11.52	208.38	0.00	13.58	1.16	17571	179.75	217.81	0.00	443.45	8.84	0.00	2.04	0.04
10/22/2004 18:14	11.46	202.04	0.00	14.11	1.16	17504	180.28	217.21	0.00	428.27	8.76	0.00	1.97	0.04
10/22/2004 18:15	11.50	195.69	0.00	14.11	1.19	17923	180.66	217.66	0.00	424.71	8.47	0.00	1.95	0.04
10/22/2004 18:16	11.60	194.69	0.00	13.81	1.22	18365	181.10	217.77	0.00	433.06	8.96	0.00	1.99	0.04
10/22/2004 18:17	11.68	194.12	0.00	13.50	1.27	19234	181.68	217.68	0.00	452.08	9.22	0.00	2.08	0.04
10/22/2004 18:18	12.02	182.68	0.02	13.30	1.32	19974	182.42	217.58	0.05	441.90	9.56	0.00	2.03	0.04
10/22/2004 18:19	12.40	179.02	0.00	12.58	1.31	20045	183.00	218.10	0.00	434.58	9.26	0.00	1.99	0.04
10/22/2004 18:20	12.42	172.51	0.00	12.69	1.30	19896	183.65	217.60	0.00	415.68	9.36	0.00	1.91	0.04
10/22/2004 18:21	12.51	178.49	0.00	12.98	1.23	18712	184.12	217.87	0.00	404.45	8.47	0.00	1.86	0.04
10/22/2004 18:22	12.41	191.31	0.00	12.75	1.18	17944	184.29	217.25	0.00	415.66	7.93	0.00	1.91	0.04
10/22/2004 18:23	11.88	214.77	0.00	13.83	1.16	17544	184.44	217.49	0.00	456.29	8.17	0.00	2.10	0.04
10/22/2004 18:24	11.55	220.31	0.01	13.29	1.16	17580	184.50	217.52	0.02	469.09	8.67	0.00	2.16	0.04
10/22/2004 18:25	11.54	226.13	0.00	12.74	1.16	17652	184.82	217.57	0.00	483.40	8.92	0.00	2.22	0.04
10/22/2004 18:26	11.63	231.16	0.00	12.63	1.16	17739	185.32	217.83	0.00	496.92	9.12	0.00	2.28	0.04
10/22/2004 18:27	11.35	224.62	0.00	13.15	1.16	17551	186.02	217.78	0.00	482.02	8.84	0.00	2.21	0.04
10/22/2004 18:28	11.46	222.32	0.00	13.39	1.18	17809	186.55	217.14	0.00	479.06	8.90	0.00	2.21	0.04
10/22/2004 18:29	11.53	215.91	0.00	13.47	1.18	17816	186.99	217.89	0.00	465.88	8.86	0.00	2.14	0.04
Average	**11.76**	**205.11**	**0.00**	**13.41**	**1.20**	**18209**	**182.58**	**217.64**	**0.00**	**451.16**	**8.95**	**0.00**	**2.07**	**0.04**
Maximum	**12.51**	**231.16**	**0.02**	**14.13**	**1.32**	**20045**	**186.99**	**218.10**	**0.05**	**496.92**	**9.60**	**0.00**	**2.28**	**0.04**
Minimum	**11.35**	**172.51**	**0.00**	**12.58**	**1.16**	**17504**	**177.96**	**217.14**	**0.00**	**404.45**	**7.93**	**0.00**	**1.86**	**0.04**
Stdev	**0.37**	**17.32**	**0.00**	**0.53**	**0.05**	**848**	**2.80**	**0.24**	**0.01**	**25.10**	**0.44**	**0.00**	**0.12**	**0.00**

Flow	303485	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 14

Date_Time	O2 (%)	NOx (ppm)	SO2 (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Tmp (F)	Clink	SO2Tot	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 18:42	11.73	218.07	0.00	13.66	1.20	18008	193.32	217.75	0.00	475.59	8.91	0.00	2.18	0.04
10/22/2004 18:43	11.83	220.92	0.00	13.36	1.20	17969	193.23	217.37	0.00	480.77	8.70	0.00	2.21	0.04
10/22/2004 18:44	11.68	219.58	0.00	13.55	1.20	17986	193.14	217.57	0.00	478.28	9.11	0.00	2.20	0.04
10/22/2004 18:45	11.70	222.02	0.00	13.44	1.19	17816	192.91	217.36	0.00	479.01	8.76	0.00	2.20	0.04
10/22/2004 18:46	11.71	223.59	0.00	13.14	1.18	17825	192.76	218.05	0.00	482.67	8.80	0.00	2.21	0.04
10/22/2004 18:47	11.46	218.62	0.00	13.13	1.17	17706	192.70	217.64	0.00	468.78	8.78	0.00	2.15	0.04
10/22/2004 18:48	11.50	222.00	0.00	13.11	1.17	17626	192.70	217.61	0.00	473.88	8.13	0.00	2.18	0.04
10/22/2004 18:49	11.47	220.66	0.00	13.11	1.18	17788	192.70	217.49	0.00	475.39	8.47	0.00	2.19	0.04
10/22/2004 18:50	11.51	215.67	0.00	12.95	1.16	17454	192.85	217.58	0.00	455.90	7.96	0.00	2.10	0.04
10/22/2004 18:51	11.41	211.17	0.00	12.90	1.18	17874	192.94	217.63	0.00	457.10	8.27	0.00	2.10	0.04
10/22/2004 18:52	11.39	212.82	0.00	12.96	1.17	17677	193.20	217.42	0.00	455.61	8.53	0.00	2.10	0.04
10/22/2004 18:53	11.35	216.91	0.00	12.87	1.18	17813	193.47	217.69	0.00	467.94	8.15	0.00	2.15	0.04
10/22/2004 18:54	11.29	219.76	0.00	12.94	1.16	17487	193.76	217.99	0.00	465.46	8.47	0.00	2.14	0.04
10/22/2004 18:55	11.26	221.67	0.00	13.09	1.17	17598	194.14	218.07	0.00	472.47	7.91	0.00	2.17	0.04
10/22/2004 18:56	11.34	217.09	0.01	13.28	1.17	17531	194.55	217.30	0.02	460.91	7.93	0.00	2.12	0.04
10/22/2004 18:57	11.35	214.41	0.00	13.37	1.19	17816	194.81	217.47	0.00	462.57	8.51	0.00	2.13	0.04
10/22/2004 18:58	11.44	210.70	0.00	13.57	1.19	17883	195.02	217.58	0.00	456.34	8.79	0.00	2.10	0.04
10/22/2004 18:59	11.46	220.47	0.00	13.27	1.19	17875	195.16	216.99	0.00	477.27	8.79	0.00	2.20	0.04
10/22/2004 19:00	11.35	223.40	0.00	13.46	1.19	17788	195.16	217.51	0.00	481.24	8.72	0.00	2.21	0.04
10/22/2004 19:01	11.35	225.68	0.00	13.40	1.19	17819	195.19	217.67	0.00	487.01	9.02	0.00	2.24	0.04
10/22/2004 19:02	11.48	224.03	0.00	13.47	1.20	17933	195.19	217.90	0.00	486.55	9.81	0.00	2.23	0.04
Average	**11.48**	**219.01**	**0.00**	**13.24**	**1.18**	**17775**	**193.76**	**217.60**	**0.00**	**471.46**	**8.60**	**0.00**	**2.17**	**0.04**
Maximum	**11.83**	**225.68**	**0.01**	**13.66**	**1.20**	**18008**	**195.19**	**218.07**	**0.02**	**487.01**	**9.81**	**0.00**	**2.24**	**0.04**
Minimum	**11.26**	**210.70**	**0.00**	**12.87**	**1.16**	**17454**	**192.70**	**216.99**	**0.00**	**455.61**	**7.91**	**0.00**	**2.10**	**0.04**
Stdev	**0.16**	**4.21**	**0.00**	**0.24**	**0.01**	**161**	**0.98**	**0.26**	**0.01**	**10.31**	**0.45**	**0.00**	**0.05**	**0.00**

Flow	296250	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

RUN 15

Date_Time	O2 (%)	NOx (ppm)	SO2 (ppm)	H2O (%)	((hPA)½)	Flow_kH2O (10^3scfh)	Stack Tmp (F)	Clink	SO2Tot	NOxTot	VOCTot	SO2/Clk	NOx/Clk	VOC/Clk
10/22/2004 19:11	11.33	209.50	0.00	13.78	1.21	18144	194.81	217.47	0.00	460.28	9.79	0.00	2.12	0.05
10/22/2004 19:12	11.43	204.27	0.00	13.59	1.20	18023	194.75	217.58	0.00	445.55	9.33	0.00	2.05	0.04
10/22/2004 19:13	11.43	207.37	0.00	13.34	1.20	17978	194.75	217.70	0.00	451.66	9.22	0.00	2.07	0.04
10/22/2004 19:14	11.28	200.98	0.00	13.91	1.20	17835	194.81	216.92	0.00	434.68	9.29	0.00	2.00	0.04
10/22/2004 19:15	11.39	199.33	0.00	14.28	1.18	17585	194.75	218.13	0.00	424.55	8.90	0.00	1.95	0.04
10/22/2004 19:16	11.47	192.00	0.00	14.39	1.19	17689	194.61	217.71	0.00	411.49	8.17	0.00	1.89	0.04
10/22/2004 19:17	11.51	190.64	0.00	14.59	1.19	17633	194.43	217.62	0.00	407.23	9.12	0.00	1.87	0.04
10/22/2004 19:18	11.56	191.72	0.00	14.21	1.20	17919	194.17	217.62	0.00	415.48	9.25	0.00	1.91	0.04
10/22/2004 19:19	11.60	193.61	0.00	13.89	1.20	17885	194.11	217.37	0.00	419.31	9.78	0.00	1.93	0.04
10/22/2004 19:20	11.54	196.62	0.00	13.93	1.21	17995	193.99	216.02	0.00	428.51	9.28	0.00	1.98	0.04
10/22/2004 19:21	11.52	195.36	0.00	13.94	1.20	17906	193.93	217.92	0.00	423.64	9.06	0.00	1.94	0.04
10/22/2004 19:22	11.61	197.15	0.00	13.93	1.18	17670	193.85	218.63	0.00	421.90	8.73	0.00	1.93	0.04
10/22/2004 19:23	11.57	200.55	0.00	14.11	1.20	17845	193.76	217.95	0.00	433.41	9.38	0.00	1.99	0.04
10/22/2004 19:24	11.71	198.41	0.00	13.94	1.19	17761	193.58	217.76	0.00	426.78	8.98	0.00	1.96	0.04
10/22/2004 19:25	11.72	205.70	0.00	13.82	1.19	17811	193.35	217.65	0.00	443.68	9.73	0.00	2.04	0.04
10/22/2004 19:26	11.67	204.92	0.00	13.32	1.18	17777	193.23	218.62	0.00	441.17	8.73	0.00	2.02	0.04
10/22/2004 19:27	11.65	208.89	0.00	13.56	1.17	17582	193.23	217.96	0.00	444.80	8.90	0.00	2.04	0.04
10/22/2004 19:28	11.48	205.94	0.00	13.61	1.17	17511	193.29	217.51	0.00	436.74	8.31	0.00	2.01	0.04
10/22/2004 19:29	11.56	200.83	0.00	13.30	1.17	17598	193.41	216.99	0.00	427.99	8.71	0.00	1.97	0.04
10/22/2004 19:30	11.56	195.75	0.03	13.18	1.18	17737	193.61	217.37	0.08	420.46	8.93	0.00	1.93	0.04
10/22/2004 19:31	11.53	195.20	0.04	12.66	1.19	18050	193.88	217.51	0.11	426.67	9.68	0.00	1.96	0.04
Average	**11.53**	**199.75**	**0.00**	**13.77**	**1.19**	**17806**	**194.02**	**217.62**	**0.01**	**430.76**	**9.11**	**0.00**	**1.98**	**0.04**
Maximum	**11.72**	**209.50**	**0.04**	**14.59**	**1.21**	**18144**	**194.81**	**218.63**	**0.11**	**460.28**	**9.79**	**0.00**	**2.12**	**0.05**
Minimum	**11.28**	**190.64**	**0.00**	**12.66**	**1.17**	**17511**	**193.23**	**216.02**	**0.00**	**407.23**	**8.17**	**0.00**	**1.87**	**0.04**
Stdev	**0.12**	**5.83**	**0.01**	**0.45**	**0.01**	**176**	**0.57**	**0.56**	**0.03**	**13.54**	**0.44**	**0.00**	**0.06**	**0.00**

Flow	296772	scfm dry	#DIV/0!
Pitot State		scfm dry	
Pitot FLS		scfm dry	#DIV/0!

Pennsuco Cement

RATA Data

VOC RATA 1

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
04-11-2004 14:27	11.19	0.61	217.10	3.82	21.88	1.56	14.34	18250.89	201.58
04-11-2004 14:28	11.14	0.72	218.73	3.55	21.66	1.45	14.17	18270.69	201.29
04-11-2004 14:29	11.11	0.72	227.98	3.40	21.61	1.53	14.26	18305.29	201.08
04-11-2004 14:30	11.22	0.68	234.48	3.33	20.90	1.54	14.45	18345.14	200.97
04-11-2004 14:31	11.30	0.43	241.24	3.16	20.40	2.11	14.60	18820.03	200.88
04-11-2004 14:32	11.51	0.96	249.85	3.10	19.36	2.06	14.25	20152.50	200.82
04-11-2004 14:33	11.98	1.02	253.27	3.24	18.36	2.33	13.40	21104.03	201.00
04-11-2004 14:34	12.54	0.91	254.63	3.48	17.78	1.93	13.19	21097.80	201.35
04-11-2004 14:35	12.85	0.67	254.47	3.29	17.72	2.02	12.96	21343.88	201.64
04-11-2004 14:36	12.99	0.70	253.63	3.20	17.55	3.98	12.86	21666.27	201.99
04-11-2004 14:37	13.11	0.77	252.91	3.70	17.25	2.35	12.77	22128.03	202.43
04-11-2004 14:38	13.18	1.16	251.49	3.67	16.78	1.94	12.44	22748.16	202.93
04-11-2004 14:39	13.40	1.15	252.40	3.48	16.29	1.99	11.94	23698.46	203.46
04-11-2004 14:40	13.66	0.98	251.80	3.93	15.91	1.79	11.67	24517.71	204.13
04-11-2004 14:41	13.90	1.34	250.98	3.82	15.63	1.80	11.52	24591.29	204.75
04-11-2004 14:42	14.12	1.13	256.83	4.40	15.70	1.22	11.42	24215.23	205.25
04-11-2004 14:43	14.06	1.48	264.67	4.31	15.67	1.30	11.68	22661.66	205.51
04-11-2004 14:44	13.76	1.19	265.16	4.07	16.14	1.09	12.00	21220.88	205.13
04-11-2004 14:45	13.46	1.21	269.10	3.91	16.91	0.94	12.61	20381.94	204.54
04-11-2004 14:46	13.01	0.60	264.03	4.08	17.80	0.81	13.08	19668.84	204.04
04-11-2004 14:47	12.56	1.00	263.14	3.59	18.58	0.87	13.28	19375.61	203.66
Average	11.87	0.80	240.12	3.71	20.23	1.21	13.81	18813.25	202.62
Maximum	12.56	1.00	263.14	3.82	21.88	1.56	14.34	19375.61	203.66
Minimum	11.19	0.61	217.10	3.59	18.58	0.87	13.28	18250.89	201.58
Stdev	0.97	0.28	32.55	0.16	2.33	0.49	0.75	795.29	1.47

Pennsuco Cement

RATA Data

VOC RATA 2

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
04-11-2004 15:48	12.72	1.14	284.85	3.67	18.33	1.38	12.37	21849.80	200.76
04-11-2004 15:49	13.05	0.77	287.53	3.65	18.51	1.10	12.12	22036.65	201.26
04-11-2004 15:50	13.12	0.69	294.89	3.65	18.48	0.81	12.15	22081.85	201.73
04-11-2004 15:51	13.14	0.96	282.78	3.68	18.23	0.74	11.99	22157.26	202.20
04-11-2004 15:52	13.12	0.91	269.58	3.68	17.98	0.56	11.94	22193.36	202.61
04-11-2004 15:53	13.18	0.78	267.88	3.89	18.26	0.44	12.12	22137.56	203.08
04-11-2004 15:54	13.22	0.73	297.83	4.07	18.38	0.35	12.35	21616.93	203.37
04-11-2004 15:55	13.02	0.89	282.00	3.69	18.75	0.21	12.79	21425.78	203.40
04-11-2004 15:56	12.85		261.18	3.81	18.97	0.17	13.03	21098.53	203.14
04-11-2004 15:57	12.73	0.89	255.37	3.88	18.67	0.02	13.10	20781.13	202.70
04-11-2004 15:58	12.66	0.44	252.45	3.59	18.86	0.01	13.29	20239.71	202.26
04-11-2004 15:59	12.45	0.78	244.40	3.64	19.34	0.00	13.58	20136.97	201.79
04-11-2004 16:00	12.29	0.84	238.16	3.45	19.67	0.05	13.77	20300.61	201.38
04-11-2004 16:01	12.25	1.18	233.24	3.65	19.68	0.43	13.51	20922.59	201.08
04-11-2004 16:02	12.40	0.64	232.80	3.88	19.28	1.99	13.17	20964.76	200.97
04-11-2004 16:03	12.43	0.40	240.25	3.23	19.33	0.76	12.90	21126.97	201.00
04-11-2004 16:04	12.48	0.81	243.20	3.54	19.22	0.20	12.89	21029.55	201.20
04-11-2004 16:05	12.45	0.52	241.78	3.32	19.14	0.16	12.85	21346.43	201.55
04-11-2004 16:06	12.57	0.59	250.08	3.71	18.79	0.09	12.82	21534.04	201.76
04-11-2004 16:07	12.65	0.70	243.94	3.41	18.63	0.04	12.65	21600.35	202.08
04-11-2004 16:08	12.72	0.45	244.30	3.49	18.43	0.01	12.60	21838.20	202.43
Average	12.72	0.80	264.58	3.58	18.38	0.70	12.49	21844.00	201.60
Maximum	12.72	1.14	284.85	3.67	18.43	1.38	12.60	21849.80	202.43
Minimum	12.72	0.45	244.30	3.49	18.33	0.01	12.37	21838.20	200.76
Stdev	0.00	0.48	28.67	0.13	0.07	0.97	0.16	8.21	1.18

Pennsuco Cement

RATA Data

VOC RATA 3

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
04-11-2004 17:10	11.86	0.82	323.19	3.43	21.32	0.51	13.81	19855.83	194.11
04-11-2004 17:11	12.04	0.96	334.77	3.57	20.55	0.73	13.57	20406.74	194.43
04-11-2004 17:12	12.23	0.77	334.47	4.02	20.14	0.75	13.34	20747.39	194.75
04-11-2004 17:13	12.42	0.76	332.82	3.60	19.80	0.81	13.12	20764.33	195.08
04-11-2004 17:14	12.57	0.97	323.14	3.74	19.66	0.63	13.00	20888.98	195.46
04-11-2004 17:15	12.75	0.89	323.56	3.81	19.65	0.66	12.94	20244.16	195.69
04-11-2004 17:16	12.54	0.58	340.86	4.19	20.38	0.42	13.16	19696.38	195.96
04-11-2004 17:17	12.27	1.12	330.07	4.04	20.48	0.18	13.62	19311.53	196.19
04-11-2004 17:18	12.00	0.60	323.03	3.80	20.77	0.25	14.05	18784.46	196.22
04-11-2004 17:19	11.83	1.03	312.91	3.60	21.06	0.17	14.24	18947.06	196.22
04-11-2004 17:20	11.76	0.89	298.09	3.15	21.21	0.29	14.42	18697.12	196.22
04-11-2004 17:21	11.56	0.60	282.85	3.65	21.97	0.28	14.57	18475.46	196.07
04-11-2004 17:22	11.32	0.91	263.41	3.52	22.16	0.27	14.71	18582.36	195.90
04-11-2004 17:23	11.34	0.65	254.94	3.73	21.89	0.42	14.51	19342.75	195.78
04-11-2004 17:24	11.38	0.57	251.18	2.90	21.29	0.72	14.18	20468.52	195.84
04-11-2004 17:25	11.87	0.86	252.95	3.78	20.35	0.81	13.63	21094.40	196.04
04-11-2004 17:26	12.33	0.70	266.83	3.96	19.89	0.59	13.31	21148.04	196.22
04-11-2004 17:27	12.51	0.91	268.39	4.64	19.82	0.46	12.98	21405.86	196.37
04-11-2004 17:28	12.60	0.83	268.78	3.74	19.94	0.50	13.01	21280.84	196.45
04-11-2004 17:29	12.66	0.92	284.54	3.38	19.51	0.33	12.80	20956.77	196.63
04-11-2004 17:30	12.67	0.75	280.34	3.11	19.44	0.18	13.02	20509.00	196.86
Average	12.27	0.79	301.77	3.27	20.38	0.34	13.41	20182.42	195.49
Maximum	12.67	0.82	323.19	3.43	21.32	0.51	13.81	20509.00	196.86
Minimum	11.86	0.75	280.34	3.11	19.44	0.18	13.02	19855.83	194.11
Stdev	0.58	0.05	30.29	0.23	1.33	0.24	0.56	461.86	1.95

Pennsuco Cement

RATA Data

VOC RATA 4

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
04-11-2004 17:53	11.39	0.73	285.63	2.40	22.16	0.53	14.74	18812.97	198.59
04-11-2004 17:54	11.83	0.66	292.55	2.90	21.20	0.57	14.34	18700.60	198.36
04-11-2004 17:55	11.52	0.61	249.49	3.00	21.71	0.40	14.21	18587.83	198.10
04-11-2004 17:56	11.14	0.62	265.84	2.99	21.58	0.28	14.35	18684.94	197.98
04-11-2004 17:57	11.32	1.02	274.91	2.82	21.50	0.31	14.65	18610.64	197.80
04-11-2004 17:58	11.29	0.73	256.78	2.62	21.75	0.33	14.76	18505.48	197.66
04-11-2004 17:59	11.26	0.71	243.25	1.97	22.14	0.74	14.74	18381.82	197.57
04-11-2004 18:00	11.23	0.70	238.39	2.74	22.20	0.70	14.62	19188.20	197.45
04-11-2004 18:01	11.31	0.74	227.65	2.13	21.43	1.13	14.46	20353.88	197.60
04-11-2004 18:02	11.76	0.89	226.52	3.34	20.51	1.20	13.79	20851.75	197.89
04-11-2004 18:03	12.20	0.78	241.31	2.39	20.11	1.26	13.29	20974.51	198.12
04-11-2004 18:04	12.28	0.42	242.53	3.42	20.51	0.94	13.15	20715.31	198.45
04-11-2004 18:05	12.31	1.07	255.02	3.84	20.67	0.76	13.32	21303.83	198.80
04-11-2004 18:06	12.39	0.71	267.94	3.08	20.64	0.87	13.31	21177.09	199.15
04-11-2004 18:07	12.40	0.84	271.15	3.43	20.06	0.62	13.22	21522.14	199.38
04-11-2004 18:08	12.56	0.99	276.27	2.91	19.70	0.53	12.95	21820.70	199.65
04-11-2004 18:09	12.69	1.41	287.53	3.36	19.04	0.45	12.78	21752.38	199.91
04-11-2004 18:10	12.85	1.41	278.34	2.81	19.37	0.41	12.74	21493.71	200.26
04-11-2004 18:11	12.86	0.93	285.76	3.43	19.58	0.37	12.89	20932.93	200.56
04-11-2004 18:12	12.79	1.04	286.47	3.57	19.57	0.24	13.05	20817.35	200.79
04-11-2004 18:13	12.59	1.26	291.73	2.59	19.41	0.29	13.17	20692.79	200.79
Average	11.99	1.00	288.68	2.49	20.78	0.41	13.96	19752.88	199.69
Maximum	12.59	1.26	291.73	2.59	22.16	0.53	14.74	20692.79	200.79
Minimum	11.39	0.73	285.63	2.40	19.41	0.29	13.17	18812.97	198.59
Stdev	0.85	0.38	4.32	0.14	1.94	0.17	1.11	1329.24	1.55

Pennsuco Cement

RATA Data

VOC RATA 5

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
04-11-2004 18:32	11.57	1.07	313.17	2.88	21.15	2.89	14.55	18388.49	195.69
04-11-2004 18:33	11.52	1.10	309.70	1.94	21.46	0.58	14.73	18559.74	195.34
04-11-2004 18:34	11.56	0.93	304.23	1.59	21.97	0.53	14.71	18488.01	194.96
04-11-2004 18:35	11.54	0.80	299.40	4.15	21.99	0.67	14.65	18349.63	194.58
04-11-2004 18:36	11.56	1.03	305.15	3.15	21.98	0.57	14.59	18501.46	194.34
04-11-2004 18:37	11.57	0.62	305.46	3.46	22.26	0.66	14.81	18476.86	194.02
04-11-2004 18:38	11.60	0.82	305.30	2.77	21.78	0.61	14.95	18423.31	193.73
04-11-2004 18:39	11.59	0.83	305.64	2.92	21.76	1.30	14.79	18546.05	193.41
04-11-2004 18:40	11.65	0.80	312.94	3.17	21.68	0.97	14.70	18616.74	193.11
04-11-2004 18:41	11.65	0.96	303.47	2.91	22.06	1.07	14.26	18720.24	192.85
04-11-2004 18:42	11.70	0.94	310.43	2.72	22.18	0.79	13.98	18718.89	192.70
04-11-2004 18:43	11.75	0.79	311.50	2.69	21.37	0.60	14.08	18677.31	192.82
04-11-2004 18:44	11.85	0.94	325.46	1.86	21.15	0.63	14.10	18843.73	192.91
04-11-2004 18:45	11.70	0.85	309.34	3.68	21.30	0.79	13.92	18831.97	193.14
04-11-2004 18:46	11.76	1.33	314.43	2.25	21.80	0.81	13.69	18903.52	193.38
04-11-2004 18:47	11.72	1.06	309.88	3.17	21.94	0.75	13.75	18957.29	193.79
04-11-2004 18:48	11.76	0.91	309.21	2.82	21.46	1.12	14.00	19153.04	194.17
04-11-2004 18:49	11.82	1.05	302.61	2.18	21.03	1.45	13.78	19301.42	194.46
04-11-2004 18:50	11.80	0.89	291.81	2.66	20.67	0.91	13.79	19688.74	194.75
04-11-2004 18:51	11.98	0.77	281.88	3.61	20.36	1.19	13.60	20178.17	195.05
04-11-2004 18:52	12.23	1.16	270.72	3.34	20.14	0.99	13.16	20441.27	195.40
Average	11.90	1.12	291.94	3.11	20.65	1.94	13.85	19414.88	195.55
Maximum	12.23	1.16	313.17	3.34	21.15	2.89	14.55	20441.27	195.69
Minimum	11.57	1.07	270.72	2.88	20.14	0.99	13.16	18388.49	195.40
Stdev	0.47	0.06	30.01	0.32	0.72	1.34	0.98	1451.54	0.21

Pennsuco Cement

RATA Data

VOC RATA 6

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
04-11-2004 19:11	11.91	0.84	296.16	3.36	22.21	0.44	13.59	19010.19	200.26
04-11-2004 19:12	11.95	0.95	297.37	1.86	22.09	0.54	13.81	19038.30	200.41
04-11-2004 19:13	11.93	1.02	300.59	2.12	21.56	0.66	13.79	18971.71	200.44
04-11-2004 19:14	11.91	0.87	294.68	2.28	21.35	0.66	13.79	19174.01	200.44
04-11-2004 19:15	11.87	1.11	283.91	3.03	21.63	0.80	13.83	19164.50	200.44
04-11-2004 19:16	11.91	1.15	283.93	2.28	21.84	1.06	13.78	19629.30	200.50
04-11-2004 19:17	12.04	0.88	283.95	2.18	21.46	1.66	13.64	20007.95	200.62
04-11-2004 19:18	12.24	0.54	283.46	1.99	20.07	3.75	13.26	19996.22	200.62
04-11-2004 19:19	12.33	0.86	285.24	3.54	19.30	1.32	13.18	19732.62	200.70
04-11-2004 19:20	12.40	1.07	273.95	2.55	19.23	0.66	13.28	19460.16	200.79
04-11-2004 19:21	12.40	0.88	281.52	2.87	19.79	0.56	13.47	18928.97	200.79
04-11-2004 19:22	12.16	0.97	289.50	2.60	20.26	0.45	13.94	18561.29	200.79
04-11-2004 19:23	12.00	1.23	284.00	3.33	20.32	0.51	14.20	18550.12	200.76
04-11-2004 19:24	11.82	0.84	287.74	2.63	20.00	0.60	14.24	18533.14	200.59
04-11-2004 19:25	11.89	0.98	287.26	3.28	19.65	0.60	14.14	18713.28	200.44
04-11-2004 19:26	11.88	0.65	279.60	1.58	19.90	0.69	14.24	18605.26	200.41
04-11-2004 19:27	11.88	0.97	282.89	2.63	20.53	0.69	14.05	18535.20	200.26
04-11-2004 19:28	11.94	0.87	286.54	3.38	21.33	0.87	14.01	18859.75	200.23
04-11-2004 19:29	12.03	0.55	297.88	3.09	21.35	1.14	13.77	18793.66	200.21
04-11-2004 19:30	11.91	0.90	315.86	3.15	21.57	1.05	14.19	18767.16	200.26
04-11-2004 19:31	11.87	0.81	301.83	2.67	21.45	1.06	14.53	18824.04	200.03
Average	11.89	0.83	299.00	3.02	21.83	0.75	14.06	18917.11	200.15
Maximum	11.91	0.84	301.83	3.36	22.21	1.06	14.53	19010.19	200.26
Minimum	11.87	0.81	296.16	2.67	21.45	0.44	13.59	18824.04	200.03
Stdev	0.03	0.02	4.01	0.49	0.54	0.44	0.66	131.63	0.17

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RATA Data

VOC RATA 7

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
05-11-2004 07:31	11.89	1.07	280.96	4.10	25.13	1.27	14.03	18561.11	189.54
05-11-2004 07:32	11.78	1.13	276.70	3.74	24.81	1.23	14.06	18614.85	189.39
05-11-2004 07:33	11.84	1.55	279.36	4.16	24.96	1.03	14.33	18413.59	189.25
05-11-2004 07:34	11.72	1.17	283.93	3.98	25.39	1.25	14.52	18451.49	188.98
05-11-2004 07:35	11.77	1.06	278.07	3.51	26.07	1.30	14.39	18587.77	188.63
05-11-2004 07:36	11.81	0.84	287.77	4.18	26.02	1.40	14.38	18569.50	188.40
05-11-2004 07:37	11.64	0.93	278.80	4.01	25.51	1.48	14.41	18567.96	188.01
05-11-2004 07:38	11.80	0.91	296.14	4.05	25.36	1.49	14.22	18353.68	187.69
05-11-2004 07:39	11.62	0.84	279.56	3.91	26.19	1.36	14.35	18497.17	187.49
05-11-2004 07:40	11.68	0.98	284.70	4.08	26.53	1.40	14.39	18469.20	187.28
05-11-2004 07:41	11.64	1.19	281.42	3.99	26.78	1.49	14.57	18586.60	187.05
05-11-2004 07:42	11.64	1.00	279.15	3.80	26.17	1.41	14.31	18478.07	186.81
05-11-2004 07:43	11.62	0.81	272.42	3.87	26.11	1.70	14.42	18285.25	186.67
05-11-2004 07:44	11.58	1.10	272.83	4.18	25.98	1.31	14.68	18300.14	186.52
05-11-2004 07:45	11.62	1.09	267.13	3.87	26.30	1.23	14.73	18269.82	186.29
05-11-2004 07:46	11.67	1.54	273.92	4.18	26.58	1.37	14.61	18304.59	186.05
05-11-2004 07:47	11.62	1.09	270.83	3.98	26.42	1.39	14.61	18512.53	185.93
05-11-2004 07:48	11.73	1.03	261.75	3.90	25.66	1.63	14.45	18485.04	185.85
05-11-2004 07:49	11.78	1.16	282.02	3.83	24.98	1.62	14.27	18418.26	185.70
05-11-2004 07:50	11.67	1.09	281.92	4.01	24.88	2.18	14.38	18426.33	185.67
05-11-2004 07:51	11.70	0.88	269.93	3.44	25.39	2.66	14.43	18471.95	185.67
Average	11.80	0.98	275.44	3.77	25.26	1.97	14.23	18516.53	187.60
Maximum	11.89	1.07	280.96	4.10	25.39	2.66	14.43	18561.11	189.54
Minimum	11.70	0.88	269.93	3.44	25.13	1.27	14.03	18471.95	185.67
Stdev	0.14	0.14	7.80	0.46	0.18	0.98	0.28	63.04	2.74

Pennsuco Cement

RATA Data

VOC RATA 8

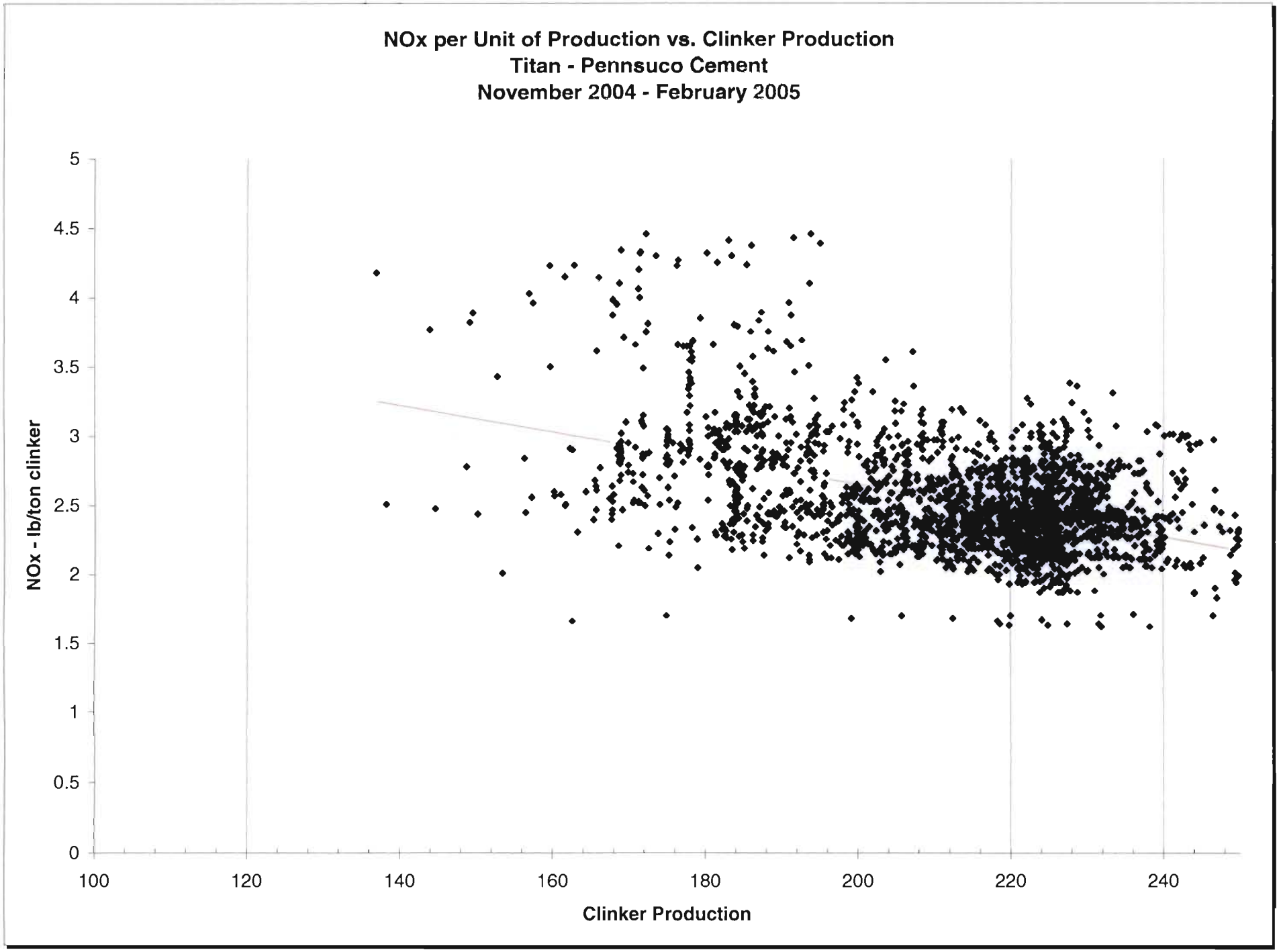
Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
05-11-2004 08:12	11.92	1.41	283.28	3.91	24.66	2.16	14.13	19337.96	184.47
05-11-2004 08:13	12.04	1.79	277.76	4.09	24.89	2.01	13.88	20153.32	184.76
05-11-2004 08:14	12.35	1.39	275.92	3.90	24.33	2.06	13.39	20854.57	185.08
05-11-2004 08:15	12.69	1.19	281.64	4.10	23.39	1.77	12.90	21126.41	185.58
05-11-2004 08:16	12.90	1.04	287.03	4.24	22.69	1.58	12.96	20608.06	186.11
05-11-2004 08:17	12.90	1.30	298.20	4.41	22.63	1.44	13.11	20014.23	186.64
05-11-2004 08:18	12.77	1.50	288.08	4.60	23.21	1.35	13.21	19456.40	186.81
05-11-2004 08:19	12.62	0.85	289.94	4.18	24.00	1.18	13.61	18974.02	187.19
05-11-2004 08:20	12.28	1.04	284.84	4.08	24.63	1.13	13.90	18879.24	187.37
05-11-2004 08:21	12.16	1.38	284.45	4.19	24.18	1.25	13.89	18883.12	187.60
05-11-2004 08:22	12.10	0.95	282.43	4.12	24.07	1.33	13.89	18782.49	187.87
05-11-2004 08:23	12.03	0.92	283.81	4.11	24.21	1.31	13.90	18798.00	188.07
05-11-2004 08:24	12.03	1.29	280.07	4.10	24.93	1.33	13.92	19144.39	188.40
05-11-2004 08:25	12.13	1.18	294.68	3.91	25.32	1.49	13.62	19264.12	188.66
05-11-2004 08:26	12.02	1.27	299.12	3.99	25.07	1.79	13.63	19655.71	189.01
05-11-2004 08:27	12.22	1.32	285.85	3.58	24.81	2.01	13.53	19964.62	189.39
05-11-2004 08:28	12.36	1.57	283.42	4.12	24.63	1.97	13.27	20083.96	189.71
05-11-2004 08:29	12.48	1.69	284.70	3.87	24.11	1.49	13.16	19839.42	190.04
05-11-2004 08:30	12.39	1.38	282.65	4.16	24.80	1.14	13.33	19330.68	190.24
05-11-2004 08:31	12.32	0.94	276.33	4.05	25.12	0.99	13.46	18942.22	190.39
05-11-2004 08:32	12.25	1.10	284.64	3.88	25.20	1.05	13.48	18835.09	190.45
Average	12.09	1.26	283.96	3.90	24.93	1.60	13.81	19086.52	187.46
Maximum	12.25	1.41	284.64	3.91	25.20	2.16	14.13	19337.96	190.45
Minimum	11.92	1.10	283.28	3.88	24.66	1.05	13.48	18835.09	184.47
Stdev	0.23	0.22	0.96	0.02	0.38	0.79	0.46	355.58	4.23

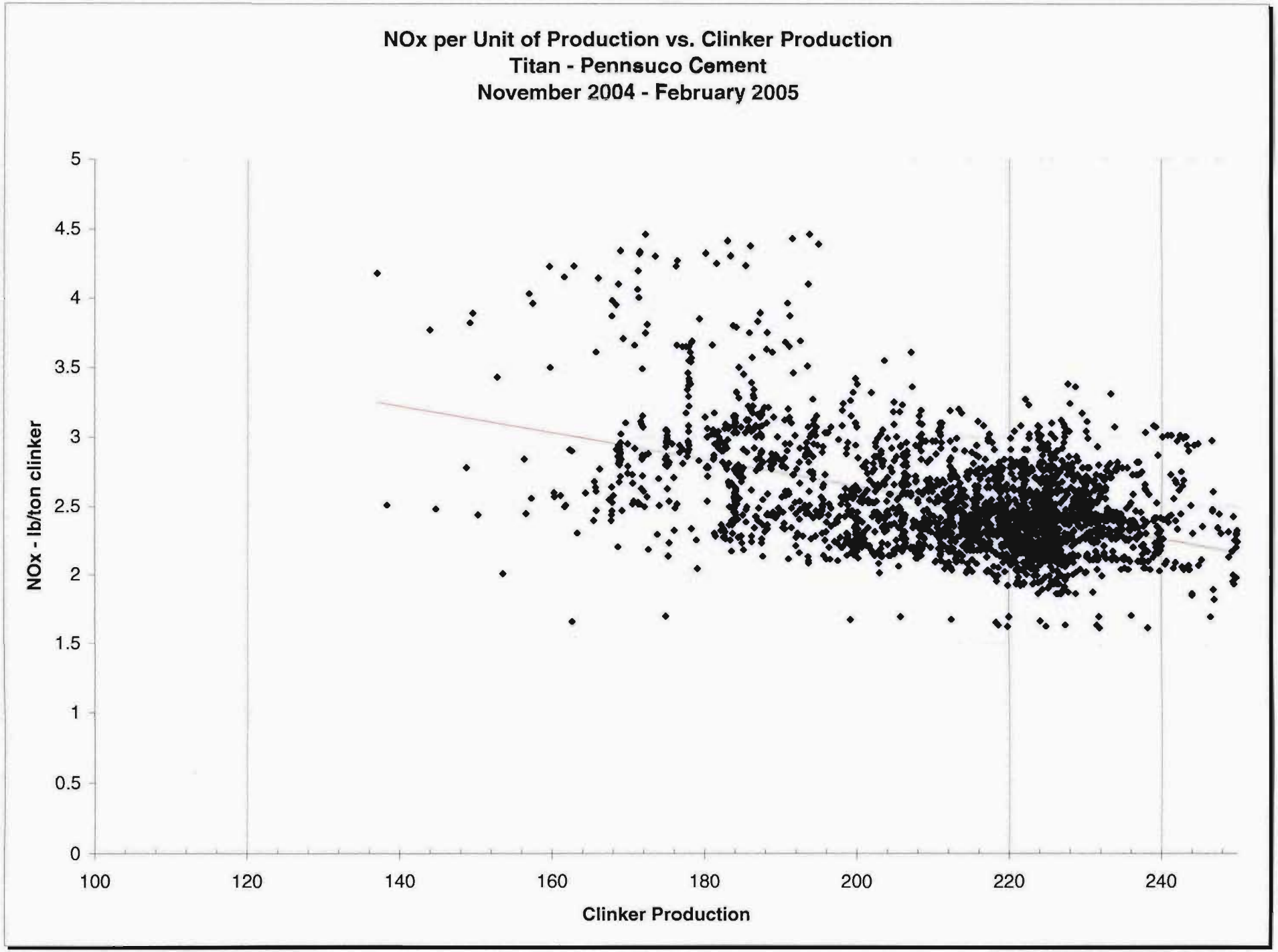
Pennsuco Cement

RATA Data

VOC RATA 9

Date-Time	O2 (%)	SO2 ppm	NO ppm	CH4 ppm	THC mg/m3	Opacity %	H2O %	Flow 10^3 scfh	StackTemp °F
05-11-2004 08:50	12.01	1.09	290.23	4.00	25.66	1.29	13.87	18900.45	194.29
05-11-2004 08:51	12.00	1.46	293.39	4.12	25.40	1.31	13.99	18720.85	194.20
05-11-2004 08:52	11.93	1.17	279.64	3.90	25.63	1.12	14.07	18619.22	194.02
05-11-2004 08:53	11.99	1.27	275.40	3.88	26.01	1.31	13.81	18667.62	193.85
05-11-2004 08:54	12.03	1.19	281.20	4.01	25.86	1.18	13.57	18693.62	193.76
05-11-2004 08:55	11.96	1.17	282.65	3.80	25.86	1.34	13.62	18779.51	193.76
05-11-2004 08:56	11.95	1.41	275.90	3.92	25.69	1.49	13.49	18882.16	193.76
05-11-2004 08:57	11.96	1.15	277.24	4.00	25.60	1.60	13.33	18899.10	193.85
05-11-2004 08:58	11.93	0.94	281.04	3.96	25.96	0.00	13.28	18833.08	193.96
05-11-2004 08:59	11.91	1.35	285.34	4.08	25.96	0.00	13.43	18767.61	194.23
05-11-2004 09:00	11.97	1.51	284.90	3.83	25.82	0.00	13.81	18712.48	194.43
05-11-2004 09:01	12.02	1.03	285.63	3.99	25.11	0.00	13.39	18763.54	194.43
05-11-2004 09:02	12.06	1.39	294.53	3.93	25.09	0.00	13.43	18940.94	194.46
05-11-2004 09:03	12.05	1.37	296.66	3.98	25.38	0.71	13.38	19094.90	194.61
05-11-2004 09:04	12.14	1.43	298.30	4.15	25.69	1.21	13.18	19220.54	194.64
05-11-2004 09:05	12.19	1.20	300.84	4.09	25.33	1.38	13.11	19137.24	194.90
05-11-2004 09:06	12.13	1.19	293.33	4.04	25.01	1.90	13.15	19068.89	195.11
05-11-2004 09:07	12.17	1.30	295.12	4.08	24.97	1.97	13.09	18937.91	195.28
05-11-2004 09:08	12.17	1.03	305.11	3.96	24.97	1.40	13.21	18843.04	195.49
05-11-2004 09:09	11.99	0.92	295.27	3.91	25.74	1.14	13.29	18860.09	195.52
05-11-2004 09:10	12.03	1.30	300.02	3.83	26.08	1.13	13.33	18586.46	195.66
Average	12.02	1.20	295.13	3.92	25.87	1.21	13.60	18743.45	194.97
Maximum	12.03	1.30	300.02	4.00	26.08	1.29	13.87	18900.45	195.66
Minimum	12.01	1.09	290.23	3.83	25.66	1.13	13.33	18586.46	194.29
Stdev	0.01	0.15	6.93	0.12	0.30	0.12	0.38	222.03	0.97


NOx per Unit of Production vs. Clinker Production
Titan - Pennsuco Cement
November 2004 - February 2005
NOx - lb/ton clinker
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
100
120
140
160
180
200
220
240
Clinker Production


NOx per Unit of Production vs. Clinker Production
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0
100
120
140
160
180
200
220
240
Clinker Production

AL

THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of an
Application for Permit by:

OGC CASE NO.: 04-1739
FDEP Draft Permit No.: 0250020-013-AV

Tarmac America, Inc.
Tarmac Pennsuco Cement Plant
Miami-Dade County, Florida
_____/

FIFTH REQUEST FOR ENLARGEMENT OF TIME

By and through undersigned counsel, Tarmac America, Inc. (Tarmac) hereby requests, pursuant to Florida Administrative Code Rule 62-110.106(4), an enlargement of time, to and including May 21, 2005, in which to file a Petition for Administrative Proceedings in the above-styled matter. As good cause for granting this request, Tarmac states the following:

1. On or about October 5, 2004, Tarmac America, Inc. received from the Department of Environmental Protection ("Department") an "Intent to Issue Title V Air Operation Permit Revision" and accompanying "Revised Draft Permit," (Draft Permit No.0250020-013-AV), for the Tarmac Pennsuco Cement Plant, located at 11000 NW 121 Way, Medley, Miami-Dade County, Florida.

2. Based on Tarmac's initial review, the Revised Draft Permit and associated documents contain several provisions that warrant clarification or corrections.

3. Tarmac and DEP are in the process of discussing possible resolutions to the issues needing clarification or correction.

4. By Order dated January 20, 2005, the Department granted Tarmac's prior requested extension until February 11, 2005.

5. Tarmac then requested a Fourth Request for Enlargement of Time until April 11, 2005, in order to resolve remaining issues before the Department.

6. This morning, on March 21, 2005, Tarmac was made aware that DEP issued an Order in response to Tarmac's Fourth Request , dated February 16, 2005, extending the time to file a Petition until March 15, 2005. Neither Tarmac nor its undesigned counsel received this Order, and therefore were not aware until this morning that its Fourth extension was set to expire on March 15, 2005, instead of April 11, 2005.

7. Based on this information, and pursuant to 62-110.106(4), F.A.C., Tarmac hereby files this Fifth Request for Enlargement of Time until May 21, 2005, in order to resolve remaining issues before the Department.

8. This fifth request is filed simply as a protective measure to avoid waiver of Tarmac's right to challenge certain conditions contained in the Revised Draft Title V Permit. Grant of this request will not prejudice either party, but will further their mutual interest and hopefully avoid the need to file a Petition and proceed to a formal administrative hearing.

WHEREFORE, Tarmac America, Inc. respectfully requests that the time for filing of a Petition for Administrative Proceedings in regard to the Department's Intent to Issue Title V Air Operation Permit Revision No.0250020-013-AV be formally extended to and including May 21, 2005.

RESPECTFULLY SUBMITTED this 21st day of March, 2005.

By: Robert A. Manning

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Attorneys for Tarmac America, Inc.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by Hand Delivery to Kathy Carter, Agency Clerk, and Doug Beason, General Counsel, Florida Department of Environmental Protection, 3900 Commonwealth Boulevard, Suite 300, Tallahassee, Florida 32399-3000; and Trina Vielhauer, Florida Department of Environmental Protection, Division of Air Resource Management, 111 S. Magnolia Drive, Suite 23, Tallahassee, Florida 32399 this 21st day of March, 2005.

Robert A. Manning