ATTACHMENT 4
VALIDATION PARAMETERS SUMMARY TABLES

VALIDATION PARAMETERS SUMMARY FOR CARB 11 (1983)
HYDROGEN SULFIDE

VALIDATION PARAMETERS	Stack ID								
	10810	15110	15210	15310	15410	15510	16210	16510	16610
SAMPLING EQUIPMENT									
Field gas meter pre- and post-test Y not within (+/-) 5%?	V	V	V	V	V	V	V	V	V
SAMPLING PROCEDURES									
Sample time < 10 minutes?									
Indication of leaks?	Y	V	V	V	V	V	V	V	Y
Reagent blank not conducted daily?	R	R	R	R	R	R	R	R	R
IMPINGER SOLUTIONS									
Hydrogen peroxide (H2O2) not used?									
Cadmium sulfate (CdS) not used?									
ANALYSIS METHOD									
0.01n sodium thiosulfate solution not used for titration?							R		
Iodine solution not used?							R		

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 12 (1986)
INORGANIC LEAD

VALIDATION PARAMETERS	Stack ID				
	15410	15510	15910	16310	63310
SAMPLE LOCATION					
Average absolute value of swirl angles >10%?	V	V		V	V
Stack diameter < 12 inch?					
Stack area < 113 inch squared?					
Method 1 not used?					
SAMPLING EQUIPMENT					
Variation in nozzle diameter > 0.004 inch?					V
Pre- and post-test meter Y not within (+/-) 5%?	N	N	V	V	
Pitot tube semi-annual calibration sheet included?	P	P		P	P
SAMPLING PROCEDURES					
Pre-test leak rate > 0.02 cfm or 4% of average?					
Post-test leak rate > 0.02 cfm or 4% of average?					
Isokinetic variation <90 or >110%?					
FIELD REAGENT BLANK					
Not conducted on 2 filters & 0.1N HNO3?	Y	Y	R		
Not used to correct samples?	Y	Y	Y	Y	
ANALYSIS METHOD					
Atomic absorption spectrometry not used?	Y	Y			
Analysis not conducted in triplicate?	Y	Y	Y		Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 15 (1983)
HYDROGEN SULFIDE

VALIDATION PARAMETERS	Stack ID
	16010
SAMPLING PROCEDURES	
Indication of leaks?	V
Sample line loss not conducted for post-test?	R
Sample not corrected for < 20% loss?	R
Sample corrected for > 20% loss?	R
ANALYSIS METHOD	
GC/FPD not used?	

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 101A (1986)

MERCURY

VALIDATION PARAMETERS	Stack ID			
	16010	16510	60110	62310
SAMPLE LOCATION				
Average absolute value of swirl angles >10%?	V	V	V	V
Stack diameter < 12 inch?				
Stack area < 113 inch squared?				
Method 1 not used?	R			
SAMPLING EQUIPMENT				
Variation in nozzle diameter > 0.004 inch?	V	V	V	
Pre- and post-test meter Y not within (+/-) 5%?	V	V	V	V
Pitot tube semi-annual calibration sheet included?	P	P	P	
SAMPLING PROCEDURES				
Pre-test leak rate > 0.02 cfm or 4% of average?		V		
Post-test leak rate > 0.02 cfm or 4% of average?		V		
Isokinetic variation <90 or >110%?		V		
Filter temperature not between 106 and 134 degrees?	R	Y	R	R
Flow rate > 28 liter per minute (1 cfm)?	V	V	V	V
FIELD REAGENT BLANK				
Not conducted once per test?		R		
Not used to correct samples?	Y	R		Y
ANALYSIS METHOD				
Atomic absorption spectrometry not used?				
Combined analysis not used?	Y	R	Y	Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 104 (1986)
BERYLLIUM

VALIDATION PARAMETERS	Stack ID						
	10110	11110	12810	14210	16610	43510	62410
SAMPLE LOCATION							
Average absolute value of swirl angles >10%?	V	V	V	V		V	V
Stack diameter < 12 inch?							
Stack area < 113 inch squared?							
Method 1 not used?						R	
SAMPLING EQUIPMENT							
Variation in nozzle diameter > 0.004 inch?	V	V		V	Y	V	
Pre- and post-test meter Y not within (+/-) 5%?	V			V	V	V	V
Pitot tube semi-annual calibration sheet included?		P	P	P	P	P	
SAMPLING PROCEDURES							
Pre-test leak rate > 0.02 cfm or 4% of average?						3RN	
Post-test leak rate > 0.02 cfm or 4% of average?							
Isokinetic variation <90 or >110%?					1RF	1RF	
Flow rate < 0.5 or > 1 cfm?	V		V	3RF	V	V	
FIELD REAGENT BLANK							
Not conducted for acetone?	R			R	R	R	R
Not used to correct samples?	R	Y	Y	Y	Y	Y	R
ANALYSIS METHOD							
Atomic absorption spectrometry not used?	R			Y		R	

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 106 (1983)
VINYL CLORIDE

VALIDATION PARAMETERS	Stack ID	
	13910	43310
ANALYSIS METHOD		
GC/FID not used?	R	R
Analysis date not within 72 hours from collection?	Y	Y
3-point calibration curve not conducted daily or before and after test?	R	R
Percent difference > 5%?	V	V

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 410A (1986)

VALIDATION PARAMETERS	Stack ID																		
	10310	10410	10510	10610	10710	10810	10910	11010	11110	11210	11310	11410	11510	11610	11710	11810	11910	12010	12110
TEDLAR BAG CONTAMINATION CHECK																			
Not conducted for all bags?	R	R	R	R															
LEAK CHECK																			
Not conducted before and after each test?	R	R	R	R	R	R	R					R	R	R	R	R	R	R	R
ANALYSIS METHOD																			
FID not used for high concentrations (60ppb to .01)?	Y	Y	Y	Y															
PID not used for low concentrations (1.0 to 1000 ppb)?	Y	Y	Y	Y															
Analysis date not within 96 hours from collection?																			

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 410A (1986)

VALIDATION PARAMETERS	Stack ID																		
	12210	12310	12410	12510	12610	12710	12810	13210	13310	13410	13510	13810	13910	14210	14310	14410	14510	14610	15110
TEDLAR BAG CONTAMINATION CHECK																			
Not conducted for all bags?								R	R	R	R		R						
LEAK CHECK																			
Not conducted before and after each test?	R	R	R	R	R	R		R	R	R	R		R	Y	Y		R	R	
ANALYSIS METHOD																			
FID not used for high concentrations (60ppb to .01)?								Y	Y			Y	R	Y	Y	Y	Y	Y	
PID not used for low concentrations (1.0 to 1000 ppb)?								Y	Y			Y	R	Y	Y	Y	Y	Y	
Analysis date not within 96 hours from collection?														Y	Y		Y	Y	

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 410A (1986)

VALIDATION PARAMETERS	Stack ID																		
	15210	15310	15610	15710	15810	15910	16410	16710	17210	17310	17410	17510	17710	17810	41110	41410	41510	41810	42310
TEDLAR BAG CONTAMINATION CHECK																			
Not conducted for all bags?						R	R		R	R	R	R			Y	R	R	R	R
LEAK CHECK																			
Not conducted before and after each test?					R	R	R								R	R	R	R	R
ANALYSIS METHOD																			
FID not used for high concentrations (60ppb to .01)?			Y		Y	Y				Y	Y	Y			Y	Y	R		R
PID not used for low concentrations (1.0 to 1000 ppb)?			Y		Y	Y		Y		Y	Y	Y			Y	Y	R		R
Analysis date not within 96 hours from collection?				Y			R								Y	Y	R		R

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 410A (1986)

VALIDATION PARAMETERS	Stack ID																		
	42510	42710	43310	43410	60410	60510	60610	62310	62410	62810	63010	63310	63410	63610	63710	63810	63910	64110	42610
TEDLAR BAG CONTAMINATION CHECK																			
Not conducted for all bags?	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
LEAK CHECK																			
Not conducted before and after each test?		R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	Y
ANALYSIS METHOD																			
FID not used for high concentrations (60ppb to .01)?	Y	Y	Y					Y	Y	Y									R
PID not used for low concentrations (1.0 to 1000 ppb)?	Y	Y	Y	Y				Y	Y	Y									R
Analysis date not within 96 hours from collection?			Y								Y								R

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 421 (1987)
HYDROGEN CHLORIDE

VALIDATION PARAMETERS	Stack ID											
	10010	10110	13210	13310	13610	13910	15710	16010	42710	60110	60310	60510
SAMPLE LOCATION												
Average absolute value of swirl angles >10%?		V	V	V	V	V	V	V	V	V	V	V
Stack diameter < 12 inch?												
Stack area < 113 inch squared?												
Method 1 not used?							Y					
SAMPLING EQUIPMENT												
Variation in nozzle diameter > 0.004 inch?		V	V	V	V	V	V	V	V	V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	N	N	N	N	N	N	V	N	V			
Pitot tube semi-annual calibration sheet included?			P	P	P	P	P	P	P	P	P	P
SAMPLING PROCEDURES												
Pre-test leak rate > 0.02 cfm or 4% of average?		V				2RF		V				
Post-test leak rate > 0.02 cfm or 4% of average?		V						V				
Isokinetic variation <90 or >110%?	V		1RF				N	V		1RF	V	
FIELD REAGENT BLANK												
Not collected once per test?	R	R						R	R			
Not used to correct sample peaks on the chromatograph	R	R	Y	Y		Y	R	R	R	R		
IMPINGER SOLUTIONS												
Biocarbonate (NaHCO3) not used?												
Sodium carbonate (Na2CO3) not used?												
Water not used?									R			
ANALYSIS METHOD												
Ion chromatography not used?												
Lab spike not conducted for 10% of samples?			Y	Y	R				R	Y	Y	
Duplicate not conducted for each sample?	R	R	R	R	R	Y	R	R	R	Y	Y	Y
Percent difference > 5%?	V	V	V	V	V	V	V	V	V	2PF		

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 421 (1991)
HYDROGEN CHLORIDE

VALIDATION PARAMETERS	Stack ID	
	43110	43310
SAMPLE LOCATION		
Average absolute value of swirl angles >10%?	V	V
Stack diameter < 12 inch?		
Stack area < 113 inch squared?		
Method 1 not used?		
SAMPLING EQUIPMENT		
Variation in nozzle diameter > 0.004 inch?	V	V
Pre- and post-test meter Y not within (+/-) 5%?		
Pitot tube semi-annual calibration sheet included?	P	
SAMPLING PROCEDURES		
Pre-test leak rate > 0.02 cfm or 4% of average?		
Post-test leak rate > 0.02 cfm or 4% of average?		
Isokinetic variation <90 or >110%?	V	
Number of sample runs < 3?		
Sample time not reported for each run?		
Sample time < 60 minutes?		
FIELD BLANK		
Not collected per test?	R	
Used to correct sample peaks on the chromatograph?	R	R
Contamination > 20% of any run?	R	
IMPINGER SOLUTIONS		
Biocarbonate (NaHCO3) not used?	R	
Sodium carbonate (Na2CO3) not used?	R	
Water not used?	R	R
ANALYSIS METHOD		
Ion chromatography not used?		
Lab spike not conducted prior, daily, and after every 40 samples?	R	R
Percent recovery < 95% or > 105%?	V	V
Duplicate not conducted for 10% of all samples?	R	R
Percent difference > 5% STD?	V	V

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 422 (1987)
VOLTILE HALOGENATED ORGANIC COMPOUNDS

VALIDATION PARAMETERS	Stack ID			
	16510	17610	17710	17810
TEDLAR BAG CONTAMINATION CHECK				
Not conducted for all bags?	R	R		
Levels not reported?	R	R		
LEAK CHECK				
Not conducted before and after each test?				
Leak rate > 5% of sample rate?	R			
ANALYSIS METHOD				
GC not used?				
Analysis date not within 24 hours of collection?	R		Y	

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 422 (1991)
VOLTILE HALOGENATED ORGANIC COMPOUNDS

VALIDATION PARAMETERS	Stack ID									
	15610	17210	17310	17410	17510	41810	62610	62611	62612	62613
TEDLAR BAG CONTAMINATION CHECK										
Not conducted for all bags?		R	R	R	R	R				
Levels not reported?		R	R	R	R	Y	Y	Y	Y	Y
FIELD BLANK										
Not conducted once per test?	R	R								
Used to correct sample?	R	R								
Blank > 20% of the stack samples?	R	R								
LEAK CHECK										
Not conducted before and after each test?	R					R	Y	Y	Y	Y
Leak rate > 5% of sample rate?	R	R				R	R	R	R	R
FIELD SPIKE										
Not collected once per source?		R				R	Y	Y	Y	Y
ANALYSIS METHOD										
GC not used?										
Analysis date not within 72 hours from collection?										
Duplicates not conducted once per sample?	R	R					Y	Y	Y	Y
Values > 3 x RSD?	V	V	3PN	3PN	3PN	V				

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 423 (1987)
INORGANIC ARSENIC

VALIDATION PARAMETERS	Stack ID							
	12910	13010	13610	13910	14610	15710	16310	60610
SAMPLE LOCATION								
Average absolute value of swirl angles >10%?	V	V	V	V	V	V	V	V
Stack diameter < 12 inch?								
Stack area < 113 inch squared?								
Method 1 not used?								
SAMPLING EQUIPMENT								
Variation in nozzle diameter > 0.004 inch?			V	V	V	V		V
Pre- and post-test meter Y not within (+/-) 5%?			N	N	N	V		
Pitot tube semi-annual calibration sheet included?	P	P	P	P	P	P	P	P
SAMPLING PROCEDURES								
Pre-test leak rate > 0.02 cfm or 4% of average?								
Post-test leak rate > 0.02 cfm or 4% of average?				1RF				
Isokinetic variation <90 or >110%?								
Filter temperature not between 107 and 135 degrees?	R	R	R	R	R		Y	R
Flow rate > 28 liter per minute (1 cfm)?			3RF		1RF	2RF		
FIELD REAGENT BLANK								
Not conducted for two filters and 0.1N NAOH?			R	R				Y
Not used to correct sample?			Y	Y	Y			
ANALYSIS METHOD								
Atomic absorption spectrometry not used?								
Combined analysis used?			Y					Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 424 (1987)
INORGANIC CADMIUM

VALIDATION PARAMETERS	Stack ID				
	13810	16410	60110	60410	63410
SAMPLE LOCATION					
Average absolute value of swirl angles >10%?	V		V	V	V
Stack diameter < 12 inch? Stack area < 113 inch squared?					
Method 1 not used?					
SAMPLING EQUIPMENT					
Variation in nozzle diameter > 0.004 inch?	V		V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	V	V	V		
Pitot tube semi-annual calibration sheet included?		P	P	P	P
SAMPLING PROCEDURES					
Pre-test leak rate > 0.02 cfm or 4% of average? Post-test leak rate > 0.02 cfm or 4% of average?					
Isokinetic variation <90 or >110%?					
FIELD REAGENT BLANK					
Not conducted for two filters and 0.1N HNO3?	R	R	R	R	R
Not used to correct sample?	Y	Y		Y	Y
ANALYSIS METHOD					
Atomic absorption spectrometry not used?	R	Y			
Not conducted in triplicate?	R	R	R	R	R

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 425 (1987)
TOTAL AND HEXAVALENT CHROMIUM

VALIDATION PARAMETERS	Stack ID															
	13610	14210	14310	14610	15710	16010	42710	43510	60210	60310	60810	63010	63310	63410	63810	64010
SAMPLE LOCATION																
Average absolute value of swirl angles >10%?	V	V	V	V	V	V	V	V	N	V	V	V	V	V	V	V
Stack diameter < 12 inch?																
Stack area < 113 inch squared?																
Method 1 not used?					R											
SAMPLING EQUIPMENT																
Variation in nozzle diameter > 0.004 inch?	V	V	N	V	V	V	V	V	V	V	Y	V	V	V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	N	N	N	N	V	V	V	V	N		V			N		
Pitot tube semi-annual calibration sheet included?	P	P	P	P	P	P	P	P		P	P	P		P	P	P
SAMPLING PROCEDURES																
Pre-test leak rate > 0.02 cfm or 4% of average?										1RN						
Post-test leak rate > 0.02 cfm or 4% of average?										1RN	1RF					
Isokinetic variation <90 or >110%?							V	2RF		1RN						
REAGENT BLANK																
Not conducted once per sample batch?							R	R								
Used to correct sample?								R	Y	Y						
ANALYSIS METHOD																
Matrix spike not conducted once per test (Hexavalent Chromium)?			R			R	R	R	Y		Y					
Percent recovery > 10%?			V			V	V	V			V	1PF				
Matrix spike not conducted daily (Total Chromium)?			Y				R	R	Y		Y					
Duplicates not conducted for every 10 samples (Total Chromium)?		R	Y		R	R	R	R	Y		Y					

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 425 (1990)
TOTAL AND HEXAVALENT CHROMIUM

VALIDATION PARAMETERS	Stack ID																	
	10010	10110	10310	10410	10510	10610	11110	12910	13010	13810	13910	15410	15510	15810	15910	16210	16310	16410
SAMPLE LOCATION																		
Average absolute value of swirl angles >10%?		V			V	Y	V	V	V	V	V	V	V	V	V	V	V	V
Stack diameter < 12 inch?																		
Stack area < 113 inch squared?																		
Method 1 not used?				R	R	R												
SAMPLING EQUIPMENT																		
Variation in nozzle diameter > 0.004 inch?		V	V	V	V	V	V			V	V							
Pre- and post-test meter Y not within (+/-) 5%?	N	N								N	N	N	N	N	V	V	V	V
Pitot tube semi-annual calibration sheet included?			P	P	P	P	P	P	P	P	P	P	P	P	P		P	P
SAMPLING PROCEDURES																		
Pre-test leak rate > 0.02 cfm or 4% of average?		V								V								
Post-test leak rate > 0.02 cfm or 4% of average?		V								V								3RF
Isokinetic variation <90 or >110%?				1RF														
PROBE PROOF																		
Not conducted per probe?	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R
Total chrome > detection limit?	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V		3PF	V
REAGENT BLANK																		
Not conducted once per sample batch?	R	R	R	R	R							Y	Y			R	Y	
Not used to correct sample?	R	R	R	R	Y	Y		Y	Y			Y	Y		Y	R	Y	
ANALYSIS METHOD																		
Matrix spike not conducted once per test (Hexavalent Chromium)?	R	R	Y	R	R	R	Y	R	R	Y	R	R	R	R	R	R	Y	
Percent recovery > 10%?	V	V		V	V	V		V	V	V	V	V	V	V	V	V	V	1PF
Matrix spike not conducted daily (Total Chromium)?	R		R		R			R	R			R	R	R				Y
Duplicates not conducted for every 10 samples (Total Chromium)?	R	R		Y	R	R	Y	R	R	Y	Y	R	R	R	R		Y	Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 425 (1990)
TOTAL AND HEXAVALENT CHROMIUM

VALIDATION PARAMETERS	Stack ID																	
	16510	16610	41610	42010	42110	42410	42510	42910	43010	43110	43210	43310	43410	60110	60410	60510	60610	60710
SAMPLE LOCATION																		
Average absolute value of swirl angles >10%?	V	V	V	N	N			V	V	V	V	V	V	V	V	V	V	
Stack diameter < 12 inch?						R												
Stack area < 113 inch squared?						R												
Method 1 not used?			R			R					R		R					
SAMPLING EQUIPMENT																		
Variation in nozzle diameter > 0.004 inch?	V			V	V	V				V		V	V	V	V	V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	V		V			V					V							
Pitot tube semi-annual calibration sheet included?	P	P				P			P		P		P	P	P	P	P	P
SAMPLING PROCEDURES																		
Pre-test leak rate > 0.02 cfm or 4% of average?	V			1RF	1RF	V	V				V		V			1RN		
Post-test leak rate > 0.02 cfm or 4% of average?	V			1RF	1RF	V	V				V		V			1RN		
Isokinetic variation <90 or >110%?	V		V			V										1RN		
PROBE PROOF																		
Not conducted per probe?	R	R	R	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R
Total chrome > detection limit?	V	V	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V
REAGENT BLANK																		
Not conducted once per sample batch?			R	R	R	R	R		R	R	R	R	R					
Not used to correct sample?	R		R	R	R	R	R	Y	R	R	R	R	R					Y
ANALYSIS METHOD																		
Matrix spike not conducted once per test (Hexavalent Chromium)?	R	R	R			R		Y	R	R	R	R						
Percent recovery > 10%?	V	V	V	1PF	1PF	V	V	1PF	V	V	V	V	1PF,2PN					1PF
Matrix spike not conducted daily (Total Chromium)?	R	R		R	R	R	R	R	R	R	R	R	R					
Duplicates not conducted for every 10 samples (Total Chromium)?	R			R	R	R	R		R		R		R					

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 425 (1990)
TOTAL AND HEXAVALENT CHROMIUM

VALIDATION PARAMETERS	Stack ID																		
	61010	61110	61210	61211	61310	61410	61510	61610	61611	61710	61711	61810	61910	62010	62110	62210	62310	62410	64110
SAMPLE LOCATION																			
Average absolute value of swirl angles >10%?	V	V	V	V	V	V	V	V	V	V	V	V	V					V	V
Stack diameter < 12 inch?																			
Stack area < 113 inch squared?																			
Method 1 not used?																			
SAMPLING EQUIPMENT																			
Variation in nozzle diameter > 0.004 inch?	V	V	V	V	V	V	V	V	V	V	V	V	V				V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	N																V	V	
Pitot tube semi-annual calibration sheet included?																			P
SAMPLING PROCEDURES																			
Pre-test leak rate > 0.02 cfm or 4% of average?							1RF	1RF											
Post-test leak rate > 0.02 cfm or 4% of average?							1RF	1RF											
Isokinetic variation <90 or >110%?											1RF								
PROBE PROOF																			
Not conducted per probe?	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Total chrome > detection limit?	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
REAGENT BLANK																			
Not conducted once per sample batch?														Y	Y	Y			
Not used to correct sample?	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y		
ANALYSIS METHOD																			
Matrix spike not conducted once per test (Hexavalent Chromium)?																		R	
Percent recovery > 10%?																		V	
Matrix spike not conducted daily (Total Chromium)?		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Duplicates not conducted for every 10 samples (Total Chromium)?		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			

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N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 428 (1988)
PCDD/PCDF

VALIDATION PARAMETERS	Stack ID					
	13610	14210	14610	15710	42710	60310
SAMPLE LOCATION						
Average absolute value of swirl angles >10%?	V	V	V	V	V	V
Stack diameter < 12 inch?						
Stack area < 113 inch squared?						
Method 1 not used?						
SAMPLING EQUIPMENT						
Variation in nozzle diameter > 0.004 inch?	V	V	V		V	V
Pre- and post-test meter Y not within (+/-) 5%?	N	N	N		V	V
Pitot tube semi-annual calibration sheet included?	P	P	P	P	P	P
SAMPLING PROCEDURES						
Pre-test leak rate > 0.02 cfm or 4% of average?						
Post-test leak rate > 0.02 cfm or 4% of average?						
Isokinetic variation <90 or >110%?						
Sample runs < 3?						
Sample time < 3 hours?					3RF	
FIELD BLANK						
Not conducted once per test?						
Used to correct sample?						
SURROGATE STANDARDS						
Not conducted once per run?	Y	R	R		R	
Percent recovery < 60 or > 140% (37C1-2,3,7,8-TCDD)?	R	R	R		R	
Percent recovery < 60 or > 140% (13C-1,2,3,4,6,7,8-HpCDF)?	R	R	R		R	
LABORATORY CONTROL SPIKE						
Percent accuracy < 60 or > 140 %?	V	V	V	V	V	V
INTERNAL STANDARDS						
Not conducted once per sample?		R	R			R
Percent recovery < 60 or > 120%?		R	R	8PF	5PF	R

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 428 (1990)
PCDD/PCDF

VALIDATION PARAMETERS	Stack ID										
	10010	10110	13710	13910	41310	42410	42510	42610	43110	60110	60510
SAMPLE LOCATION											
Average absolute value of swirl angles >10%?		V	V	V	V			V	V	V	V
Stack diameter < 12 inch?						R					
Stack area < 113 inch squared?						R					
Method 1 not used?											
SAMPLING EQUIPMENT											
Variation in nozzle diameter > 0.004 inch?		V	V	V	V	V			V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	N	N		N	V	V					
Pitot tube semi-annual calibration sheet included?			P	P	P	P			P	P	P
SAMPLING PROCEDURES											
Pre-test leak rate > 0.02 cfm or 4% of average?		V				V	V				1RF
Post-test leak rate > 0.02 cfm or 4% of average?		V				V	V				
Isokinetic variation <90 or >110%?						V					
Sample runs < 3?											
Sample time < 3 hours?							1RF				
FIELD BLANK											
Not conducted once per test?	R					R					
Used to correct sample?	R					R	R				
SURROGATE STANDARDS											
Not conducted once per run?											
Percent recovery < 60 or > 140% (LRMS)?						V				3PN	
Percent recovery < 60 or > 140% (HRMS)?											5PF
LABORATORY CONTROL SPIKE											
Laboratory control spike percent accuracy < 60 or > 140%?	30PN	24PN	24PN	24PN	3PF	V	3PF	V	45PN	6PF,45PN	V
INTERNAL STANDARDS											
Not conducted once per sample (LRMS)?											
Percent accuracy < 40 or >120%?									13PF		
Not conducted once per sample (HRMS)?	R					R					R
Percent accuracy < 40 or > 120%?	V		19PF	8PF	18PF	V					V

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RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 429 (1989)
PAH

VALIDATION PARAMETERS	Stack ID															
	10010	10110	10210	10310	10410	10510	10610	10710	10810	10910	11110	11210	11310	12210	12710	12810
SAMPLE LOCATION																
Average absolute value of swirl angles >10%?		V	V			V	Y				V	V	V	V	V	
Stack diameter < 12 inch?												Y	R	Y		
Stack area < 113 inch squared?												Y	R	Y		
Method 1 not used?					R	R	R						R			
SAMPLING EQUIPMENT																
Variation in nozzle diameter > 0.004 inch?		V	V	V	V	V	V				V	V	V			
Pre- and post-test meter Y not within (+/-) 5%?	N	N	N													
Pitot tube semi-annual calibration sheet included?				P	P	P	P	P	P	P	P	P	P	P	P	P
SAMPLING PROCEDURES																
Pre-test leak rate > 0.02 cfm or 4% of average?		V	V	1RF												
Post-test leak rate > 0.02 cfm or 4% of average?		V	V	1RF	2RF											
Isokinetic variation <90 or >110%?					1RF						N	N	N			
Sample runs < 3?																
FIELD BLANK																
Not conducted once per test?	R															
Used to correct sample?	R															
SURROGATE STANDARDS																
Not conducted once per run?	R				R						Y	Y	Y			
Percent recovery < 50 or > 150%?	V			V	V	V	V	V	V	V	V	V	V		1RF	V
LABORATORY CONTROL SPIKE																
Percent accuracy < 50 or > 150%?				V							V	V	V	V	V	
INTERNAL STANDARDS																
Not conducted once per run?		Y	R								R	R	R			R
Percent accuracy < 50 or > 150%?	39PN		V	28PN	1PF	15PF	1PF	8PF			V	V	V	8PF,3PN	4PN	V
ANALYSIS/EXTRACTION DATES																
Analysis date not within 40 days of extraction?																
Extraction date not within 7 days of collection?	Y			Y												

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RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 429 (1989)

PAH

VALIDATION PARAMETERS	Stack ID															
	13110	13210	13310	13610	13710	13810	13910	14010	14210	14310	14410	14510	14610	15610	15710	15810
SAMPLE LOCATION																
Average absolute value of swirl angles >10%?	V	V	V	V	V	V	V	V	V	N	V	V	V	V	V	V
Stack diameter < 12 inch?														Y		
Stack area < 113 inch squared?														Y		
Method 1 not used?																
SAMPLING EQUIPMENT																
Variation in nozzle diameter > 0.004 inch?		V	V	V	V	V	V	V	V	N	N	V	V	V		
Pre- and post-test meter Y not within (+/-) 5%?		N	N	N		N	N	N	N	N	N	N	N			N
Pitot tube semi-annual calibration sheet included?	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
SAMPLING PROCEDURES																
Pre-test leak rate > 0.02 cfm or 4% of average?						V	2RF									
Post-test leak rate > 0.02 cfm or 4% of average?						V	1RF									
Isokinetic variation <90 or >110%?																
Sample runs < 3?																
FIELD BLANK																
Not conducted once per test?			R													
Used to correct sample?			R													
SURROGATE STANDARDS																
Not conducted once per run?	Y	R	R	Y					R	R	Y	R	R		Y	
Percent recovery < 50 or > 150%?	V	V	V	V	V			2RF		V	V	V	V	V	V	
LABORATORY CONTROL SPIKE																
Percent accuracy < 50 or > 150%?	V	V	V	V					V	V	V	V	V		V	
INTERNAL STANDARDS																
Not conducted once per run?			R	Y		R	Y	Y	R	R			R			R
Percent accuracy < 50 or > 150%?	4PF	1PF	V	V	3PN	V	V	V		V			V	5PF	17PN	
ANALYSIS/EXTRACTION DATES																
Analysis date not within 40 days of extraction?			R						R	R	R	Y	R			R
Extraction date not within 7 days of collection?	Y		R	Y				Y	R	R	R	R	R		R	R

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RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 429 (1989)

PAH

VALIDATION PARAMETERS	Stack ID															
	15910	16010	16110	16410	16510	16710	17210	17310	17410	17510	17710	17810	17910	18010	18110	41010
SAMPLE LOCATION																
Average absolute value of swirl angles >10%?	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V
Stack diameter < 12 inch?																Y
Stack area < 113 inch squared?																Y
Method 1 not used?																
SAMPLING EQUIPMENT																
Variation in nozzle diameter > 0.004 inch?		V			V			V			V	V				Y
Pre- and post-test meter Y not within (+/-) 5%?	V	V		V	V						V	V				V
Pitot tube semi-annual calibration sheet included?	P	P		P	P			P	P	P	P	P				P
SAMPLING PROCEDURES																
Pre-test leak rate > 0.02 cfm or 4% of average?					V											
Post-test leak rate > 0.02 cfm or 4% of average?					V											
Isokinetic variation <90 or >110%?					V											
Sample runs < 3?	Y	Y														
FIELD BLANK																
Not conducted once per test?		R		Y												
Used to correct sample?					R								R	R	R	
SURROGATE STANDARDS																
Not conducted once per run?		R		Y	R	R	R	Y	Y	Y	R	R	Y	Y	Y	
Percent recovery < 50 or > 150%?		V	V	V	V	V	V	V	V	V		V				V
LABORATORY CONTROL SPIKE																
Percent accuracy < 50 or > 150%?		V	V		V											V
INTERNAL STANDARDS																
Not conducted once per run?	Y	R			R											
Percent accuracy < 50 or > 150%?	V	V	5PF	2PF	V	2PF		21PF	1PF	11PF	7PF	6PF	11PF	3PF	21PF	1PF
ANALYSIS/EXTRACTION DATES																
Analysis date not within 40 days of extraction?	R	R			R											
Extraction date not within 7 days of collection?	R	R			R											Y

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P-Not provided
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Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 429 (1989)
PAH

VALIDATION PARAMETERS	Stack ID															
	41110	41210	41310	41410	41510	41710	41810	42210	42410	42510	42610	42710	42810	43110	43310	43410
SAMPLE LOCATION																
Average absolute value of swirl angles >10%?	V	V	V	V	V	V		V			V	V	V	V	V	V
Stack diameter < 12 inch?		Y		Y	R	Y			R							
Stack area < 113 inch squared?		Y		Y	R	Y			R							
Method 1 not used?						R										R
SAMPLING EQUIPMENT																
Variation in nozzle diameter > 0.004 inch?	V	V		V	V			V	V			V	V	V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	V	V	V		V	V		V	V			V	V			V
Pitot tube semi-annual calibration sheet included?	P	P	P	P	P			P	P			P		P		P
SAMPLING PROCEDURES																
Pre-test leak rate > 0.02 cfm or 4% of average?					V				V	V						V
Post-test leak rate > 0.02 cfm or 4% of average?					V				V	V			1RF		1RF	V
Isokinetic variation <90 or >110%?					V				V							
Sample runs < 3?																
FIELD BLANK																
Not conducted once per test?					R	R			R					R		
Used to correct sample?					R	R			R		Y		Y			
SURROGATE STANDARDS																
Not conducted once per run?					R	R			R							
Percent recovery < 50 or > 150%?	V	V	V	V	V	V		V	V			3RF			V	V
LABORATORY CONTROL SPIKE																
Percent accuracy < 50 or > 150%?					V	V	V	V	V	V	V	V	V	V		V
INTERNAL STANDARDS																
Not conducted once per run?					R	R		R	R							
Percent accuracy < 50 or > 150%?	18PF	6PF	2PF	4PF,3PN	V	V		V	V	2PF	3PF	23PF	25PF	2PF	4PF	3PF
ANALYSIS/EXTRACTION DATES																
Analysis date not within 40 days of extraction?	R	R			R		R		R		R	R	R	R		R
Extraction date not within 7 days of collection?	Y	Y			R	Y	R	Y	R		R	R	R	R	Y	R

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Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 429 (1989)

PAH

VALIDATION PARAMETERS	Stack ID																			
	43510	60110	60310	60410	60510	60610	62310	62410	63010	63110	63210	63310	63410	63510	63610	63710	63810	63910	64010	64110
SAMPLE LOCATION																				
Average absolute value of swirl angles >10%?	V	V	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V
Stack diameter < 12 inch?																Y				
Stack area < 113 inch squared?																Y				
Method 1 not used?											R					Y				
SAMPLING EQUIPMENT																				
Variation in nozzle diameter > 0.004 inch?	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	V		V				V	V					N	V						
Pitot tube semi-annual calibration sheet included?	P	P	P	P	P	P			P	P	P	P	P	P	P	P	P	P	P	P
SAMPLING PROCEDURES																				
Pre-test leak rate > 0.02 cfm or 4% of average?	3RN				1RF															
Post-test leak rate ≥ 0.02 cfm or 4% of average?	2RF	1RF							2RN											
Isokinetic variation <90 or >110%?							1RN											1RF		
Sample runs < 3?							Y													
FIELD BLANK																				
Not conducted once per test?																				
Used to correct sample?	Y		Y																	
SURROGATE STANDARDS																				
Not conducted once per run?	R																			
Percent recovery < 50 or > 150%?	V	V		V				3RF	V	V	V	V	V	V	V	V	V	V	V	V
LABORATORY CONTROL SPIKE																				
Percent accuracy < 50 or > 150%?	V	3PN	V	V	V	V			V	V	V	V	45PN	3PN	V	V	V	V	V	
INTERNAL STANDARDS																				
Not conducted once per run?	R		Y	Y	R															
Percent accuracy < 50 or > 150%?	V	27PN		V	V	V			5PF,30PN	2PF,24PN	3PF,24PN	5PF,24PN	24PN	1PF	1PF,27PN	1PF,27PN	1PF,24PN	2PF,24PN	24PN	24PN
ANALYSIS/EXTRACTION DATES																				
Analysis date not within 40 days of extraction?	R	R	R		R		R	R	R	R	R	R	R						R	
Extraction date not within 7 days of collection?	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

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N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 430 (1989)
ALDEHYDES

VALIDATION PARAMETERS	Stack ID																		
	10010	10110	10210	10310	10510	10610	11010	11110	11210	11310	11410	11510	11610	11710	11810	11910	12010	12110	12210
FIELD DRY GAS METER CHECK																			
Pre- and post-test meter Y not within (+/-) 5%?	N	N	N	V															
SAMPLING PROCEDURES																			
Sample flow not checked per run?		R	R				R	R	R	R									
Sample flow > 1.0 L/min?	2RF	V	V				V	V	V	V									
Pre-test and post-test sample flow not within 15%?	3RN	V	V	3RN	3RN	3RN	V	V	V	V	3RN	3RN	3RN	3RN	3RN	3RN	3RN	3RN	3RN
Indication of leaks?	V	V	V		V	V	V	V	V	V									
FIELD BLANK																			
Not conducted once per test?	R																		
Not conducted on 2 impingers?	R	R	R																
Used to correct samples?	R	R	R																
FIELD SPIKE																			
Not conducted per run?	3RF		3RF																
ANALYSIS METHOD																			
Extraction date not within 7 days of collection?	R																		
Analysis date not within 30 days of extraction?	R																		
Reverse phase HPLC not used?																			
Matrix spike not conducted per test?	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Not reported?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 430 (1989)
ALDEHYDES

VALIDATION PARAMETERS	Stack ID																		
	12310	12410	12510	12610	12710	12810	13110	13210	13310	13410	13510	13610	13810	13910	14010	14110	14210	14310	14410
FIELD DRY GAS METER CHECK																			
Pre- and post-test meter Y not within (+/-) 5%?						Y		N	N	V	V	N	N	N	N	N	N	N	
SAMPLING PROCEDURES																			
Sample flow not checked per run?														R					
Sample flow > 1.0 L/min?												3RF		V				3RF	
Pre-test and post-test sample flow not within 15%?	3RN	3RN	3RN	3RN	3RN	1RF	1RN	3RN	3RN	3RN	3RN	3RN	3RN	V	3RN	3RN	3RN	3RN	
Indication of leaks?									V			V		V	V	V	V		
FIELD BLANK																			
Not conducted once per test?																			
Not conducted on 2 impingers?								R	R	R	R						Y		
Used to correct samples?													Y						
FIELD SPIKE																			
Not conducted per run?						3RF		3RF	3RF	3RF	3RF			3RF	3RF	3RF		3RF	
ANALYSIS METHOD																			
Extraction date not within 7 days of collection?							R		R			R			Y	Y		Y	
Analysis date not within 30 days of extraction?									R			R							
Reverse phase HPLC not used?																			
Matrix spike not conducted per test?	R	R	R	R	R	Y		R	R	R	R	R	R	Y				Y	
Not reported?	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y				Y	

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 430 (1989)
ALDEHYDES

VALIDATION PARAMETERS	Stack ID																		
	14510	14610	14710	14810	14910	15010	15110	15210	15310	15710	15810	15910	16010	16110	16410	16510	17610	17910	18010
FIELD DRY GAS METER CHECK																			
Pre- and post-test meter Y not within (+/-) 5%?	N	N	N	N	N	N	N	N	N	V	N	V	V		V	V			
SAMPLING PROCEDURES																			
Sample flow not checked per run?											R	R							
Sample flow > 1.0 L/min?	3RF		1RF	1RF							V	V	2RF			V			
Pre-test and post-test sample flow not within 15%?	3RN	3RN	3RN	3RN	3RN	3RN	3RN	3RN	3RN	3RN	V	V	2RN	3RN		V			
Indication of leaks?		V					V	V	V		V	V				V			
FIELD BLANK																			
Not conducted once per test?															Y				
Not conducted on 2 impingers?	R	Y	Y	Y	Y	Y	R	R	R	R	R	R			Y	R			
Used to correct samples?			Y	Y	Y	Y										R	R	R	R
FIELD SPIKE																			
Not conducted per run?	3RF	3RF	3RF	3RF	3RF	3RF	3RF	3RF	3RF		3RF	2RF	1RF		3RF	3RF	2RF	3RF	3RF
ANALYSIS METHOD																			
Extraction date not within 7 days of collection?	R												R	R		R	R		
Analysis date not within 30 days of extraction?													R	R		R	Y		
Reverse phase HPLC not used?																			
Matrix spike not conducted per test?	R	Y	R	R	R	R	R	R	R	R	R		R	R	Y	R			
Not reported?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y		Y	Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 430 (1989)
ALDEHYDES

VALIDATION PARAMETERS	Stack ID																					
	18110	41010	41110	41210	41710	42210	42610	42710	42810	43410	43510	60110	60310	60410	60610	63010	63310	63410	63610	63710	63810	63910
FIELD DRY GAS METER CHECK																						
Pre- and post-test meter Y not within (+/-) 5%?		V	V	V	V	V		V	V	V	V							N				
SAMPLING PROCEDURES																						
Sample flow not checked per run?				R	R			R	R	R	R											
Sample flow > 1.0 L/min?		V		V	V	V		V	V	V	V	3RF	3RF	3RF	3RF	5RF	3RF	2RF	3RF		3RF	3RF
Pre-test and post-test sample flow not within 15%?		V		V	V	V		V	V	V	V	3RN	3RN	3RN	3RN	6RN	6RN	6RN	3RN	3RN	3RN	5RN
Indication of leaks?		Y		Y	V		Y	V	Y	V	V			N		N	N	N	N	Y	Y	N
FIELD BLANK																						
Not conducted once per test?					R																	R
Not conducted on 2 impingers?		R	R	R	R	R		R	R	R	R	R		R	R	R	R		R	R		R
Used to correct samples?	R	R	Y		R	R	R		Y	R	R	Y										
FIELD SPIKE																						
Not conducted per run?	3RF											2RF	1RF	2RF	2RF	5RF	5RF	5RF	1RF	2RF	2RF	
ANALYSIS METHOD																						
Extraction date not within 7 days of collection?				Y	R	R	R	R	R		R	Y	Y		Y	R	Y	Y				R
Analysis date not within 30 days of extraction?					R	R	R	R	R		R											R
Reverse phase HPLC not used?						R					R											
Matrix spike not conducted per test?			R		R	R			R	R	R	Y					Y					R
Not reported?	Y		Y		Y	Y			Y	Y	Y						Y					Y

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 430 (1991)
ALDEHYDES

VALIDATION PARAMETERS	Stack ID											
	10410	10710	10810	10910	13710	15610	16710	16810	16910	17010	17110	17210
CALIBRATION CHECK												
Not conducted for each rotometer?	R				R			R	R	R	R	R
Calibration sheet not included?	Y				Y			Y	Y	Y	Y	R
SAMPLING PROCEDURES												
Sample flow not checked per run?												
Sample flow > 1.0 L/min?									1RN		2RN	
Pre-test and post-test sample flow not within 15%?	3RN		3RN	3RN	3RN	3RN		3RN	3RN	3RN	3RN	3RN
Indication of leaks?	V					V						
Number of sample runs < 3?												
FIELD BLANK												
Three blanks not collected per test?					Y			Y	Y	Y	Y	Y
Reporting limit not given (sample /field blank < 5)?					2PF	9PF	3PF	3PF	3PF	3PF		
Sample not corrected (sample/field blank > 5)?	3PF				1PF						3PF	
ANALYSIS METHOD												
Sampling date not within 2 days of reagent blank check?					R	R		R	R	R	R	R
Extraction date not within 7 days of collection?							R	R	R	R	R	R
Analysis date not within 30 days of extraction?							R	R	R	R	R	R
Reverse phase HPLC not used?												
Impingers not analyzed seperately?	Y					Y		Y	Y	Y	Y	
Matrix spike not conducted per test?	R											
Recovery not reported?	Y											

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 430 (1991)
ALDEHYDES

VALIDATION PARAMETERS	Stack ID												
	17310	17410	17510	41310	41410	41510	41810	42410	42510	43110	43310	60510	63510
CALIBRATION CHECK													
Not conducted for each rotometer?				R	R	R		R	R	R	R	R	
Calibration sheet not included?				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SAMPLING PROCEDURES													
Sample flow not checked per run?						R	R	R					
Sample flow > 1.0 L/min?						V	V	V		3RF		3RF	
Pre-test and post-test sample flow not within 15%?	3RN	3RN	3RN	3RN		V	V	V	3RN	3RN		3RN	3RN
Indication of leaks?					V	V	V	V			V	V	
Number of sample runs < 3?													
FIELD BLANK													
Three blanks not collected per test?						R		R		Y	Y	Y	
Reporting limit not given (sample /field blank < 5)?	9PF	3PF	9PF	3PF			5PF		3PF	3PF	3PF	3PF	2PF
Sample not corrected (sample/field blank > 5)?		3PF			3PF								
ANALYSIS METHOD													
Sampling date not within 2 days of reagent blank check?	R	R	R	R	R	R		R	R	R	R		R
Extraction date not within 7 days of collection?		Y				R	R	R		R		R	R
Analysis date not within 30 days of extraction?						R	R	R		R		R	R
Reverse phase HPLC not used?						R							
Impingers not analyzed seperately?	Y	Y	Y			R	Y	R		Y	Y	Y	
Matrix spike not conducted per test?						R		R			R		
Recovery not reported?						Y		Y			Y		

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 433 (1989)

NICKEL

VALIDATION PARAMETERS	Stack ID										
	15110	15210	15310	15510	15810	16210	42510	43410	60710	63010	63810
SAMPLE LOCATION											
Average absolute value of swirl angles >10%?	V	V	V	V	V	V		V		V	V
Stack diameter < 12 inch?											
Stack area < 113 inch squared?											
Method 1 not used?	R	R	R	R				R			
SAMPLING EQUIPMENT											
Variation in nozzle diameter > 0.004 inch?								V		V	V
Pre- and post-test meter Y not within (+/-) 5%?	V	V	V	V	V	V		V	V		V
Pitot tube semi-annual calibration sheet included?								P		P	P
SAMPLING PROCEDURES											
Pre-test leak rate > 0.02 cfm or 4% of average?	1RN		1RN	V			V	V			
Post-test leak rate > 0.02 cfm or 4% of average?	1RN	2RN	1RN	V			V	V			
Isokinetic variation <90 or >110%?		2RF									
FIELD REAGENT BLANK											
Not conducted for two filters and 0.1N HNO3?	Y	Y	Y	R	R	R	R	R	R	R	
Not used to correct sample?	Y	Y	Y	Y	R	Y	Y		Y	Y	
ANALYSIS METHOD											
Atomic absorption spectrometry not used?	Y	Y	Y	Y		R	Y	Y	Y		Y
Not conducted in triplicate?						R					

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR EPA MMT (1989)
TRACE METALS

VALIDATION PARAMETERS	Stack ID																	
	10010	11110	13610	14210	14310	14610	15110	15210	15310	15410	15510	15710	15810	15910	16010	16210	16410	16610
SAMPLE LOCATION																		
Average absolute value of swirl angles >10%?		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Stack diameter < 12 inch?																		
Stack area < 113 inch squared?																		
Method 1 not used?																		
SAMPLING EQUIPMENT																		
Variation in nozzle diameter > 0.004 inch?		V	V	V	V	V						V			V			
Pre- and post-test meter Y not within (+/-) 5%?			N	N	N	N	N	N	N	N	N		N	V	N	V	V	
Pitot tube semi-annual calibration sheet included?		P	P	P	P	P	P	P	P	P	P	P	P	P			P	P
SAMPLING PROCEDURES																		
Pre-test leak rate > 0.02 cfm or 4% of average?												1RF						
Post-test leak rate > 0.02 cfm or 4% of average?												1RF						
Isokinetic variation <90 or >110%?												1RF						
FIELD REAGENT BLANK																		
Not collected once per test?							Y	Y	Y	Y	Y							
Not used to correct samples?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
DUPLICATES																		
Percent difference > 5% (ICAP)?	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Not conducted per run (GFAAS)?	R	R	R	R	R	R				R	R	R			R	R		2RF
Not conducted per run (CVAAS)?	R	R	R	R	R	R				R	R	R	R	R		R		R
MATRIX SPIKES																		
Not conducted on front- and back-half (GFAAS)?	R		R							R	R	R			R	R		R
Percent recovery < 75 or > 125%?	V	V	V	V	V	V				V	V	V			V	V		V
Not conducted on one nitric impinger (CVAAS)?	R	R	R	R	R	R				R	R	R	R	R		R		R
Percent recovery < 75 or > 125%?	V	V	V	V	V	V				V	V	V	V	V		V		V

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR EPA MMT (1989)

TRACE METALS

VALIDATION PARAMETERS	Stack ID																	
	42310	42610	42710	43410	43510	60110	60310	60410	60510	60610	62310	62410	63010	63310	63410	63810	64010	64110
SAMPLE LOCATION																		
Average absolute value of swirl angles >10%?	V	V	V		V	V	V	V	V			V	V	V	V	V	V	V
Stack diameter < 12 inch?																		
Stack area < 113 inch squared?																		
Method 1 not used?				R														
SAMPLING EQUIPMENT																		
Variation in nozzle diameter > 0.004 inch?			V	V	V	V	V	V	V		V	V	V	V	V	V	V	V
Pre- and post-test meter Y not within (+/-) 5%?	V		V	V	V						V	V			N			
Pitot tube semi-annual calibration sheet included?			P	P	P	P	P	P	P				P	P	P	P	P	P
SAMPLING PROCEDURES																		
Pre-test leak rate > 0.02 cfm or 4% of average?				V														
Post-test leak rate > 0.02 cfm or 4% of average?				V														
Isokinetic variation <90 or >110%?			V															
FIELD REAGENT BLANK																		
Not collected once per test?		R	R		R													
Not used to correct samples?	Y	R	R	R	R						Y	Y						
DUPLICATES																		
Percent difference > 5% (ICAP)?	V	V	V	V	V	1PF					V	V	1PF			1PF	1PF	
Not conducted per run (GFAAS)?			R		R	R	2RF	R	R				2RF	R	2RF	R	R	2RF
Not conducted per run (CVAAS)?	R	R	R		R		2RF	2RF	2RF		R	R	1RF	2RF	1RF	R	2RF	R
MATRIX SPIKES																		
Not conducted on front- and back-half (GFAAS)?			R	R	R	R	Y	R	R					R				
Percent recovery < 75 or > 125%?			V	1PF	V	6PF	3PN	V	V				1PF	V	1PF	V	V	3PN
Not conducted on one nitric impinger (CVAAS)?	R	R		R	R						R	R						
Percent recovery < 75 or > 125%?	V	V			V						V	V						

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

VALIDATION PARAMETERS SUMMARY FOR CARB 436 (1992)
TRACE METALS

VALIDATION PARAMETERS	Stack ID													
	10110	10310	10410	10510	10610	12810	13810	13910	16510	42410	42510	43010	43110	43310
SAMPLE LOCATION														
Average absolute value of swirl angles >10%?	V			V	Y	V		V	V			V	V	V
Stack diameter < 12 inch?										R				
Stack area < 113 inch squared?														
Method 1 not used?			R	R	R									
SAMPLING EQUIPMENT														
Variation in nozzle diameter > 0.004 inch?	V	V	V	V	V			V	V	V			V	V
Pre- and post-test meter Y not within (+/-) 5%?	N							N	V	V				
Pitot tube semi-annual calibration sheet included?		P	P	P	P	P		P	P	P		P	P	
SAMPLING PROCEDURES														
Pre-test leak rate > 0.02 cfm or 4% of average?	V								V	V	V			
Post-test leak rate > 0.02 cfm or 4% of average?	V								V	V	V	1RF		
Isokinetic variation <90 or >110%?									V	V				1RF
Number of Sample runs < 3?														
FIELD BLANK														
Not collected once per test?										R	Y			
Used to correct samples?									R	R				
Sample/field blank < 5?		13PF	14PF	18PF	15PF	23PF		7PF		R	R	23PF	3PF	11PF
FIELD REAGENT BLANK														
Not collected once per test?	R	R	R	R	R			R		R			R	R
Not used to correct samples?	Y	Y	Y	Y	Y	Y		Y	R	R	Y		Y	Y
ANALYSIS DATES														
Not within 2 months (ICAP)?									R	R				R
Not within 2 months (GFAAS)?									R				R	R
Not within 28 days (CVAAS)?									R	R	Y		R	R
DUPLICATES														
Percent difference > 10% (ICAP)?	V	V	V	V	V	V		V	V	V	V	V	V	V
Not conducted per run (GFAAS)?	R	R	R	R	R	R		R	R		R	R	R	R
Not conducted per run (CVAAS)?	R	R	R	R	R	R		R	R	R		R	R	R
MATRIX SPIKES														
Not conducted on front- and back-half (GFAAS)?	R		R	R	R	R		R	R		R	R	R	R
Percent recovery < 75 or > 125%?	V	3PN	V	V	V	V		V	V		V	V	V	V
Not conducted on one nitric impinger (CVAAS)?	R	R	R	R		R		R	R	R	R	R	R	R
Percent recovery < 75 or > 125%?	V	V	V	V		V		V	V	V	V	V	V	V

R-Not reported
V-Values not provided
N-Not conducted
P-Not provided
Y-Failed check
Blank Cells - Indicates check passed

RF-Runs do not pass check
RN-Runs could not be checked
PF-Points do not pass check
PN-Points could not be checked

ATTACHMENT 5
SUBSTANCE SPECIFIC QA FAILURE FREQUENCY

ATTACHMENT 5 - SUBSTANCE SPECIFIC QA FAILURE FREQUENCY

Sample Method	Version	Check	Substance	Count
CARB 421	87	Duplicate percent difference > 5%	HCl	2
CARB 422	91	Duplicate values > 3 X RSD not reported	1,3-Butadiene	9
CARB 425	87	Matrix spike percent recovery > 10%	Chromium (Hex)	1
CARB 425	90	Matrix spike percent recovery > 10%	Chromium (Hex)	6
CARB 425	90	Matrix spike percent recovery not reported	Chromium (Hex)	2
CARB 425	90	Probe proof total chrome > DL	Chromium	3
CARB 428	88	Internal standards values not reported	4D 2378	2
CARB 428	88		4F 2378	2
CARB 428	88		5D 12378	3
CARB 428	88		6D 123678	2
CARB 428	88		8D	4
CARB 428	90	Laboratory control spike percent recovery < 60 or > 140%	5F 23478	3
CARB 428	90		6D 123789	3
CARB 428	90		6D Total	3
CARB 428	90		6F Total	3
CARB 428	90	Laboratory control spike percent accuracy not reported	4D 2378	3
CARB 428	90		4D Total	15
CARB 428	90		4F 2378	3
CARB 428	90		4F Total	15
CARB 428	90		5D 12378	3
CARB 428	90		5D Total	15
CARB 428	90		5F 12378	3
CARB 428	90		5F 23478	6
CARB 428	90		5F Total	15
CARB 428	90		6D 123478	3
CARB 428	90		6D 123678	9
CARB 428	90		6D 123789	6
CARB 428	90		6D Total	15
CARB 428	90		6F 123478	3
CARB 428	90		6F 123678	9
CARB 428	90		6F 123789	6
CARB 428	90		6F 234678	6
CARB 428	90		6F Total	15
CARB 428	90		7D 1234678	3
CARB 428	90		7D Total	15
CARB 428	90		7F 1234678	3
CARB 428	90		7F 1234789	6
CARB 428	90		7F Total	15
CARB 428	90	Internal standards (HRMS) percent accuracy < 40 or > 120%	4D 2378	4
CARB 428	90		4F 2378	5
CARB 428	90		5D 12378	2
CARB 428	90		5F 12378	9
CARB 428	90		6D 123678	5
CARB 428	90		6F 123678	5
CARB 428	90		7D 1234678	5
CARB 428	90		7F 1234789	5
CARB 428	90		8D	5
CARB 428	90	Internal standards (LRMS) percent accuracy < 40 or > 120%	6D 123678	2
CARB 428	90		4D 2378	2
CARB 428	90		4F 2378	2
CARB 428	90		5D 12378	2
CARB 428	90		7D 1234678	2
CARB 428	90		8D	3
CARB 428	90	Surrogate standards (LRMS) percent recovery not reported	6D 123789	3
CARB 428	90	Surrogate standards (HRMS) percent recovery < 60 or > 140%	4D 2378	3

Sample Method	Version	Check	Substance	Count
CARB 428	90	Surrogate standards (HRMS) percent recovery < 60 or > 140%	7F 1234678	2
CARB 429	89	Laboratory control spike percent accuracy not reported	Acenaphthene	3
CARB 429	89		Anthracene	3
CARB 429	89		Benzo(a)pyrene	3
CARB 429	89		Benzo(b+k)fluoranthene	3
CARB 429	89		Chrysene	3
CARB 429	89		Indeno(1,2,3-cd)pyrene	3
CARB 429	89		Naphthalene	3
CARB 429	89		dibenz(a,h)anthracene	3
CARB 429	89		Acenaphthylene	3
CARB 429	89		Benzo(a)anthracene	3
CARB 429	89		Benzo(g,h,i)perylene	6
CARB 429	89		Fluoranthene	3
CARB 429	89		Fluorene	3
CARB 429	89		Naphthalene	3
CARB 429	89		Phenanthrene	3
CARB 429	89		Pyrene	3
CARB 429	89	Internal standards percent accuracy < 50 or > 150%	Acenaphthene	25
CARB 429	89		Acenaphthylene	19
CARB 429	89		Anthracene	24
CARB 429	89		Benzo(a)anthracene	17
CARB 429	89		Benzo(a)pyrene	18
CARB 429	89		Benzo(b)fluoranthene	14
CARB 429	89		Benzo(g,h,i)perylene	13
CARB 429	89		Benzo(k)fluoranthene	12
CARB 429	89		Chrysene	18
CARB 429	89		Fluoranthene	13
CARB 429	89		Fluorene	15
CARB 429	89		Naphthalene	30
CARB 429	89		Phenanthrene	14
CARB 429	89		Pyrene	15
CARB 429	89	Internal standards percent accuracy not reported	Acenaphthene	17
CARB 429	89		Acenaphthylene	43
CARB 429	89		Anthracene	11
CARB 429	89		Benzo(a)anthracene	39
CARB 429	89		Benzo(a)pyrene	6
CARB 429	89		Benzo(b)fluoranthene	6
CARB 429	89		Benzo(g,h,i)perylene	42
CARB 429	89		Benzo(k)fluoranthene	6
CARB 429	89		Chrysene	9
CARB 429	89		Fluoranthene	42
CARB 429	89		Fluorene	47
CARB 429	89		Naphthalene	42
CARB 429	89		Phenanthrene	42
CARB 429	89		Pyrene	48
CARB 430	91	Reporting limit not given (Sample/Field Blank < 5)	Acetaldehyde	14
CARB 430	91		Acrolein	12
CARB 430	91		Formaldehyde	40
CARB 430	91	Sample not correct (Sample/Field Blank > 5)	Formaldehyde	13
CARB 436	92	Sample/Field Blank < 5	Antimony	3
CARB 436	92		Arsenic	3
CARB 436	92		Barium	3
CARB 436	92		Cadmium	18
CARB 436	92		Chromium	18
CARB 436	92		Copper	22

ATTACHMENT 5 - SUBSTANCE SPECIFIC QA FAILURE FREQUENCY

Sample Method	Version	Check	Substance	Count
CARB 436	92	Sample/Field Blank < 5	Lead	18
CARB 436	92		Manganese	15
CARB 436	92		Nickel	5
CARB 436	92		Selenium	1
CARB 436	92		Silver	2
CARB 436	92		Zinc	19
CARB 436	92	Matrix spike percent recovery < 75 or > 125% (GFAAS)	Cadmium	3
EPA MMT	89	Duplicate percent difference > 5%	Cadmium	1
EPA MMT	89		Lead	1
EPA MMT	89		Nickel	1
EPA MMT	89		Selenium	1
EPA MMT	89	Matrix spike percent recovery < 75 or > 125% (GFAAS)	Arsenic	6
EPA MMT	89		Selenium	3
EPA MMT	89	Matrix spike percent recovery not reported (GFAAS)	Arsenic	3
EPA MMT	89		Selenium	3

ATTACHMENT 6
STATISTICAL ANALYSIS OF GROUPS

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt production	Metals	Arsenic	lbs/ton production	EF	Diesel	9	2.17E-06	3.12E-06	0.01	Natural gas	14	6.92E-06	1.85E-05	0.72	No
Asphalt production	Metals	Arsenic	lbs/ton production	EF	Diesel	9	2.17E-06	3.12E-06	0.01	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Arsenic	lbs/ton production	EF	Diesel	9	2.17E-06	3.12E-06	0.01	Process oil 70	3	2.37E-06	1.60E-06	1.00	No
Asphalt production	Metals	Arsenic	lbs/ton production	EF	Natural gas	14	6.92E-06	1.85E-05	0.72	Oil	3	1.57E-05	1.25E-05	0.64	No
Asphalt production	Metals	Arsenic	lbs/ton production	EF	Natural gas	14	6.92E-06	1.85E-05	0.72	Process oil 70	3	2.37E-06	1.60E-06	1.00	No
Asphalt production	Metals	Arsenic	lbs/ton production	EF	Oil	3	1.57E-05	1.25E-05	0.64	Process oil 70	3	2.37E-06	1.60E-06	1.00	No
Asphalt production	Metals	Beryllium	lbs/ton production	EF	Diesel	9	7.92E-07	1.22E-06	0.00	Natural gas	14	7.53E-07	5.94E-07	0.00	No
Asphalt production	Metals	Beryllium	lbs/ton production	EF	Diesel	9	7.92E-07	1.22E-06	0.00	Oil	3	7.94E-07	1.12E-07	0.00	No
Asphalt production	Metals	Beryllium	lbs/ton production	EF	Diesel	9	7.92E-07	1.22E-06	0.00	Process oil 70	3	4.16E-07	2.80E-08	0.00	No
Asphalt production	Metals	Beryllium	lbs/ton production	EF	Natural gas	14	7.53E-07	5.94E-07	0.00	Oil	3	7.94E-07	1.12E-07	0.00	No
Asphalt production	Metals	Beryllium	lbs/ton production	EF	Natural gas	14	7.53E-07	5.94E-07	0.00	Process oil 70	3	4.16E-07	2.80E-08	0.00	No
Asphalt production	Metals	Beryllium	lbs/ton production	EF	Oil	3	7.94E-07	1.12E-07	0.00	Process oil 70	3	4.16E-07	2.80E-08	0.00	Yes
Asphalt production	Metals	Cadmium	lbs/ton production	EF	Diesel	9	7.10E-06	1.42E-05	0.98	Natural gas	14	2.16E-06	3.03E-06	0.75	No
Asphalt production	Metals	Cadmium	lbs/ton production	EF	Diesel	9	7.10E-06	1.42E-05	0.98	Oil	3	2.02E-06	5.43E-07	0.43	No
Asphalt production	Metals	Cadmium	lbs/ton production	EF	Diesel	9	7.10E-06	1.42E-05	0.98	Process oil 70	3	7.67E-07	9.69E-07	0.82	No
Asphalt production	Metals	Cadmium	lbs/ton production	EF	Natural gas	14	2.16E-06	3.03E-06	0.75	Oil	3	2.02E-06	5.43E-07	0.43	No
Asphalt production	Metals	Cadmium	lbs/ton production	EF	Natural gas	14	2.16E-06	3.03E-06	0.75	Process oil 70	3	7.67E-07	9.69E-07	0.82	No
Asphalt production	Metals	Cadmium	lbs/ton production	EF	Oil	3	2.02E-06	5.43E-07	0.43	Process oil 70	3	7.67E-07	9.69E-07	0.82	No
Asphalt production	Metals	Chromium	lbs/ton production	EF	Diesel	9	1.09E-05	2.75E-05	1.00	Natural gas	13	2.13E-06	2.26E-06	0.89	No
Asphalt production	Metals	Chromium	lbs/ton production	EF	Diesel	9	1.09E-05	2.75E-05	1.00	Oil	3	6.57E-05	8.46E-05	1.00	No
Asphalt production	Metals	Chromium	lbs/ton production	EF	Diesel	9	1.09E-05	2.75E-05	1.00	Process oil 70	3	9.04E-06	7.40E-06	1.00	No
Asphalt production	Metals	Chromium	lbs/ton production	EF	Natural gas	13	2.13E-06	2.26E-06	0.89	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Chromium	lbs/ton production	EF	Natural gas	13	2.13E-06	2.26E-06	0.89	Process oil 70	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Chromium	lbs/ton production	EF	Oil	3	6.57E-05	8.46E-05	1.00	Process oil 70	3	9.04E-06	7.40E-06	1.00	No
Asphalt production	Metals	Chromium (Hex)	lbs/ton production	EF	Diesel	8	5.88E-07	6.92E-07	0.29	Natural gas	13	1.43E-06	2.60E-06	0.82	No
Asphalt production	Metals	Chromium (Hex)	lbs/ton production	EF	Diesel	8	5.88E-07	6.92E-07	0.29	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Chromium (Hex)	lbs/ton production	EF	Diesel	8	5.88E-07	6.92E-07	0.29	Process oil 70	3	1.04E-07	3.14E-08	1.00	No
Asphalt production	Metals	Chromium (Hex)	lbs/ton production	EF	Natural gas	13	1.43E-06	2.60E-06	0.82	Oil	3	1.92E-06	6.49E-07	0.79	No
Asphalt production	Metals	Chromium (Hex)	lbs/ton production	EF	Natural gas	13	1.43E-06	2.60E-06	0.82	Process oil 70	3	1.04E-07	3.14E-08	1.00	No
Asphalt production	Metals	Chromium (Hex)	lbs/ton production	EF	Oil	3	1.92E-06	6.49E-07	0.79	Process oil 70	3	1.04E-07	3.14E-08	1.00	Yes
Asphalt production	Metals	Copper	lbs/ton production	EF	Diesel	9	1.59E-05	4.37E-05	1.00	Natural gas	14	4.17E-06	3.88E-06	0.86	No
Asphalt production	Metals	Copper	lbs/ton production	EF	Diesel	9	1.59E-05	4.37E-05	1.00	Oil	3	2.62E-05	5.12E-06	1.00	No
Asphalt production	Metals	Copper	lbs/ton production	EF	Diesel	9	1.59E-05	4.37E-05	1.00	Process oil 70	3	6.01E-06	2.96E-06	1.00	No
Asphalt production	Metals	Copper	lbs/ton production	EF	Natural gas	14	4.17E-06	3.88E-06	0.86	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Copper	lbs/ton production	EF	Natural gas	14	4.17E-06	3.88E-06	0.86	Process oil 70	3	6.01E-06	2.96E-06	1.00	No
Asphalt production	Metals	Copper	lbs/ton production	EF	Oil	3	[illegible]	[illegible]	1.00	Process oil 70	3	6.01E-06	2.96E-06	1.00	Yes
Asphalt production	Metals	Lead	lbs/ton production	EF	Diesel	9	2.45E-04	7.29E-04	1.00	Natural gas	14	1.12E-05	2.82E-05	0.93	No
Asphalt production	Metals	Lead	lbs/ton production	EF	Diesel	9	2.45E-04	7.29E-04	1.00	Oil	3	2.24E-05	1.84E-05	1.00	No
Asphalt production	Metals	Lead	lbs/ton production	EF	Diesel	9	2.45E-04	7.29E-04	1.00	Process oil 70	3	1.41E-06	5.50E-07	1.00	No
Asphalt production	Metals	Lead	lbs/ton production	EF	Natural gas	14	1.12E-05	2.82E-05	0.93	Oil	3	2.24E-05	1.84E-05	1.00	No
Asphalt production	Metals	Lead	lbs/ton production	EF	Natural gas	14	1.12E-05	2.82E-05	0.93	Process oil 70	3	1.41E-06	5.50E-07	1.00	No
Asphalt production	Metals	Lead	lbs/ton production	EF	Oil	3	2.24E-05	1.84E-05	1.00	Process oil 70	3	1.41E-06	5.50E-07	1.00	No
Asphalt production	Metals	Manganese	lbs/ton production	EF	Diesel	9	1.90E-04	5.42E-04	1.00	Natural gas	14	4.28E-05	6.30E-05	1.00	No
Asphalt production	Metals	Manganese	lbs/ton production	EF	Diesel	9	1.90E-04	5.42E-04	1.00	Oil	3	2.25E-04	5.83E-05	1.00	No
Asphalt production	Metals	Manganese	lbs/ton production	EF	Diesel	9	1.90E-04	5.42E-04	1.00	Process oil 70	3	1.40E-04	7.79E-05	1.00	No
Asphalt production	Metals	Manganese	lbs/ton production	EF	Natural gas	14	4.28E-05	6.30E-05	1.00	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Manganese	lbs/ton production	EF	Natural gas	14	4.28E-05	6.30E-05	1.00	Process oil 70	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Manganese	lbs/ton production	EF	Oil	3	2.25E-04	5.83E-05	1.00	Process oil 70	3	1.40E-04	7.79E-05	1.00	No
Asphalt production	Metals	Mercury	lbs/ton production	EF	Diesel	9	1.23E-06	1.99E-06	0.80	Natural gas	14	7.27E-06	1.09E-05	1.00	No
Asphalt production	Metals	Mercury	lbs/ton production	EF	Diesel	9	1.23E-06	1.99E-06	0.80	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Mercury	lbs/ton production	EF	Diesel	9	1.23E-06	1.99E-06	0.80	Process oil 70	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Mercury	lbs/ton production	EF	Natural gas	14	7.27E-06	1.09E-05	1.00	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Mercury	lbs/ton production	EF	Natural gas	14	7.27E-06	1.09E-05	1.00	Process oil 70	3	7.02E-06	5.71E-06	1.00	No
Asphalt production	Metals	Mercury	lbs/ton production	EF	Oil	3	[illegible]	[illegible]	[illegible]	Process oil 70	3	7.02E-06	5.71E-06	1.00	Yes
Asphalt production	Metals	Nickel	lbs/ton production	EF	Diesel	9	4.46E-05	1.26E-04	0.00	Natural gas	14	8.28E-06	1.04E-05	0.59	No
Asphalt production	Metals	Nickel	lbs/ton production	EF	Diesel	9	4.46E-05	1.26E-04	0.00	Oil	3	3.60E-05	5.54E-06	1.00	No
Asphalt production	Metals	Nickel	lbs/ton production	EF	Diesel	9	4.46E-05	1.26E-04	0.00	Process oil 70	3	8.42E-06	2.63E-06	1.00	No
Asphalt production	Metals	Nickel	lbs/ton production	EF	Natural gas	14	8.28E-06	1.04E-05	0.59	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Nickel	lbs/ton production	EF	Natural gas	14	8.28E-06	1.04E-05	0.59	Process oil 70	3	8.42E-06	2.63E-06	1.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Asphalt production	Metals	Nickel	lbs/ton production	EF	Oil	3	[illegible]	[illegible]	1.00	Process oil 70	3	8.42E-06	2.63E-06	1.00	Yes
Asphalt production	Metals	Selenium	lbs/ton production	EF	Diesel	9	2.54E-06	2.89E-06	0.08	Natural gas	14	1.12E-05	3.42E-05	0.83	No
Asphalt production	Metals	Selenium	lbs/ton production	EF	Diesel	9	2.54E-06	2.89E-06	0.08	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Selenium	lbs/ton production	EF	Diesel	9	2.54E-06	2.89E-06	0.08	Process oil 70	3	2.08E-07	1.40E-08	0.00	No
Asphalt production	Metals	Selenium	lbs/ton production	EF	Natural gas	14	1.12E-05	3.42E-05	0.83	Oil	3	2.71E-05	3.22E-05	0.79	No
Asphalt production	Metals	Selenium	lbs/ton production	EF	Natural gas	14	1.12E-05	3.42E-05	0.83	Process oil 70	3	2.08E-07	1.40E-08	0.00	No
Asphalt production	Metals	Selenium	lbs/ton production	EF	Oil	3	2.71E-05	3.22E-05	0.79	Process oil 70	3	2.08E-07	1.40E-08	0.00	No
Asphalt production	Metals	Zinc	lbs/ton production	EF	Diesel	9	5.36E-04	1.53E-03	1.00	Natural gas	14	2.59E-05	2.06E-05	1.00	No
Asphalt production	Metals	Zinc	lbs/ton production	EF	Diesel	9	5.36E-04	1.53E-03	1.00	Oil	3	3.46E-04	2.25E-04	1.00	No
Asphalt production	Metals	Zinc	lbs/ton production	EF	Diesel	9	5.36E-04	1.53E-03	1.00	Process oil 70	3	2.52E-05	8.55E-06	1.00	No
Asphalt production	Metals	Zinc	lbs/ton production	EF	Natural gas	14	2.59E-05	2.06E-05	1.00	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	Metals	Zinc	lbs/ton production	EF	Natural gas	14	2.59E-05	2.06E-05	1.00	Process oil 70	3	2.52E-05	8.55E-06	1.00	No
Asphalt production	Metals	Zinc	lbs/ton production	EF	Oil	3	3.46E-04	2.25E-04	1.00	Process oil 70	3	2.52E-05	8.55E-06	1.00	No
Asphalt production	PAH	Acenaphthene	lbs/ton production	EF	Diesel	8	4.93E-07	5.52E-07	0.38	Natural gas	14	6.17E-07	4.35E-07	0.67	No
Asphalt production	PAH	Acenaphthene	lbs/ton production	EF	Diesel	8	4.93E-07	5.52E-07	0.38	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Acenaphthene	lbs/ton production	EF	Diesel	8	4.93E-07	5.52E-07	0.38	Process oil 70	3	3.06E-07	8.20E-08	1.00	No
Asphalt production	PAH	Acenaphthene	lbs/ton production	EF	Natural gas	14	6.17E-07	4.35E-07	0.67	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Acenaphthene	lbs/ton production	EF	Natural gas	14	6.17E-07	4.35E-07	0.67	Process oil 70	3	3.06E-07	8.20E-08	1.00	No
Asphalt production	PAH	Acenaphthene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	3.06E-07	8.20E-08	1.00	Yes
Asphalt production	PAH	Acenaphthylene	lbs/ton production	EF	Diesel	8	4.39E-07	5.31E-07	0.30	Natural gas	14	1.19E-06	2.75E-06	0.83	No
Asphalt production	PAH	Acenaphthylene	lbs/ton production	EF	Diesel	8	4.39E-07	5.31E-07	0.30	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Acenaphthylene	lbs/ton production	EF	Diesel	8	4.39E-07	5.31E-07	0.30	Process oil 70	3	5.26E-07	2.35E-07	1.00	No
Asphalt production	PAH	Acenaphthylene	lbs/ton production	EF	Natural gas	14	1.19E-06	2.75E-06	0.83	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Acenaphthylene	lbs/ton production	EF	Natural gas	14	1.19E-06	2.75E-06	0.83	Process oil 70	3	5.26E-07	2.35E-07	1.00	No
Asphalt production	PAH	Acenaphthylene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	5.26E-07	2.35E-07	1.00	No
Asphalt production	PAH	Anthracene	lbs/ton production	EF	Diesel	8	7.13E-07	1.57E-06	0.81	Natural gas	14	3.27E-07	4.23E-07	0.37	No
Asphalt production	PAH	Anthracene	lbs/ton production	EF	Diesel	8	7.13E-07	1.57E-06	0.81	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Anthracene	lbs/ton production	EF	Diesel	8	7.13E-07	1.57E-06	0.81	Process oil 70	3	5.74E-08	1.78E-08	1.00	No
Asphalt production	PAH	Anthracene	lbs/ton production	EF	Natural gas	14	3.27E-07	4.23E-07	0.37	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Anthracene	lbs/ton production	EF	Natural gas	14	3.27E-07	4.23E-07	0.37	Process oil 70	3	5.74E-08	1.78E-08	1.00	No
Asphalt production	PAH	Anthracene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	5.74E-08	1.78E-08	1.00	Yes
Asphalt production	PAH	Benzo(a)anthracene	lbs/ton production	EF	Diesel	8	3.30E-07	5.56E-07	0.08	Natural gas	14	2.11E-07	4.07E-07	0.02	No
Asphalt production	PAH	Benzo(a)anthracene	lbs/ton production	EF	Diesel	8	3.30E-07	5.56E-07	0.08	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(a)anthracene	lbs/ton production	EF	Diesel	8	3.30E-07	5.56E-07	0.08	Process oil 70	3	1.11E-08	2.14E-09	1.00	No
Asphalt production	PAH	Benzo(a)anthracene	lbs/ton production	EF	Natural gas	14	2.11E-07	4.07E-07	0.02	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(a)anthracene	lbs/ton production	EF	Natural gas	14	2.11E-07	4.07E-07	0.02	Process oil 70	3	1.11E-08	2.14E-09	1.00	No
Asphalt production	PAH	Benzo(a)anthracene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	1.11E-08	2.14E-09	1.00	Yes
Asphalt production	PAH	Benzo(a)flouranthene	lbs/ton production	EF	Diesel	2	1.22E-06	2.17E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	Yes
Asphalt production	PAH	Benzo(a)pyrene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Natural gas	14	2.07E-07	4.09E-07	0.00	No
Asphalt production	PAH	Benzo(a)pyrene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(a)pyrene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Process oil 70	3	1.84E-09	1.84E-09	0.72	No
Asphalt production	PAH	Benzo(a)pyrene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(a)pyrene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Process oil 70	3	1.84E-09	1.84E-09	0.72	No
Asphalt production	PAH	Benzo(a)pyrene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	1.84E-09	1.84E-09	0.72	Yes
Asphalt production	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	Diesel	6	9.16E-09	8.94E-09	1.00	Natural gas	14	2.07E-07	4.09E-07	0.00	No
Asphalt production	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	Diesel	6	9.16E-09	8.94E-09	1.00	Process oil 70	3	2.10E-09	2.45E-10	1.00	No
Asphalt production	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Process oil 70	3	2.10E-09	2.45E-10	1.00	No
Asphalt production	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Natural gas	14	2.07E-07	4.09E-07	0.00	No
Asphalt production	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Process oil 70	3	1.20E-09	2.59E-10	0.75	No
Asphalt production	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Process oil 70	3	1.20E-09	2.59E-10	0.75	No
Asphalt production	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	1.20E-09	2.59E-10	0.75	Yes
Asphalt production	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Diesel	8	3.07E-07	5.69E-07	0.01	Natural gas	14	2.08E-07	4.08E-07	0.00	No
Asphalt production	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Diesel	8	3.07E-07	5.69E-07	0.01	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Diesel	8	3.07E-07	5.69E-07	0.01	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Natural gas	14	2.08E-07	4.08E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Natural gas	14	2.08E-07	4.08E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	Yes

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Asphalt production	PAH	Chrysene	lbs/ton production	EF	Diesel	8	3.16E-07	5.65E-07	0.03	Natural gas	14	2.07E-07	4.09E-07	0.00	No
Asphalt production	PAH	Chrysene	lbs/ton production	EF	Diesel	8	3.16E-07	5.65E-07	0.03	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Chrysene	lbs/ton production	EF	Diesel	8	3.16E-07	5.65E-07	0.03	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	Chrysene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Chrysene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	Chrysene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt production	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Natural gas	14	2.07E-07	4.09E-07	0.00	No
Asphalt production	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt production	PAH	Fluoranthene	lbs/ton production	EF	Diesel	6	4.19E-07	5.06E-07	0.27	Natural gas	14	4.99E-07	9.72E-07	0.59	No
Asphalt production	PAH	Fluoranthene	lbs/ton production	EF	Diesel	8	4.19E-07	5.06E-07	0.27	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Fluoranthene	lbs/ton production	EF	Diesel	8	4.19E-07	5.06E-07	0.27	Process oil 70	3	3.57E-08	9.88E-09	1.00	No
Asphalt production	PAH	Fluoranthene	lbs/ton production	EF	Natural gas	14	4.99E-07	9.72E-07	0.59	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Fluoranthene	lbs/ton production	EF	Natural gas	14	4.99E-07	9.72E-07	0.59	Process oil 70	3	3.57E-08	9.68E-09	1.00	No
Asphalt production	PAH	Fluoranthene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	3.57E-08	9.68E-09	1.00	Yes
Asphalt production	PAH	Fluorene	lbs/ton production	EF	Diesel	8	7.41E-07	4.58E-07	0.59	Natural gas	14	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	PAH	Fluorene	lbs/ton production	EF	Diesel	8	7.41E-07	4.58E-07	0.59	Oil	3	9.14E-07	1.83E-07	1.00	No
Asphalt production	PAH	Fluorene	lbs/ton production	EF	Diesel	8	7.41E-07	4.58E-07	0.59	Process oil 70	3	6.58E-07	2.07E-07	1.00	No
Asphalt production	PAH	Fluorene	lbs/ton production	EF	Natural gas	14	1.75E-06	7.78E-07	0.91	Oil	3	9.14E-07	1.83E-07	1.00	No
Asphalt production	PAH	Fluorene	lbs/ton production	EF	Natural gas	14	[illegible]	[illegible]	[illegible]	Process oil 70	3	6.58E-07	2.07E-07	1.00	Yes
Asphalt production	PAH	Fluorene	lbs/ton production	EF	Oil	3	9.14E-07	1.83E-07	1.00	Process oil 70	3	6.58E-07	2.07E-07	1.00	No
Asphalt production	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Natural gas	14	2.07E-07	4.09E-07	0.00	No
Asphalt production	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Diesel	8	3.06E-07	5.70E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Natural gas	14	2.07E-07	4.09E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	No
Asphalt production	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt production	PAH	Naphthalene	lbs/ton production	EF	Diesel	8	4.51E-04	7.94E-04	1.00	Natural gas	14	7.07E-05	1.02E-04	1.00	No
Asphalt production	PAH	Naphthalene	lbs/ton production	EF	Diesel	8	4.51E-04	7.94E-04	1.00	Oil	3	3.94E-04	1.07E-04	1.00	No
Asphalt production	PAH	Naphthalene	lbs/ton production	EF	Diesel	8	4.51E-04	7.94E-04	1.00	Process oil 70	3	3.08E-05	2.70E-06	1.00	No
Asphalt production	PAH	Naphthalene	lbs/ton production	EF	Natural gas	14	7.07E-05	1.02E-04	1.00	Oil	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	PAH	Naphthalene	lbs/ton production	EF	Natural gas	14	7.07E-05	1.02E-04	1.00	Process oil 70	3	3.08E-05	2.70E-06	1.00	No
Asphalt production	PAH	Naphthalene	lbs/ton production	EF	Oil	3	[illegible]	[illegible]	[illegible]	Process oil 70	3	3.08E-05	2.70E-06	1.00	Yes
Asphalt production	PAH	Phenanthrene	lbs/ton production	EF	Diesel	8	3.33E-06	5.63E-06	1.00	Natural gas	14	2.65E-06	1.83E-06	1.00	No
Asphalt production	PAH	Phenanthrene	lbs/ton production	EF	Diesel	8	3.33E-06	5.63E-06	1.00	Oil	3	1.98E-06	7.00E-07	1.00	No
Asphalt production	PAH	Phenanthrene	lbs/ton production	EF	Diesel	8	3.33E-06	5.63E-06	1.00	Process oil 70	3	6.64E-07	2.18E-07	1.00	No
Asphalt production	PAH	Phenanthrene	lbs/ton production	EF	Natural gas	14	2.65E-06	1.83E-06	1.00	Oil	3	1.98E-06	7.00E-07	1.00	No
Asphalt production	PAH	Phenanthrene	lbs/ton production	EF	Natural gas	14	2.65E-06	1.83E-06	1.00	Process oil 70	3	6.64E-07	2.18E-07	1.00	No
Asphalt production	PAH	Phenanthrene	lbs/ton production	EF	Oil	3	[illegible]	[illegible]	[illegible]	Process oil 70	3	6.64E-07	2.18E-07	1.00	Yes
Asphalt production	PAH	Pyrene	lbs/ton production	EF	Diesel	8	3.90E-07	5.22E-07	0.22	Natural gas	14	7.47E-07	1.85E-06	0.74	No
Asphalt production	PAH	Pyrene	lbs/ton production	EF	Diesel	8	3.90E-07	5.22E-07	0.22	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Pyrene	lbs/ton production	EF	Diesel	8	3.90E-07	5.22E-07	0.22	Process oil 70	3	5.62E-08	2.23E-08	1.00	No
Asphalt production	PAH	Pyrene	lbs/ton production	EF	Natural gas	14	7.47E-07	1.85E-06	0.74	Oil	3	6.13E-07	1.17E-07	0.00	No
Asphalt production	PAH	Pyrene	lbs/ton production	EF	Natural gas	14	7.47E-07	1.85E-06	0.74	Process oil 70	3	5.62E-08	2.23E-08	1.00	No
Asphalt production	PAH	Pyrene	lbs/ton production	EF	Oil	3	6.13E-07	1.17E-07	0.00	Process oil 70	3	5.62E-08	2.23E-08	1.00	Yes
Asphalt production	VOC	Benzene	lbs/ton production	EF	Diesel	9	[illegible]	[illegible]	[illegible]	Natural gas	13	8.24E-05	1.08E-04	1.00	Yes
Asphalt production	VOC	Benzene	lbs/ton production	EF	Diesel	9	5.58E-03	7.56E-03	0.94	Oil	3	2.02E-05	5.00E-06	0.71	No
Asphalt production	VOC	Benzene	lbs/ton production	EF	Diesel	9	5.58E-03	7.56E-03	0.94	Process oil 70	3	5.90E-05	1.11E-05	1.00	No
Asphalt production	VOC	Benzene	lbs/ton production	EF	Natural gas	13	8.24E-05	1.08E-04	1.00	Oil	3	2.02E-05	5.00E-06	0.71	No
Asphalt production	VOC	Benzene	lbs/ton production	EF	Natural gas	13	8.24E-05	1.08E-04	1.00	Process oil 70	3	5.90E-05	1.11E-05	1.00	No
Asphalt production	VOC	Benzene	lbs/ton production	EF	Oil	3	2.02E-05	5.00E-06	0.71	Process oil 70	3	[illegible]	[illegible]	[illegible]	Yes
Asphalt production	VOC	Formaldehyde	lbs/ton production	EF	Diesel	8	1.56E-04	9.40E-05	1.00	Natural gas	9	2.57E-04	3.51E-04	1.00	No
Asphalt production	VOC	Formaldehyde	lbs/ton production	EF	Diesel	8	1.56E-04	9.40E-05	1.00	Oil	3	3.22E-04	2.07E-04	1.00	No
Asphalt production	VOC	Formaldehyde	lbs/ton production	EF	Diesel	8	1.56E-04	9.40E-05	1.00	Process oil 70	3	1.38E-04	2.29E-05	1.00	No
Asphalt production	VOC	Formaldehyde	lbs/ton production	EF	Natural gas	9	2.57E-04	3.51E-04	1.00	Oil	3	3.22E-04	2.07E-04	1.00	No
Asphalt production	VOC	Formaldehyde	lbs/ton production	EF	Natural gas	9	2.57E-04	3.51E-04	1.00	Process oil 70	3	1.38E-04	2.29E-05	1.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Asphalt production	VOC	Formaldehyde	lbs/ton production	EF	Oil	3	3.22E-04	2.07E-04	1.00	Process oil 70	3	1.38E-04	2.29E-05	1.00	No
Boiler	Metals	Antimony	lbs/Mgal	EF	No. 6 fuel oil	3	1.34E-02	5.39E-04	1.00	Residual fuel	3	5.42E-04	3.87E-04	0.00	Yes
Boiler	Metals	Arsenic	lbs/Mgal	EF	No. 6 fuel oil	27	8.55E-04	8.18E-04	0.72	Residual fuel	3	4.14E-05	5.55E-06	0.00	No
Boiler	Metals	Barium	lbs/Mgal	EF	No. 6 fuel oil	3	2.23E-02	6.41E-03	1.00	Residual fuel	3	7.78E-03	1.14E-02	1.00	No
Boiler	Metals	Beryllium	lbs/Mgal	EF	No. 6 fuel oil	27	3.60E-04	9.61E-04	0.94	Residual fuel	3	1.65E-05	1.90E-06	0.00	No
Boiler	Metals	Cadmium	lbs/Mgal	EF	No. 6 fuel oil	27	2.85E-03	9.76E-03	0.96	Residual fuel	3	1.65E-04	1.90E-05	0.00	No
Boiler	Metals	Chromium	lbs/Mgal	EF	No. 6 fuel oil	27	1.49E-03	1.89E-03	0.85	Residual fuel	3	3.42E-04	2.59E-04	0.62	No
Boiler	Metals	Chromium (Hex)	lbs/Mgal	EF	No. 6 fuel oil	24	3.22E-04	3.44E-04	0.30	Residual fuel	3	6.05E-05	7.01E-05	0.88	No
Boiler	Metals	Copper	lbs/Mgal	EF	No. 6 fuel oil	27	3.96E-03	4.57E-03	1.00	Residual fuel	3	1.70E-03	3.54E-04	1.00	No
Boiler	Metals	Lead	lbs/Mgal	EF	No. 6 fuel oil	27	4.45E-03	9.37E-03	0.90	Residual fuel	3	3.31E-04	4.61E-05	0.00	No
Boiler	Metals	Manganese	lbs/Mgal	EF	No. 6 fuel oil	27	2.26E-02	1.05E-01	0.99	Residual fuel	3	5.51E-03	9.22E-03	0.99	No
Boiler	Metals	Mercury	lbs/Mgal	EF	No. 6 fuel oil	27	1.17E-03	1.75E-03	0.10	Residual fuel	3	8.28E-05	1.11E-05	0.00	No
Boiler	Metals	Nickel	lbs/Mgal	EF	No. 6 fuel oil	27	1.30E-01	1.48E-01	1.00	Residual fuel	3	6.77E-04	7.83E-04	0.92	No
Boiler	Metals	Selenium	lbs/Mgal	EF	No. 6 fuel oil	27	3.08E-03	8.68E-03	0.65	Residual fuel	3	4.14E-05	5.55E-06	0.00	No
Boiler	Metals	Silver	lbs/Mgal	EF	No. 6 fuel oil	3	1.42E-03	4.28E-04	1.00	Residual fuel	3	2.00E-04	7.86E-05	0.48	Yes
Boiler	Metals	Thallium	lbs/Mgal	EF	No. 6 fuel oil	3	3.27E-04	3.98E-04	0.00	Residual fuel	3	1.65E-03	1.90E-04	0.00	Yes
Boiler	Metals	Zinc	lbs/Mgal	EF	No. 6 fuel oil	27	7.54E-02	2.16E-01	1.00	Residual fuel	3	4.51E-02	3.54E-02	1.00	No
Boiler	PAH	Acenaphthene	lbs/Mgal	EF	Diesel	18	2.51E-04	4.14E-04	0.97	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Acenaphthene	lbs/Mgal	EF	Diesel	18	2.51E-04	4.14E-04	0.97	No. 6 fuel oil	30	2.69E-05	3.43E-05	0.48	Yes
Boiler	PAH	Acenaphthene	lbs/Mgal	EF	Diesel	18	2.51E-04	4.14E-04	0.97	Residual fuel	3	2.16E-06	1.78E-06	1.00	No
Boiler	PAH	Acenaphthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	2.69E-05	3.43E-05	0.48	Yes
Boiler	PAH	Acenaphthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	2.16E-06	1.78E-06	1.00	No
Boiler	PAH	Acenaphthene	lbs/Mgal	EF	No. 6 fuel oil	30	2.69E-05	3.43E-05	0.48	Residual fuel	3	2.16E-06	1.78E-06	1.00	No
Boiler	PAH	Acenaphthylene	lbs/Mgal	EF	Diesel	19	1.04E-04	1.44E-04	0.70	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Acenaphthylene	lbs/Mgal	EF	Diesel	19	1.04E-04	1.44E-04	0.70	No. 6 fuel oil	30	2.19E-05	4.16E-05	0.28	Yes
Boiler	PAH	Acenaphthylene	lbs/Mgal	EF	Diesel	19	1.04E-04	1.44E-04	0.70	Residual fuel	3	6.45E-06	7.45E-06	1.00	No
Boiler	PAH	Acenaphthylene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	2.19E-05	4.16E-05	0.28	Yes
Boiler	PAH	Acenaphthylene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	6.45E-06	7.45E-06	1.00	No
Boiler	PAH	Acenaphthylene	lbs/Mgal	EF	No. 6 fuel oil	30	2.19E-05	4.16E-05	0.28	Residual fuel	3	6.45E-06	7.45E-06	1.00	No
Boiler	PAH	Anthracene	lbs/Mgal	EF	Diesel	19	3.68E-05	6.05E-05	0.57	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Anthracene	lbs/Mgal	EF	Diesel	19	3.68E-05	6.05E-05	0.57	No. 6 fuel oil	30	1.50E-05	2.80E-05	0.05	No
Boiler	PAH	Anthracene	lbs/Mgal	EF	Diesel	19	3.68E-05	6.05E-05	0.57	Residual fuel	3	7.29E-06	4.94E-06	1.00	No
Boiler	PAH	Anthracene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.50E-05	2.80E-05	0.05	Yes
Boiler	PAH	Anthracene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	7.29E-06	4.94E-06	1.00	No
Boiler	PAH	Anthracene	lbs/Mgal	EF	No. 6 fuel oil	30	1.50E-05	2.80E-05	0.05	Residual fuel	3	7.29E-06	4.94E-06	1.00	No
Boiler	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Diesel	18	2.01E-05	3.56E-05	0.82	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Diesel	18	2.01E-05	3.56E-05	0.82	No. 6 fuel oil	30	1.48E-05	2.82E-05	0.03	No
Boiler	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Diesel	18	2.01E-05	3.56E-05	0.82	Residual fuel	3	1.67E-06	9.18E-07	1.00	No
Boiler	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.48E-05	2.82E-05	0.03	Yes
Boiler	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	1.67E-06	9.18E-07	1.00	No
Boiler	PAH	Benzo(a)anthracene	lbs/Mgal	EF	No. 6 fuel oil	30	1.48E-05	2.82E-05	0.03	Residual fuel	3	1.67E-06	9.18E-07	1.00	No
Boiler	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Diesel	19	4.46E-05	1.62E-04	0.01	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Diesel	19	4.46E-05	1.62E-04	0.01	No. 6 fuel oil	30	1.68E-05	2.80E-05	0.14	No
Boiler	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Diesel	19	4.46E-05	1.62E-04	0.01	Residual fuel	3	1.73E-06	5.59E-07	1.00	No
Boiler	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.68E-05	2.80E-05	0.14	Yes
Boiler	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	1.73E-06	5.59E-07	1.00	No
Boiler	PAH	Benzo(a)pyrene	lbs/Mgal	EF	No. 6 fuel oil	30	1.68E-05	2.80E-05	0.14	Residual fuel	3	1.73E-06	5.59E-07	1.00	No
Boiler	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Diesel	19	2.87E-05	9.60E-05	0.03	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Diesel	19	2.87E-05	9.60E-05	0.03	No. 6 fuel oil	12	3.54E-05	3.62E-05	0.02	No
Boiler	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Diesel	19	2.87E-05	9.60E-05	0.03	Residual fuel	3	3.15E-06	5.73E-07	1.00	No
Boiler	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	12	3.54E-05	3.62E-05	0.02	Yes
Boiler	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	3.15E-06	5.73E-07	1.00	No
Boiler	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	No. 6 fuel oil	12	3.54E-05	3.62E-05	0.02	Residual fuel	3	3.15E-06	5.73E-07	1.00	No
Boiler	PAH	Benzo(e)pyrene	lbs/Mgal	EF	Diesel	3	1.87E-04	2.99E-04	0.00	No. 6 fuel oil	6	9.40E-07	9.35E-07	0.00	No
Boiler	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Diesel	21	5.54E-05	2.15E-04	0.03	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Diesel	21	5.54E-05	2.15E-04	0.03	No. 6 fuel oil	30	1.47E-05	2.81E-05	0.01	No
Boiler	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Diesel	21	5.54E-05	2.15E-04	0.03	Residual fuel	3	3.16E-06	1.02E-06	1.00	No
Boiler	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.47E-05	2.81E-05	0.01	Yes
Boiler	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	3.16E-06	1.02E-06	1.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Boiler	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	No. 6 fuel oil	30	1.47E-05	2.81E-05	0.01	Residual fuel	3	3.16E-06	1.02E-06	1.00	No
Boiler	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Diesel	19	1.14E-04	2.56E-04	0.66	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Diesel	19	1.14E-04	2.56E-04	0.66	No. 6 fuel oil	12	3.43E-05	3.72E-05	0.00	No
Boiler	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Diesel	19	1.14E-04	2.56E-04	0.66	Residual fuel	3	6.48E-07	3.17E-07	1.00	No
Boiler	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	12	3.43E-05	3.72E-05	0.00	Yes
Boiler	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	6.48E-07	3.17E-07	1.00	No
Boiler	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	No. 6 fuel oil	12	3.43E-05	3.72E-05	0.00	Residual fuel	3	6.48E-07	3.17E-07	1.00	No
Boiler	PAH	Chrysene	lbs/Mgal	EF	Diesel	18	1.35E-05	2.30E-05	0.79	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Chrysene	lbs/Mgal	EF	Diesel	18	1.35E-05	2.30E-05	0.79	No. 6 fuel oil	30	1.72E-05	2.76E-05	0.17	No
Boiler	PAH	Chrysene	lbs/Mgal	EF	Diesel	18	1.35E-05	2.30E-05	0.79	Residual fuel	3	1.17E-06	7.05E-07	1.00	No
Boiler	PAH	Chrysene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.72E-05	2.76E-05	0.17	Yes
Boiler	PAH	Chrysene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	1.17E-06	7.05E-07	1.00	No
Boiler	PAH	Chrysene	lbs/Mgal	EF	No. 6 fuel oil	30	1.72E-05	2.76E-05	0.17	Residual fuel	3	1.17E-06	7.05E-07	1.00	No
Boiler	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Diesel	21	7.49E-05	3.13E-04	0.01	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Diesel	21	7.49E-05	3.13E-04	0.01	No. 6 fuel oil	30	1.46E-05	2.82E-05	0.00	No
Boiler	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Diesel	21	7.49E-05	3.13E-04	0.01	Residual fuel	3	3.09E-06	1.80E-06	1.00	No
Boiler	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.46E-05	2.82E-05	0.00	Yes
Boiler	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	3.09E-06	1.80E-06	1.00	No
Boiler	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	No. 6 fuel oil	30	1.46E-05	2.82E-05	0.00	Residual fuel	3	3.09E-06	1.80E-06	1.00	No
Boiler	PAH	Fluoranthene	lbs/Mgal	EF	Diesel	18	4.27E-05	4.59E-05	0.96	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Fluoranthene	lbs/Mgal	EF	Diesel	18	[illegible]	[illegible]	[illegible]	No. 6 fuel oil	30	1.99E-05	2.83E-05	0.37	Yes
Boiler	PAH	Fluoranthene	lbs/Mgal	EF	Diesel	18	4.27E-05	4.59E-05	0.96	Residual fuel	3	2.69E-06	3.33E-07	1.00	No
Boiler	PAH	Fluoranthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.99E-05	2.83E-05	0.37	Yes
Boiler	PAH	Fluoranthene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	2.69E-06	3.33E-07	1.00	No
Boiler	PAH	Fluoranthene	lbs/Mgal	EF	No. 6 fuel oil	30	1.99E-05	2.83E-05	0.37	Residual fuel	3	2.69E-06	3.33E-07	1.00	No
Boiler	PAH	Fluorene	lbs/Mgal	EF	Diesel	18	3.63E-04	1.00E-03	0.95	Fuel oil	3	2.16E-03	3.51E-03	0.00	No
Boiler	PAH	Fluorene	lbs/Mgal	EF	Diesel	18	3.63E-04	1.00E-03	0.95	No. 6 fuel oil	30	2.37E-05	3.13E-05	0.41	No
Boiler	PAH	Fluorene	lbs/Mgal	EF	Diesel	18	3.63E-04	1.00E-03	0.95	Residual fuel	3	3.31E-06	1.73E-06	1.00	No
Boiler	PAH	Fluorene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	2.37E-05	3.13E-05	0.41	Yes
Boiler	PAH	Fluorene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	3.31E-06	1.73E-06	1.00	No
Boiler	PAH	Fluorene	lbs/Mgal	EF	No. 6 fuel oil	30	2.37E-05	3.13E-05	0.41	Residual fuel	3	3.31E-06	1.73E-06	1.00	No
Boiler	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Diesel	21	6.12E-05	2.50E-04	0.02	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Diesel	21	6.12E-05	2.50E-04	0.02	No. 6 fuel oil	30	1.46E-05	2.82E-05	0.01	No
Boiler	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Diesel	21	6.12E-05	2.50E-04	0.02	Residual fuel	3	1.92E-06	1.10E-06	1.00	No
Boiler	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.46E-05	2.82E-05	0.01	Yes
Boiler	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	1.92E-06	1.10E-06	1.00	No
Boiler	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	No. 6 fuel oil	30	1.46E-05	2.82E-05	0.01	Residual fuel	3	1.92E-06	1.10E-06	1.00	No
Boiler	PAH	Naphthalene	lbs/Mgal	EF	Diesel	21	3.51E-01	8.84E-01	1.00	Fuel oil	3	2.57E-02	1.80E-02	0.92	No
Boiler	PAH	Naphthalene	lbs/Mgal	EF	Diesel	21	[illegible]	[illegible]	[illegible]	No. 6 fuel oil	30	5.68E-03	1.26E-02	1.00	Yes
Boiler	PAH	Naphthalene	lbs/Mgal	EF	Diesel	21	3.51E-01	8.84E-01	1.00	Residual fuel	3	1.03E-04	2.33E-05	1.00	No
Boiler	PAH	Naphthalene	lbs/Mgal	EF	Fuel oil	3	[illegible]	[illegible]	[illegible]	No. 6 fuel oil	30	5.68E-03	1.26E-02	1.00	Yes
Boiler	PAH	Naphthalene	lbs/Mgal	EF	Fuel oil	3	2.57E-02	1.80E-02	0.92	Residual fuel	3	1.03E-04	2.33E-05	1.00	No
Boiler	PAH	Naphthalene	lbs/Mgal	EF	No. 6 fuel oil	30	5.68E-03	1.26E-02	1.00	Residual fuel	3	1.03E-04	2.33E-05	1.00	No
Boiler	PAH	Phenanthrene	lbs/Mgal	EF	Diesel	19	8.88E-04	2.27E-03	1.00	Fuel oil	3	2.16E-03	3.51E-03	0.00	No
Boiler	PAH	Phenanthrene	lbs/Mgal	EF	Diesel	19	[illegible]	[illegible]	[illegible]	No. 6 fuel oil	30	3.45E-05	6.47E-05	0.68	Yes
Boiler	PAH	Phenanthrene	lbs/Mgal	EF	Diesel	19	8.88E-04	2.27E-03	1.00	Residual fuel	3	1.35E-05	6.32E-06	1.00	No
Boiler	PAH	Phenanthrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	3.45E-05	6.47E-05	0.68	Yes
Boiler	PAH	Phenanthrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	1.35E-05	6.32E-06	1.00	No
Boiler	PAH	Phenanthrene	lbs/Mgal	EF	No. 6 fuel oil	30	3.45E-05	6.47E-05	0.68	Residual fuel	3	1.35E-05	6.32E-06	1.00	No
Boiler	PAH	Pyrene	lbs/Mgal	EF	Diesel	18	6.08E-05	8.97E-05	0.89	Fuel oil	3	2.16E-03	3.51E-03	0.00	Yes
Boiler	PAH	Pyrene	lbs/Mgal	EF	Diesel	18	[illegible]	[illegible]	[illegible]	No. 6 fuel oil	30	1.59E-05	2.77E-05	0.10	Yes
Boiler	PAH	Pyrene	lbs/Mgal	EF	Diesel	18	6.08E-05	8.97E-05	0.89	Residual fuel	3	1.65E-06	4.09E-07	1.00	No
Boiler	PAH	Pyrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	No. 6 fuel oil	30	1.59E-05	2.77E-05	0.10	Yes
Boiler	PAH	Pyrene	lbs/Mgal	EF	Fuel oil	3	2.16E-03	3.51E-03	0.00	Residual fuel	3	1.65E-06	4.09E-07	1.00	No
Boiler	PAH	Pyrene	lbs/Mgal	EF	No. 6 fuel oil	30	1.59E-05	2.77E-05	0.10	Residual fuel	3	1.65E-06	4.09E-07	1.00	No
Boiler	SVOC	2-Chloronaphthalene	lbs/Mgal	EF	Diesel	3	7.15E-05	9.21E-05	0.00	No. 6 fuel oil	6	1.53E-07	1.56E-07	0.00	No
Boiler	SVOC	2-Methylnaphthalene	lbs/Mgal	EF	Diesel	3	1.40E-04	3.50E-05	0.57	No. 6 fuel oil	6	7.99E-05	8.17E-05	1.00	No
Boiler	SVOC	Ethylbenzene	lbs/Mgal	EF	Diesel	3	1.49E-03	1.99E-04	0.00	No. 6 fuel oil	3	1.42E-03	9.75E-04	1.00	No
Boiler	SVOC	Perylene	lbs/Mgal	EF	Diesel	3	4.37E-04	7.10E-04	0.00	No. 6 fuel oil	6	5.13E-07	1.06E-06	0.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Boiler	VOC	Benzene	lbs/Mgal	EF	Diesel	3	2.54E-03	3.46E-04	1.00	No. 6 fuel oil	29	5.63E-03	8.75E-03	0.84	No
Boiler	VOC	Benzene	lbs/Mgal	EF	Diesel	3	2.54E-03	3.46E-04	1.00	Residual fuel	3	5.78E-03	0.00E+00	0.00	Yes
Boiler	VOC	Benzene	lbs/Mgal	EF	No. 6 fuel oil	29	5.63E-03	8.75E-03	0.84	Residual fuel	3	5.78E-03	0.00E+00	0.00	No
Boiler	VOC	Formaldehyde	lbs/Mgal	EF	Diesel	18	3.49E-01	5.32E-01	1.00	Fuel oil	3	2.65E-02	2.40E-02	1.00	No
Boiler	VOC	Formaldehyde	lbs/Mgal	EF	Diesel	18	[illegible]	[illegible]	1.00	No. 6 fuel oil	24	2.48E-02	3.75E-02	0.93	Yes
Boiler	VOC	Formaldehyde	lbs/Mgal	EF	Diesel	18	3.49E-01	5.32E-01	1.00	Residual fuel	3	3.14E-01	1.57E-01	1.00	No
Boiler	VOC	Formaldehyde	lbs/Mgal	EF	Fuel oil	3	2.65E-02	2.40E-02	1.00	No. 6 fuel oil	24	2.48E-02	3.75E-02	0.93	No
Boiler	VOC	Formaldehyde	lbs/Mgal	EF	Fuel oil	3	2.65E-02	2.40E-02	1.00	Residual fuel	3	[illegible]	[illegible]	1.00	Yes
Boiler	VOC	Formaldehyde	lbs/Mgal	EF	No. 6 fuel oil	24	2.48E-02	3.75E-02	0.93	Residual fuel	3	[illegible]	[illegible]	1.00	Yes
Boiler	VOC	Formaldehyde	lbs/MMcf	EF	Landfill gas	3	1.25E-01	7.92E-03	1.00	Natural gas	9	2.21E-01	2.79E-01	1.00	No
Boiler	VOC	Propylene	lbs/Mgal	EF	Diesel	3	1.71E-03	1.51E-04	1.00	No. 6 fuel oil	3	2.19E-02	7.16E-04	0.00	Yes
Boiler	VOC	Toluene	lbs/Mgal	EF	Diesel	3	1.50E-03	1.85E-04	0.38	No. 6 fuel oil	3	[illegible]	[illegible]	[illegible]	Yes
Boiler	VOC	Total Xylene	lbs/Mgal	EF	Diesel	3	1.49E-03	1.99E-04	0.00	No. 6 fuel oil	3	[illegible]	[illegible]	[illegible]	Yes
Cement kiln	Dioxin & Furan	4D 2378	lbs/ton production	EF	Coal	6	5.01E-11	4.71E-11	0.23	Coal/coke	3	4.60E-13	3.78E-13	0.00	No
Cement kiln	Dioxin & Furan	4D Total	lbs/ton production	EF	Coal	6	2.20E-09	2.61E-09	1.00	Coal/coke	3	4.60E-13	3.78E-13	0.00	No
Cement kiln	Dioxin & Furan	4F 2378	lbs/ton production	EF	Coal	6	1.08E-09	1.22E-09	1.00	Coal/coke	3	3.15E-13	3.59E-13	0.00	No
Cement kiln	Dioxin & Furan	4F Total	lbs/ton production	EF	Coal	6	4.29E-08	4.81E-08	1.00	Coal/coke	3	3.08E-12	2.37E-12	0.92	No
Cement kiln	Dioxin & Furan	5D 12378	lbs/ton production	EF	Coal	6	8.74E-11	7.16E-11	0.60	Coal/coke	3	4.36E-13	2.71E-13	0.00	No
Cement kiln	Dioxin & Furan	5D Total	lbs/ton production	EF	Coal	6	1.15E-09	1.15E-09	0.93	Coal/coke	3	4.36E-13	2.71E-13	0.00	No
Cement kiln	Dioxin & Furan	5F 12378	lbs/ton production	EF	Coal	6	4.30E-10	5.00E-10	0.99	Coal/coke	3	3.25E-13	1.73E-13	0.00	No
Cement kiln	Dioxin & Furan	5F 23478	lbs/ton production	EF	Coal	6	5.66E-10	6.37E-10	1.00	Coal/coke	3	3.25E-13	1.73E-13	0.00	No
Cement kiln	Dioxin & Furan	5F Total	lbs/ton production	EF	Coal	6	7.58E-09	8.89E-09	1.00	Coal/coke	3	3.25E-13	1.73E-13	0.00	No
Cement kiln	Dioxin & Furan	6D 123478	lbs/ton production	EF	Coal	6	[illegible]	[illegible]	0.81	Coal/coke	3	4.36E-13	2.76E-13	0.00	Yes
Cement kiln	Dioxin & Furan	6D 123678	lbs/ton production	EF	Coal	6	6.45E-11	5.39E-11	0.87	Coal/coke	3	4.36E-13	2.76E-13	0.00	No
Cement kiln	Dioxin & Furan	6D 123789	lbs/ton production	EF	Coal	6	9.06E-11	7.76E-11	0.60	Coal/coke	3	4.36E-13	2.76E-13	0.00	No
Cement kiln	Dioxin & Furan	6D Total	lbs/ton production	EF	Coal	6	8.97E-10	9.46E-10	0.99	Coal/coke	3	4.36E-13	2.76E-13	0.00	No
Cement kiln	Dioxin & Furan	6F 123478	lbs/ton production	EF	Coal	6	3.96E-10	5.14E-10	0.99	Coal/coke	3	3.27E-13	2.40E-13	0.00	No
Cement kiln	Dioxin & Furan	6F 123678	lbs/ton production	EF	Coal	6	1.37E-10	1.66E-10	0.98	Coal/coke	3	3.27E-13	2.40E-13	0.00	No
Cement kiln	Dioxin & Furan	6F 123789	lbs/ton production	EF	Coal	6	[illegible]	[illegible]	0.27	Coal/coke	3	3.27E-13	2.40E-13	0.00	Yes
Cement kiln	Dioxin & Furan	6F 234678	lbs/ton production	EF	Coal	6	1.32E-10	1.53E-10	0.97	Coal/coke	3	3.27E-13	2.40E-13	0.00	No
Cement kiln	Dioxin & Furan	6F Total	lbs/ton production	EF	Coal	6	1.51E-09	1.96E-09	1.00	Coal/coke	3	3.27E-13	2.40E-13	0.00	No
Cement kiln	Dioxin & Furan	7D 1234678	lbs/ton production	EF	Coal	6	2.61E-10	2.61E-10	0.99	Coal/coke	3	3.21E-12	9.55E-14	1.00	No
Cement kiln	Dioxin & Furan	7D Total	lbs/ton production	EF	Coal	6	5.71E-10	5.80E-10	1.00	Coal/coke	3	5.65E-12	6.39E-13	1.00	No
Cement kiln	Dioxin & Furan	7F 1234678	lbs/ton production	EF	Coal	6	1.10E-10	1.07E-10	0.97	Coal/coke	3	6.55E-13	2.83E-13	0.00	No
Cement kiln	Dioxin & Furan	7F 1234789	lbs/ton production	EF	Coal	6	3.57E-11	2.59E-11	0.29	Coal/coke	3	6.55E-13	2.83E-13	0.00	No
Cement kiln	Dioxin & Furan	7F Total	lbs/ton production	EF	Coal	6	1.44E-10	1.47E-10	0.97	Coal/coke	3	6.55E-13	2.83E-13	0.00	No
Cement kiln	Dioxin & Furan	8D	lbs/ton production	EF	Coal	6	4.97E-10	4.54E-10	1.00	Coal/coke	3	3.01E-11	5.40E-12	0.60	No
Cement kiln	Dioxin & Furan	8F	lbs/ton production	EF	Coal	6	9.08E-11	8.83E-11	0.63	Coal/coke	3	1.26E-12	6.95E-13	0.00	No
Cement kiln	Metals	Arsenic	lbs/ton production	EF	Coal	6	3.02E-06	2.76E-06	0.81	Coal/coke	3	2.59E-06	3.08E-07	0.00	No
Cement kiln	Metals	Beryllium	lbs/ton production	EF	Coal	6	2.25E-06	2.75E-06	0.90	Coal/coke	3	5.03E-06	6.23E-07	0.00	No
Cement kiln	Metals	Cadmium	lbs/ton production	EF	Coal	6	1.46E-06	8.87E-07	0.51	Coal/coke	3	2.90E-07	2.36E-07	1.00	No
Cement kiln	Metals	Chromium	lbs/ton production	EF	Coal	5	2.43E-06	1.19E-06	1.00	Coal/coke	3	1.86E-06	4.43E-07	1.00	No
Cement kiln	Metals	Chromium (Hex)	lbs/ton production	EF	Coal	3	6.70E-07	1.70E-07	1.00	Coal/coke	3	[illegible]	[illegible]	1.00	Yes
Cement kiln	Metals	Copper	lbs/ton production	EF	Coal	6	8.00E-06	3.22E-06	0.62	Coal/coke	3	3.81E-06	9.40E-07	1.00	No
Cement kiln	Metals	Lead	lbs/ton production	EF	Coal	6	9.70E-05	1.36E-04	1.00	Coal/coke	3	1.24E-06	9.66E-07	1.00	No
Cement kiln	Metals	Manganese	lbs/ton production	EF	Coal	6	5.51E-04	1.20E-03	1.00	Coal/coke	3	8.85E-06	1.32E-06	0.00	No
Cement kiln	Metals	Mercury	lbs/ton production	EF	Coal	6	[illegible]	[illegible]	1.00	Coal/coke	3	3.83E-06	9.60E-07	1.00	Yes
Cement kiln	Metals	Nickel	lbs/ton production	EF	Coal	5	5.44E-06	5.42E-06	1.00	Coal/coke	3	2.60E-05	3.18E-06	0.00	Yes
Cement kiln	Metals	Selenium	lbs/ton production	EF	Coal	6	5.91E-06	8.21E-06	0.91	Coal/coke	3	3.78E-08	7.98E-07	1.00	No
Cement kiln	Metals	Zinc	lbs/ton production	EF	Coal	6	1.34E-03	1.54E-03	1.00	Coal/coke	3	1.02E-05	3.59E-06	1.00	No
Cement kiln	PAH	Acenaphthene	lbs/ton production	EF	Coal	6	7.80E-06	8.60E-06	1.00	Coal/coke	3	1.95E-07	1.91E-07	0.69	No
Cement kiln	PAH	Acenaphthylene	lbs/ton production	EF	Coal	6	2.35E-07	3.32E-07	1.00	Coal/coke	3	2.21E-06	3.12E-06	1.00	No
Cement kiln	PAH	Anthracene	lbs/ton production	EF	Coal	6	2.84E-06	3.59E-06	1.00	Coal/coke	2	1.25E-07	1.70E-07	0.98	No
Cement kiln	PAH	Benzo(a)anthracene	lbs/ton production	EF	Coal	6	2.11E-07	2.04E-07	1.00	Coal/coke	3	8.19E-10	1.46E-10	1.00	No
Cement kiln	PAH	Benzo(a)pyrene	lbs/ton production	EF	Coal	4	[illegible]	[illegible]	0.41	Coal/coke	3	2.50E-09	8.33E-10	1.00	Yes
Cement kiln	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	Coal	6	1.75E-07	2.40E-07	1.00	Coal/coke	3	1.84E-08	2.62E-08	0.12	No
Cement kiln	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Coal	4	1.12E-08	6.87E-09	0.02	Coal/coke	3	1.45E-09	4.05E-10	1.00	No
Cement kiln	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Coal	6	1.27E-08	1.41E-08	0.75	Coal/coke	3	3.88E-09	1.67E-09	0.51	No
Cement kiln	PAH	Chrysene	lbs/ton production	EF	Coal	6	1.16E-06	1.79E-06	1.00	Coal/coke	3	3.03E-09	8.66E-10	1.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics: Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Second Sample Statistics: Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Significant Difference at 95%Confidence
Cement kiln	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Coal	3	1.46E-08	6.22E-10	0.00	Coal/coke	3	1.19E-09	2.73E-10	1.00	Yes
Cement kiln	PAH	Fluoranthene	lbs/ton production	EF	Coal	[illegible]	[illegible]	[illegible]	[illegible]	Coal/coke	3	1.64E-07	8.90E-08	1.00	Yes
Cement kiln	PAH	Fluorene	lbs/ton production	EF	Coal	6	9.59E-07	5.56E-07	1.00	Coal/coke	3	3.51E-07	2.94E-07	1.00	No
Cement kiln	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Coal	5	9.65E-09	6.78E-09	0.09	Coal/coke	3	1.62E-09	7.12E-10	1.00	No
Cement kiln	PAH	Naphthalene	lbs/ton production	EF	Coal	6	1.64E-05	2.00E-06	1.00	Coal/coke	3	3.24E-05	3.68E-05	1.00	No
Cement kiln	PAH	Phenanthrene	lbs/ton production	EF	Coal	6	3.68E-06	1.31E-06	1.00	Coal/coke	3	7.44E-06	7.98E-06	1.00	No
Cement kiln	PAH	Pyrene	lbs/ton production	EF	Coal	6	2.03E-06	1.71E-06	1.00	Coal/coke	3	8.24E-08	4.87E-08	1.00	No
Cement kiln	VOC	Benzene	lbs/ton production	EF	Coal	3	1.40E-03	6.04E-04	0.00	Coal/coke	3	2.99E-04	7.47E-05	1.00	Yes
Cement kiln	VOC	Formaldehyde	lbs/ton production	EF	Coal	6	5.72E-05	4.74E-05	0.95	Coal/coke	3	8.60E-06	1.50E-06	1.00	No
Coating operation	Metals	Chromium	lbs/gal paint	EF	15% Cr	12	1.62E-04	1.20E-04	0.92	[illegible] Chromate	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Coating operation	Metals	Chromium	lbs/gal paint	EF	15% Cr	12	1.62E-04	1.20E-04	0.92	[illegible] Lead Chromate	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Coating operation	Metals	Chromium	lbs/gal paint	EF	25-35% Chromate	20	8.45E-04	7.49E-04	0.96	[illegible] Lead Chromate	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Coating operation	Metals	Chromium	lbs/lbs powder	EF	100% Chromium Oxide	1	1.42E-01		1.00	49% Ni, 44% Cr	1	4.02E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	100% Chromium Oxide	1	1.42E-01		1.00	70% Ni, 4% Cr	1	1.86E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	100% Chromium Oxide	1	1.42E-01		1.00	75% Cr3C2, 20% NiCr, 5% Cr	1	3.75E-01		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	100% Chromium Oxide	1	1.42E-01		1.00	80% Ni, 20%Cr	1	1.86E-03		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	100% Chromium Oxide	1	1.42E-01		1.00	87% Al2O3, 13% TiO2	1	3.48E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	49% Ni, 44% Cr	1	4.02E-04		1.00	70% Ni, 4% Cr	1	1.86E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	49% Ni, 44% Cr	1	4.02E-04		1.00	75% Cr3C2, 20% NiCr, 5% Cr	1	3.75E-01		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	49% Ni, 44% Cr	1	4.02E-04		1.00	80% Ni, 20%Cr	1	1.86E-03		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	49% Ni, 44% Cr	1	4.02E-04		1.00	87% Al2O3, 13% TiO2	1	3.48E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	70% Ni, 4% Cr	1	1.86E-04		1.00	75% Cr3C2, 20% NiCr, 5% Cr	1	3.75E-01		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	70% Ni, 4% Cr	1	1.86E-04		1.00	80% Ni, 20%Cr	1	1.86E-03		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	70% Ni, 4% Cr	1	1.86E-04		1.00	87% Al2O3, 13% TiO2	1	3.48E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	75% Cr3C2, 20% NiCr, 5% Cr	1	3.75E-01		1.00	80% Ni, 20%Cr	1	1.86E-03		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	75% Cr3C2, 20% NiCr, 5% Cr	1	3.75E-01		1.00	87% Al2O3, 13% TiO2	1	3.48E-04		1.00	NA
Coating operation	Metals	Chromium	lbs/lbs powder	EF	80% Ni, 20%Cr	1	1.86E-03		1.00	87% Al2O3, 13% TiO2	1	3.48E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/gal paint	EF	15% Cr	12	6.47E-05	8.49E-05	1.00	25-35% Chromate	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Coating operation	Metals	Chromium (Hex)	lbs/gal paint	EF	15% Cr	12	6.47E-05	8.49E-05	1.00	30% Lead Chromate	3	[illegible]	[illegible]	[illegible]	Yes
Coating operation	Metals	Chromium (Hex)	lbs/gal paint	EF	25-35% Chromate	20	6.10E-04	5.80E-04	1.00	30% Lead Chromate	3	[illegible]	[illegible]	[illegible]	Yes
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	100% Chromium Oxide	1	8.91E-03		1.00	49% Ni, 44% Cr	1	3.00E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	100% Chromium Oxide	1	8.91E-03		1.00	70% Ni, 4% Cr	1	1.81E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	100% Chromium Oxide	1	8.91E-03		1.00	75% Cr3C2, 20% NiCr, 5% Cr	1	1.63E-02		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	100% Chromium Oxide	1	8.91E-03		1.00	80% Ni, 20%Cr	1	2.58E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	49% Ni, 44% Cr	1	3.00E-04		1.00	70% Ni, 4% Cr	1	1.81E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	49% Ni, 44% Cr	1	3.00E-04		1.00	75% Cr3C2, 20% NiCr, 5% Cr	1	1.63E-02		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	49% Ni, 44% Cr	1	3.00E-04		1.00	80% Ni, 20%Cr	1	2.58E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	70% Ni, 4% Cr	1	1.81E-04		1.00	75% Cr3C2, 20% NiCr, 5% Cr	1	1.63E-02		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	70% Ni, 4% Cr	1	1.81E-04		1.00	80% Ni, 20%Cr	1	2.58E-04		1.00	NA
Coating operation	Metals	Chromium (Hex)	lbs/lbs powder	EF	75% Cr3C2, 20% NiCr, 5% Cr	1	1.63E-02		1.00	80% Ni, 20%Cr	1	2.58E-04		1.00	NA
Fluidized bed combustor	Dioxin & Furan	4D 2378	lbs/ton	EF	Agricultural waste	3	4.46E-10	4.17E-11	0.00	Coal	15	7.00E-10	9.00E-10	0.00	No
Fluidized bed combustor	Dioxin & Furan	4D 2378	lbs/ton	EF	Agricultural waste	3	4.46E-10	4.17E-11	0.00	Wood waste	3	2.89E-11	1.03E-11	0.00	Yes
Fluidized bed combustor	Dioxin & Furan	4D 2378	lbs/ton	EF	Coal	15	7.00E-10	9.00E-10	0.00	Wood waste	3	2.89E-11	1.03E-11	0.00	No
Fluidized bed combustor	Dioxin & Furan	4D Total	lbs/ton	EF	Agricultural waste	3	2.16E-07	[illegible]	1.00	Coal	15	7.46E-10	8.94E-10	0.00	Yes
Fluidized bed combustor	Dioxin & Furan	4F 2378	lbs/ton	EF	Agricultural waste	3	3.20E-09	2.68E-09	1.00	Coal	15	1.24E-09	1.75E-09	0.04	No
Fluidized bed combustor	Dioxin & Furan	4F 2378	lbs/ton	EF	Agricultural waste	3	3.20E-09	2.68E-09	1.00	Wood waste	3	1.29E-10	5.25E-11	1.00	No
Fluidized bed combustor	Dioxin & Furan	4F 2378	lbs/ton	EF	Coal	15	1.24E-09	1.75E-09	0.04	Wood waste	3	1.29E-10	5.25E-11	1.00	No
Fluidized bed combustor	Dioxin & Furan	4F Total	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	[illegible]	Coal	15	2.03E-09	2.17E-09	0.45	Yes
Fluidized bed combustor	Dioxin & Furan	5D 12378	lbs/ton	EF	Agricultural waste	3	1.10E-09	1.61E-10	0.28	Coal	15	3.50E-09	8.36E-09	0.00	No
Fluidized bed combustor	Dioxin & Furan	5D 12378	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	[illegible]	Wood waste	3	3.28E-11	1.14E-11	0.00	Yes
Fluidized bed combustor	Dioxin & Furan	5D 12378	lbs/ton	EF	Coal	15	3.50E-09	8.36E-09	0.00	Wood waste	3	3.28E-11	1.14E-11	0.00	No
Fluidized bed combustor	Dioxin & Furan	5D Total	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	[illegible]	Coal	15	3.55E-09	8.34E-09	0.01	Yes
Fluidized bed combustor	Dioxin & Furan	5F 12378	lbs/ton	EF	Agricultural waste	3	3.09E-09	1.30E-09	1.00	Coal	15	1.31E-09	2.31E-09	0.09	No
Fluidized bed combustor	Dioxin & Furan	5F 12378	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	[illegible]	Wood waste	3	6.27E-11	2.28E-11	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	5F 12378	lbs/ton	EF	Coal	15	1.31E-09	2.31E-09	0.09	Wood waste	3	6.27E-11	2.28E-11	1.00	No
Fluidized bed combustor	Dioxin & Furan	5F 23478	lbs/ton	EF	Agricultural waste	3	4.48E-09	2.42E-09	1.00	Coal	15	1.38E-09	2.30E-09	0.15	No
Fluidized bed combustor	Dioxin & Furan	5F 23478	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	[illegible]	Wood waste	3	1.03E-10	2.69E-11	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	5F 23478	lbs/ton	EF	Coal	15	1.38E-09	2.30E-09	0.15	Wood waste	3	1.03E-10	2.69E-11	1.00	No
Fluidized bed combustor	Dioxin & Furan	5F Total	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	[illegible]	Coal	15	3.10E-09	4.34E-09	0.60	Yes

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Fluidized bed combustor	Dioxin & Furan	6D 123478	lbs/ton	EF	Agricultural waste	3	1.22E-09	4.69E-10	0.00	Coal	15	2.92E-09	6.68E-09	0.01	No
Fluidized bed combustor	Dioxin & Furan	6D 123478	lbs/ton	EF	Agricultural waste	3	1.22E-09	4.69E-10	0.00	Wood waste	3	4.36E-11	4.86E-12	0.29	Yes
Fluidized bed combustor	Dioxin & Furan	6D 123478	lbs/ton	EF	Coal	15	2.92E-09	6.68E-09	0.01	Wood waste	3	4.36E-11	4.86E-12	0.29	No
Fluidized bed combustor	Dioxin & Furan	6D 123678	lbs/ton	EF	Agricultural waste	3	1.27E-09	4.45E-10	0.00	Coal	15	2.94E-09	6.67E-09	0.01	No
Fluidized bed combustor	Dioxin & Furan	6D 123678	lbs/ton	EF	Agricultural waste	3	1.27E-09	4.45E-10	0.00	Wood waste	3	6.38E-11	2.75E-11	0.50	Yes
Fluidized bed combustor	Dioxin & Furan	6D 123678	lbs/ton	EF	Coal	15	2.94E-09	6.67E-09	0.01	Wood waste	3	6.38E-11	2.75E-11	0.50	No
Fluidized bed combustor	Dioxin & Furan	6D 123789	lbs/ton	EF	Agricultural waste	3	1.15E-09	5.30E-10	0.00	Coal	15	2.92E-09	6.68E-09	0.01	No
Fluidized bed combustor	Dioxin & Furan	6D 123789	lbs/ton	EF	Agricultural waste	3	1.15E-09	5.30E-10	0.00	Wood waste	3	4.77E-11	8.28E-12	0.40	Yes
Fluidized bed combustor	Dioxin & Furan	6D 123789	lbs/ton	EF	Coal	15	2.92E-09	6.68E-09	0.01	Wood waste	3	4.77E-11	8.28E-12	0.40	No
Fluidized bed combustor	Dioxin & Furan	6D Total	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	15	3.44E-09	6.63E-09	0.16	Yes
Fluidized bed combustor	Dioxin & Furan	6F 123478	lbs/ton	EF	Agricultural waste	3	1.53E-09	6.21E-10	1.00	Coal	15	1.89E-09	3.23E-09	0.13	No
Fluidized bed combustor	Dioxin & Furan	6F 123478	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	7.59E-11	3.95E-11	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	6F 123478	lbs/ton	EF	Coal	15	1.89E-09	3.23E-09	0.13	Wood waste	3	7.59E-11	3.95E-11	1.00	No
Fluidized bed combustor	Dioxin & Furan	6F 123678	lbs/ton	EF	Agricultural waste	3	1.56E-09	3.91E-10	1.00	Coal	15	1.98E-09	3.23E-09	0.17	No
Fluidized bed combustor	Dioxin & Furan	6F 123678	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	1.12E-10	5.11E-11	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	6F 123678	lbs/ton	EF	Coal	15	1.98E-09	3.23E-09	0.17	Wood waste	3	1.12E-10	5.11E-11	1.00	No
Fluidized bed combustor	Dioxin & Furan	6F 123789	lbs/ton	EF	Agricultural waste	3	6.51E-10	5.42E-10	0.00	Coal	15	1.85E-09	3.24E-09	0.11	No
Fluidized bed combustor	Dioxin & Furan	6F 123789	lbs/ton	EF	Agricultural waste	3	6.51E-10	5.42E-10	0.00	Wood waste	3	2.77E-11	2.63E-11	0.70	No
Fluidized bed combustor	Dioxin & Furan	6F 123789	lbs/ton	EF	Coal	15	1.85E-09	3.24E-09	0.11	Wood waste	3	2.77E-11	2.63E-11	0.70	No
Fluidized bed combustor	Dioxin & Furan	6F 234678	lbs/ton	EF	Agricultural waste	3	1.75E-09	1.40E-10	1.00	Coal	15	2.28E-09	3.34E-09	0.28	No
Fluidized bed combustor	Dioxin & Furan	6F 234678	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	3.02E-10	2.69E-10	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	6F 234678	lbs/ton	EF	Coal	15	2.28E-09	3.34E-09	0.28	Wood waste	3	3.02E-10	2.69E-10	1.00	No
Fluidized bed combustor	Dioxin & Furan	6F Total	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	15	5.06E-09	8.27E-09	0.67	Yes
Fluidized bed combustor	Dioxin & Furan	7D 1234678	lbs/ton	EF	Agricultural waste	3	8.41E-09	2.06E-09	1.00	Coal	15	3.70E-09	6.33E-09	0.25	No
Fluidized bed combustor	Dioxin & Furan	7D 1234678	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	6.90E-10	2.02E-10	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	7D 1234678	lbs/ton	EF	Coal	15	3.70E-09	6.33E-09	0.25	Wood waste	3	6.90E-10	2.02E-10	1.00	No
Fluidized bed combustor	Dioxin & Furan	7D Total	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	15	4.70E-09	6.68E-09	0.40	Yes
Fluidized bed combustor	Dioxin & Furan	7F 1234678	lbs/ton	EF	Agricultural waste	3	7.32E-09	1.09E-09	1.00	Coal	15	6.16E-09	9.41E-09	0.53	No
Fluidized bed combustor	Dioxin & Furan	7F 1234678	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	1.37E-09	1.44E-09	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	7F 1234678	lbs/ton	EF	Coal	15	6.16E-09	9.41E-09	0.53	Wood waste	3	1.37E-09	1.44E-09	1.00	No
Fluidized bed combustor	Dioxin & Furan	7F 1234789	lbs/ton	EF	Agricultural waste	3	7.43E-10	5.89E-10	0.63	Coal	15	3.28E-09	6.40E-09	0.12	No
Fluidized bed combustor	Dioxin & Furan	7F 1234789	lbs/ton	EF	Agricultural waste	3	7.43E-10	5.89E-10	0.63	Wood waste	3	8.97E-11	9.71E-11	0.92	No
Fluidized bed combustor	Dioxin & Furan	7F 1234789	lbs/ton	EF	Coal	15	3.28E-09	6.40E-09	0.12	Wood waste	3	8.97E-11	9.71E-11	0.92	No
Fluidized bed combustor	Dioxin & Furan	7F Total	lbs/ton	EF	Agricultural waste	3	9.79E-09	3.22E-09	1.00	Coal	15	9.04E-09	1.52E-08	0.68	No
Fluidized bed combustor	Dioxin & Furan	8D	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	15	1.36E-08	2.13E-08	0.41	Yes
Fluidized bed combustor	Dioxin & Furan	8D	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	6.69E-09	2.53E-09	1.00	Yes
Fluidized bed combustor	Dioxin & Furan	8D	lbs/ton	EF	Coal	15	1.36E-08	2.13E-08	0.41	Wood waste	3	6.69E-09	2.53E-09	1.00	No
Fluidized bed combustor	Dioxin & Furan	8F	lbs/ton	EF	Agricultural waste	3	5.24E-09	3.44E-09	0.81	Coal	15	1.41E-08	3.04E-08	0.18	No
Fluidized bed combustor	Dioxin & Furan	8F	lbs/ton	EF	Agricultural waste	3	5.24E-09	3.44E-09	0.81	Wood waste	3	1.61E-09	1.85E-09	1.00	No
Fluidized bed combustor	Dioxin & Furan	8F	lbs/ton	EF	Coal	15	1.41E-08	3.04E-08	0.18	Wood waste	3	1.61E-09	1.85E-09	1.00	No
Fluidized bed combustor	Halogens	HCl	lbs/ton	EF	Agricultural waste	3	7.21E-02	[illegible]	1.00	Coal	15	2.29E-02	1.21E-02	1.00	Yes
Fluidized bed combustor	Halogens	HCl	lbs/ton	EF	Agricultural waste	3	7.21E-02	3.55E-02	1.00	Coke	6	7.37E-02	5.18E-02	1.00	No
Fluidized bed combustor	Halogens	HCl	lbs/ton	EF	Coal	15	2.29E-02	1.21E-02	1.00	Coke	6	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	Halogens	HF	lbs/ton	EF	Coal	6	[illegible]	[illegible]	0.43	Coke	6	7.10E-04	6.24E-04	0.98	Yes
Fluidized bed combustor	Metals	Arsenic	lbs/ton	EF	Agricultural waste	3	1.57E-05	2.35E-05	0.00	Coal	15	3.40E-05	4.43E-05	0.43	No
Fluidized bed combustor	Metals	Arsenic	lbs/ton	EF	Agricultural waste	3	1.57E-05	2.35E-05	0.00	Coke	6	4.62E-05	4.39E-05	0.93	No
Fluidized bed combustor	Metals	Arsenic	lbs/ton	EF	Coal	15	3.40E-05	4.43E-05	0.43	Coke	6	4.62E-05	4.39E-05	0.93	No
Fluidized bed combustor	Metals	Beryllium	lbs/ton	EF	Agricultural waste	3	2.16E-06	1.02E-07	0.00	Coal	15	3.43E-06	4.23E-06	0.00	No
Fluidized bed combustor	Metals	Beryllium	lbs/ton	EF	Agricultural waste	3	2.16E-06	1.02E-07	0.00	Coke	6	2.14E-06	1.11E-06	0.00	No
Fluidized bed combustor	Metals	Beryllium	lbs/ton	EF	Coal	15	3.43E-06	4.23E-06	0.00	Coke	6	2.14E-06	1.11E-06	0.00	No
Fluidized bed combustor	Metals	Cadmium	lbs/ton	EF	Agricultural waste	3	8.87E-05	1.17E-04	0.00	Coal	15	1.19E-05	6.36E-06	0.35	Yes
Fluidized bed combustor	Metals	Cadmium	lbs/ton	EF	Agricultural waste	3	8.87E-05	1.17E-04	0.00	Coke	6	1.69E-05	8.62E-06	0.64	No
Fluidized bed combustor	Metals	Cadmium	lbs/ton	EF	Coal	15	1.19E-05	6.36E-06	0.35	Coke	6	1.69E-05	8.62E-06	0.64	No
Fluidized bed combustor	Metals	Chromium	lbs/ton	EF	Agricultural waste	3	2.88E-06	1.35E-06	0.52	Coal	15	4.37E-05	6.72E-05	0.99	No
Fluidized bed combustor	Metals	Chromium	lbs/ton	EF	Agricultural waste	3	2.88E-06	1.35E-06	0.52	Coke	6	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	Metals	Chromium	lbs/ton	EF	Coal	15	4.37E-05	6.72E-05	0.99	Coke	6	1.01E-05	3.93E-06	1.00	No
Fluidized bed combustor	Metals	Chromium (Hex)	lbs/ton	EF	Agricultural waste	3	4.28E-05	6.16E-06	0.00	Coal	15	1.65E-05	1.37E-05	0.47	Yes
Fluidized bed combustor	Metals	Chromium (Hex)	lbs/ton	EF	Agricultural waste	3	4.28E-05	6.16E-06	0.00	Coke	6	9.31E-06	2.72E-06	0.00	Yes
Fluidized bed combustor	Metals	Chromium (Hex)	lbs/ton	EF	Coal	15	1.65E-05	1.37E-05	0.47	Coke	6	9.31E-06	2.72E-06	0.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics: Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Second Sample Statistics: Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Significant Difference at 95%Confidence
Fluidized bed combustor	Metals	Copper	lbs/ton	EF	Agricultural waste	3	6.15E-05	2.11E-05	1.00	Coal	15	1.33E-04	1.31E-04	0.99	No
Fluidized bed combustor	Metals	Copper	lbs/ton	EF	Agricultural waste	3	6.15E-05	2.11E-05	1.00	Coke	6	7.95E-05	4.82E-05	1.00	No
Fluidized bed combustor	Metals	Copper	lbs/ton	EF	Coal	15	1.33E-04	1.31E-04	0.99	Coke	6	7.95E-05	4.82E-05	1.00	No
Fluidized bed combustor	Metals	Lead	lbs/ton	EF	Agricultural waste	3	6.54E-05	3.40E-06	0.00	Coal	15	6.13E-05	7.56E-05	0.78	No
Fluidized bed combustor	Metals	Lead	lbs/ton	EF	Agricultural waste	3	6.54E-05	3.40E-06	0.00	Coke	6	1.57E-04	1.86E-04	1.00	No
Fluidized bed combustor	Metals	Lead	lbs/ton	EF	Coal	15	6.13E-05	7.56E-05	0.78	Coke	6	1.57E-04	1.86E-04	1.00	No
Fluidized bed combustor	Metals	Manganese	lbs/ton	EF	Agricultural waste	3	2.86E-04	3.84E-04	1.00	Coal	15	2.10E-03	7.70E-03	1.00	No
Fluidized bed combustor	Metals	Manganese	lbs/ton	EF	Agricultural waste	3	2.86E-04	3.84E-04	1.00	Coke	6	1.32E-04	1.07E-04	1.00	No
Fluidized bed combustor	Metals	Manganese	lbs/ton	EF	Coal	15	2.10E-03	7.70E-03	1.00	Coke	6	1.32E-04	1.07E-04	1.00	No
Fluidized bed combustor	Metals	Mercury	lbs/ton	EF	Agricultural waste	3	1.92E-04	1.13E-04	1.00	Coal	15	2.57E-04	4.56E-04	0.09	No
Fluidized bed combustor	Metals	Mercury	lbs/ton	EF	Agricultural waste	3	1.92E-04	1.13E-04	1.00	Coke	6	1.25E-03	1.47E-03	0.00	No
Fluidized bed combustor	Metals	Mercury	lbs/ton	EF	Coal	15	2.57E-04	4.56E-04	0.09	Coke	6	1.25E-03	1.47E-03	[illegible]	Yes
Fluidized bed combustor	Metals	Nickel	lbs/ton	EF	Agricultural waste	3	4.50E-05	9.69E-07	0.34	Coal	15	1.92E-04	3.97E-04	0.94	No
Fluidized bed combustor	Metals	Nickel	lbs/ton	EF	Agricultural waste	3	4.50E-05	9.69E-07	0.34	Coke	6	1.24E-04	1.06E-04	1.00	No
Fluidized bed combustor	Metals	Nickel	lbs/ton	EF	Coal	15	1.92E-04	3.97E-04	0.94	Coke	6	1.24E-04	1.06E-04	1.00	No
Fluidized bed combustor	Metals	Selenium	lbs/ton	EF	Agricultural waste	3	1.90E-05	7.71E-06	0.00	Coal	15	4.81E-05	7.83E-05	0.00	No
Fluidized bed combustor	Metals	Selenium	lbs/ton	EF	Agricultural waste	3	1.90E-05	7.71E-06	0.00	Coke	6	8.91E-05	6.46E-05	0.00	No
Fluidized bed combustor	Metals	Selenium	lbs/ton	EF	Coal	15	4.81E-05	7.83E-05	0.00	Coke	6	8.91E-05	6.46E-05	0.00	No
Fluidized bed combustor	Metals	Zinc	lbs/ton	EF	Agricultural waste	3	3.36E-04	2.26E-04	1.00	Coal	15	1.06E-03	1.20E-03	1.00	No
Fluidized bed combustor	Metals	Zinc	lbs/ton	EF	Agricultural waste	3	3.36E-04	2.26E-04	1.00	Coke	6	9.96E-03	7.62E-03	1.00	No
Fluidized bed combustor	Metals	Zinc	lbs/ton	EF	Coal	15	1.06E-03	1.20E-03	1.00	Coke	6	9.96E-03	7.62E-03	1.00	Yes
Fluidized bed combustor	PAH	Acenaphthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.25E-06	4.84E-06	0.03	Yes
Fluidized bed combustor	PAH	Acenaphthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	6.12E-07	4.27E-07	0.53	Yes
Fluidized bed combustor	PAH	Acenaphthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	7.04E-07	3.53E-07	1.00	Yes
Fluidized bed combustor	PAH	Acenaphthene	lbs/ton	EF	Coal	18	2.25E-06	4.84E-06	0.03	Coke	6	6.12E-07	4.27E-07	0.53	No
Fluidized bed combustor	PAH	Acenaphthene	lbs/ton	EF	Coal	18	2.25E-06	4.84E-06	0.03	Wood waste	3	7.04E-07	3.53E-07	1.00	No
Fluidized bed combustor	PAH	Acenaphthene	lbs/ton	EF	Coke	6	6.12E-07	4.27E-07	0.53	Wood waste	3	7.04E-07	3.53E-07	1.00	No
Fluidized bed combustor	PAH	Acenaphthylene	lbs/ton	EF	Agricultural waste	3	9.47E-05	9.77E-05	0.95	Coal	18	2.24E-06	4.84E-06	0.02	Yes
Fluidized bed combustor	PAH	Acenaphthylene	lbs/ton	EF	Agricultural waste	3	9.47E-05	9.77E-05	0.95	Coke	6	3.97E-07	2.17E-07	0.23	Yes
Fluidized bed combustor	PAH	Acenaphthylene	lbs/ton	EF	Agricultural waste	3	9.47E-05	9.77E-05	0.95	Wood waste	3	2.67E-05	1.31E-05	1.00	No
Fluidized bed combustor	PAH	Acenaphthylene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.02	Coke	6	3.97E-07	2.17E-07	0.23	No
Fluidized bed combustor	PAH	Acenaphthylene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.02	Wood waste	3	2.67E-05	1.31E-05	1.00	Yes
Fluidized bed combustor	PAH	Acenaphthylene	lbs/ton	EF	Coke	6	3.97E-07	2.17E-07	0.23	Wood waste	3	2.67E-05	1.31E-05	1.00	Yes
Fluidized bed combustor	PAH	Anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.24E-06	4.84E-06	0.03	Yes
Fluidized bed combustor	PAH	Anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	2.34E-07	7.32E-08	0.27	Yes
Fluidized bed combustor	PAH	Anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	5.68E-07	1.92E-07	1.00	Yes
Fluidized bed combustor	PAH	Anthracene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.03	Coke	6	2.34E-07	7.32E-08	0.27	No
Fluidized bed combustor	PAH	Anthracene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.03	Wood waste	3	5.68E-07	1.92E-07	1.00	No
Fluidized bed combustor	PAH	Anthracene	lbs/ton	EF	Coke	6	2.34E-07	7.32E-08	0.27	Wood waste	3	5.68E-07	1.92E-07	1.00	Yes
Fluidized bed combustor	PAH	Benzo(a)anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.21E-06	4.85E-06	0.00	Yes
Fluidized bed combustor	PAH	Benzo(a)anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	2.35E-07	7.86E-08	0.28	Yes
Fluidized bed combustor	PAH	Benzo(a)anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	2.05E-08	4.18E-09	0.74	Yes
Fluidized bed combustor	PAH	Benzo(a)anthracene	lbs/ton	EF	Coal	18	2.21E-06	4.85E-06	0.00	Coke	6	2.35E-07	7.86E-08	0.28	No
Fluidized bed combustor	PAH	Benzo(a)anthracene	lbs/ton	EF	Coal	18	2.21E-06	4.85E-06	.0.00	Wood waste	3	2.05E-08	4.18E-09	0.74	No
Fluidized bed combustor	PAH	Benzo(a)anthracene	lbs/ton	EF	Coke	6	2.35E-07	7.86E-08	0.28	Wood waste	3	2.05E-08	4.18E-09	0.74	Yes
Fluidized bed combustor	PAH	Benzo(a)pyrene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.44E-06	4.78E-06	0.00	Yes
Fluidized bed combustor	PAH	Benzo(a)pyrene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	2.03E-07	1.26E-08	0.00	Yes
Fluidized bed combustor	PAH	Benzo(a)pyrene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	1.64E-08	8.23E-10	0.00	Yes
Fluidized bed combustor	PAH	Benzo(a)pyrene	lbs/ton	EF	Coal	18	2.44E-06	4.78E-06	0.00	Coke	6	2.03E-07	1.26E-08	0.00	No
Fluidized bed combustor	PAH	Benzo(a)pyrene	lbs/ton	EF	Coal	18	2.44E-06	4.78E-06	0.00	Wood waste	3	1.64E-08	6.23E-10	0.00	No
Fluidized bed combustor	PAH	Benzo(a)pyrene	lbs/ton	EF	Coke	6	2.03E-07	1.26E-08	0.00	Wood waste	3	1.64E-08	6.23E-10	0.00	Yes
Fluidized bed combustor	PAH	Benzo(b)fluoranthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	9	4.34E-06	6.31E-06	0.01	No
Fluidized bed combustor	PAH	Benzo(b)fluoranthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	1.25E-07	1.66E-08	1.00	Yes
Fluidized bed combustor	PAH	Benzo(b)fluoranthene	lbs/ton	EF	Coal	9	4.34E-06	6.31E-06	0.01	Wood waste	3	1.25E-07	1.66E-08	1.00	No
Fluidized bed combustor	PAH	Benzo(b+k)fluoranthene	lbs/ton	EF	Coal	9	9.80E-08	7.62E-08	0.00	Coke	6	[illegible]	[illegible]	[illegible]	Yes
Fluidized bed combustor	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.23E-06	4.85E-06	0.00	Yes
Fluidized bed combustor	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	2.09E-07	1.50E-08	0.18	Yes
Fluidized bed combustor	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	5.94E-08	3.59E-08	1.00	Yes
Fluidized bed combustor	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Coal	18	2.23E-06	4.85E-06	0.00	Coke	6	2.09E-07	1.50E-08	0.18	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Fluidized bed combustor	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Coal	18	2.23E-06	4.85E-06	0.00	Wood waste	3	5.94E-08	3.59E-08	1.00	No
Fluidized bed combustor	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Coke	6	[illegible]	[illegible]	0.16	Wood waste	3	5.94E-08	3.59E-08	1.00	Yes
Fluidized bed combustor	PAH	Benzo(k)fluoranthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	9	4.31E-06	6.33E-06	0.00	No
Fluidized bed combustor	PAH	Benzo(k)fluoranthene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	3.00E-08	9.68E-09	1.00	Yes
Fluidized bed combustor	PAH	Benzo(k)fluoranthene	lbs/ton	EF	Coal	9	4.31E-06	6.33E-06	0.00	Wood waste	3	3.00E-08	9.68E-09	1.00	No
Fluidized bed combustor	PAH	Chrysene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.25E-06	4.84E-06	0.02	Yes
Fluidized bed combustor	PAH	Chrysene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	5.75E-07	3.63E-07	0.40	Yes
Fluidized bed combustor	PAH	Chrysene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	2.35E-07	3.52E-08	1.00	Yes
Fluidized bed combustor	PAH	Chrysene	lbs/ton	EF	Coal	18	2.25E-06	4.84E-06	0.02	Coke	6	5.75E-07	3.63E-07	0.40	No
Fluidized bed combustor	PAH	Chrysene	lbs/ton	EF	Coal	18	2.25E-06	4.84E-06	0.02	Wood waste	3	2.35E-07	3.52E-08	1.00	No
Fluidized bed combustor	PAH	Chrysene	lbs/ton	EF	Coke	6	5.75E-07	3.63E-07	0.40	Wood waste	3	2.35E-07	3.52E-08	1.00	No
Fluidized bed combustor	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.24E-06	4.84E-06	0.00	Yes
Fluidized bed combustor	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	2.66E-07	1.51E-07	0.36	Yes
Fluidized bed combustor	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	1.64E-08	6.23E-10	0.00	Yes
Fluidized bed combustor	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.00	Coke	6	2.66E-07	1.51E-07	0.36	No
Fluidized bed combustor	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.00	Wood waste	3	1.64E-08	6.23E-10	0.00	No
Fluidized bed combustor	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Coke	6	[illegible]	[illegible]	0.36	Wood waste	3	1.64E-08	6.23E-10	0.00	Yes
Fluidized bed combustor	PAH	Fluoranthene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	18	2.26E-06	4.83E-06	0.03	Yes
Fluidized bed combustor	PAH	Fluoranthene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coke	6	9.71E-07	6.08E-07	1.00	Yes
Fluidized bed combustor	PAH	Fluoranthene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	6.73E-06	2.44E-06	1.00	Yes
Fluidized bed combustor	PAH	Fluoranthene	lbs/ton	EF	Coal	18	2.26E-06	4.83E-06	0.03	Coke	6	9.71E-07	6.08E-07	1.00	No
Fluidized bed combustor	PAH	Fluoranthene	lbs/ton	EF	Coal	18	2.26E-06	4.83E-06	0.03	Wood waste	3	6.73E-06	2.44E-06	1.00	No
Fluidized bed combustor	PAH	Fluoranthene	lbs/ton	EF	Coke	6	9.71E-07	6.08E-07	1.00	Wood waste	3	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	PAH	Fluorene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.41E-06	4.77E-06	0.10	Yes
Fluidized bed combustor	PAH	Fluorene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	1.13E-06	8.46E-07	0.94	Yes
Fluidized bed combustor	PAH	Fluorene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	1.32E-06	6.67E-07	1.00	Yes
Fluidized bed combustor	PAH	Fluorene	lbs/ton	EF	Coal	16	2.41E-06	4.77E-06	0.10	Coke	6	1.13E-06	8.46E-07	0.94	No
Fluidized bed combustor	PAH	Fluorene	lbs/ton	EF	Coal	16	2.41E-06	4.77E-06	0.10	Wood waste	3	1.32E-06	6.67E-07	1.00	No
Fluidized bed combustor	PAH	Fluorene	lbs/ton	EF	Coke	6	1.13E-06	8.46E-07	0.94	Wood waste	3	1.32E-06	6.67E-07	1.00	No
Fluidized bed combustor	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coal	18	2.24E-06	4.84E-06	0.00	Yes
Fluidized bed combustor	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Coke	6	2.04E-07	1.15E-08	0.16	Yes
Fluidized bed combustor	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Agricultural waste	3	1.20E-05	3.01E-06	0.00	Wood waste	3	2.47E-08	1.15E-08	0.78	Yes
Fluidized bed combustor	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.00	Coke	6	2.04E-07	1.15E-08	0.16	No
Fluidized bed combustor	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Coal	18	2.24E-06	4.84E-06	0.00	Wood waste	3	2.47E-08	1.15E-08	0.78	No
Fluidized bed combustor	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Coke	6	[illegible]	[illegible]	0.16	Wood waste	3	2.47E-08	1.15E-08	0.78	Yes
Fluidized bed combustor	PAH	Naphthalene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	18	2.61E-04	5.60E-04	0.99	Yes
Fluidized bed combustor	PAH	Naphthalene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coke	6	4.96E-05	5.03E-05	1.00	Yes
Fluidized bed combustor	PAH	Naphthalene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	2.99E-04	9.94E-05	1.00	Yes
Fluidized bed combustor	PAH	Naphthalene	lbs/ton	EF	Coal	18	2.61E-04	5.60E-04	0.99	Coke	6	4.96E-05	5.03E-05	1.00	No
Fluidized bed combustor	PAH	Naphthalene	lbs/ton	EF	Coal	18	2.61E-04	5.60E-04	0.99	Wood waste	3	2.99E-04	9.94E-05	1.00	No
Fluidized bed combustor	PAH	Naphthalene	lbs/ton	EF	Coke	6	4.96E-05	5.03E-05	1.00	Wood waste	3	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	PAH	Phenanthrene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	18	3.15E-06	4.76E-06	0.33	Yes
Fluidized bed combustor	PAH	Phenanthrene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coke	6	5.35E-06	5.49E-06	1.00	Yes
Fluidized bed combustor	PAH	Phenanthrene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	1.92E-05	5.38E-06	1.00	Yes
Fluidized bed combustor	PAH	Phenanthrene	lbs/ton	EF	Coal	18	3.15E-06	4.76E-06	0.33	Coke	6	5.35E-06	5.49E-06	1.00	No
Fluidized bed combustor	PAH	Phenanthrene	lbs/ton	EF	Coal	18	3.15E-06	4.76E-06	0.33	Wood waste	3	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	PAH	Phenanthrene	lbs/ton	EF	Coke	6	5.35E-06	5.49E-06	1.00	Wood waste	3	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	PAH	Pyrene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	18	2.26E-06	4.83E-06	0.03	Yes
Fluidized bed combustor	PAH	Pyrene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coke	6	1.30E-06	1.70E-06	0.97	Yes
Fluidized bed combustor	PAH	Pyrene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	4.78E-06	1.66E-06	1.00	Yes
Fluidized bed combustor	PAH	Pyrene	lbs/ton	EF	Coal	18	2.26E-06	4.83E-06	0.03	Coke	6	1.30E-06	1.70E-06	0.97	No
Fluidized bed combustor	PAH	Pyrene	lbs/ton	EF	Coal	18	2.26E-06	4.83E-06	0.03	Wood waste	3	4.78E-06	1.66E-06	1.00	No
Fluidized bed combustor	PAH	Pyrene	lbs/ton	EF	Coke	6	1.30E-06	1.70E-06	0.97	Wood waste	3	[illegible]	[illegible]	1.00	Yes
Fluidized bed combustor	PCB	Decachlorinated biphenyls	lbs/ton	EF	Coal	3	2.45E-07	7.42E-09	0.00	Wood waste	3	6.47E-10	2.09E-10	0.00	Yes
Fluidized bed combustor	PCB	Dichlorinated biphenyls	lbs/ton	EF	Coal	3	1.13E-07	3.42E-09	0.00	Wood waste	3	1.53E-08	4.82E-09	0.00	Yes
Fluidized bed combustor	PCB	Heptachlorinated biphenyls	lbs/ton	EF	Coal	3	2.45E-07	7.42E-09	0.00	Wood waste	3	7.62E-10	8.58E-11	0.00	Yes
Fluidized bed combustor	PCB	Hexachlorinated biphenyls	lbs/ton	EF	Coal	3	1.76E-07	7.08E-09	0.00	Wood waste	3	1.32E-09	6.27E-10	0.00	Yes
Fluidized bed combustor	PCB	Monochlorinated biphenyls	lbs/ton	EF	Coal	3	1.13E-07	3.42E-09	0.00	Wood waste	3	2.43E-08	3.07E-09	1.00	Yes
Fluidized bed combustor	PCB	Nonachlorinated biphenyls	lbs/ton	EF	Coal	3	2.45E-07	7.42E-09	0.00	Wood waste	3	8.25E-10	2.77E-10	0.00	Yes

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Fluidized bed combustor	PCB	Octachlorinated biphenyls	lbs/ton	EF	Coal	3	2.45E-07	7.42E-09	0.00	Wood waste	3	1.16E-09	2.65E-10	0.00	Yes
Fluidized bed combustor	PCB	Pentachlorinated biphenyls	lbs/ton	EF	Coal	3	1.13E-07	3.42E-09	0.00	Wood waste	3	4.61E-09	1.92E-09	1.00	Yes
Fluidized bed combustor	PCB	Tetrachlorinated biphenyls	lbs/ton	EF	Coal	3	1.13E-07	3.42E-09	0.00	Wood waste	3	1.69E-08	4.54E-09	1.00	Yes
Fluidized bed combustor	PCB	Trichlorinated biphenyls	lbs/ton	EF	Coal	3	1.13E-07	3.42E-09	0.00	Wood waste	3	1.53E-08	4.09E-09	1.00	Yes
Fluidized bed combustor	VOC	Benzene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	0.76	Coal	3	2.67E-04	3.77E-05	1.00	Yes
Fluidized bed combustor	VOC	Benzene	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	0.76	Coke	3	1.60E-05	0.00E+00	0.00	Yes
Fluidized bed combustor	VOC	Benzene	lbs/ton	EF	Coal	3	[illegible]	[illegible]	1.00	Coke	3	1.60E-05	0.00E+00	0.00	Yes
Fluidized bed combustor	VOC	Formaldehyde	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Coal	18	2.53E-03	3.17E-03	0.97	Yes
Fluidized bed combustor	VOC	Formaldehyde	lbs/ton	EF	Agricultural waste	3	[illegible]	[illegible]	1.00	Wood waste	3	3.66E-04	1.35E-04	1.00	Yes
Fluidized bed combustor	VOC	Formaldehyde	lbs/ton	EF	Coal	18	2.53E-03	3.17E-03	0.97	Wood waste	3	3.66E-04	1.35E-04	1.00	No
Furnace, metal	Metals	Arsenic	lbs/ton production	EF	Alloy stock	3	5.36E-04	6.45E-04	1.00	Aluminum	9	2.57E-04	3.60E-04	0.00	No
Furnace, metal	Metals	Arsenic	lbs/ton production	EF	Alloy stock	3	5.36E-04	6.45E-04	1.00	Brass and bronze ingot	2	3.70E-05	5.82E-06	1.00	No
Furnace, metal	Metals	Arsenic	lbs/ton production	EF	Aluminum	9	2.57E-04	3.60E-04	0.00	Brass and bronze ingot	2	3.70E-05	5.82E-06	1.00	No
Furnace, metal	Metals	Beryllium	lbs/ton production	EF	Alloy stock	3	1.96E-03	5.75E-05	0.00	Aluminum	18	3.33E-05	3.32E-05	0.00	Yes
Furnace, metal	Metals	Beryllium	lbs/ton production	EF	Alloy stock	3	1.96E-03	5.75E-05	0.00	Brass and bronze ingot	3	5.76E-05	0.00E+00	0.00	Yes
Furnace, metal	Metals	Beryllium	lbs/ton production	EF	Aluminum	18	3.33E-05	3.32E-05	0.00	Brass and bronze ingot	3	5.76E-05	0.00E+00	0.00	No
Furnace, metal	Metals	Cadmium	lbs/ton production	EF	Alloy stock	3	2.26E-03	2.78E-03	1.00	Aluminum	18	5.17E-04	1.25E-03	1.00	No
Furnace, metal	Metals	Cadmium	lbs/ton production	EF	Alloy stock	3	2.26E-03	2.78E-03	1.00	Brass and bronze ingot	2	4.11E-05	3.49E-05	1.00	No
Furnace, metal	Metals	Cadmium	lbs/ton production	EF	Aluminum	18	5.17E-04	1.25E-03	1.00	Brass and bronze ingot	2	4.11E-05	3.49E-05	1.00	No
Furnace, metal	Metals	Chromium	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	12	1.49E-04	2.29E-04	1.00	Yes
Furnace, metal	Metals	Chromium	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Brass and bronze ingot	3	3.29E-04	1.65E-04	1.00	Yes
Furnace, metal	Metals	Chromium	lbs/ton production	EF	Aluminum	12	1.49E-04	2.29E-04	1.00	Brass and bronze ingot	3	3.29E-04	1.65E-04	1.00	No
Furnace, metal	Metals	Chromium (Hex)	lbs/ton production	EF	Alloy stock	3	6.86E-04	1.23E-04	0.00	Aluminum	12	3.07E-04	4.97E-04	0.04	No
Furnace, metal	Metals	Chromium (Hex)	lbs/ton production	EF	Alloy stock	3	6.86E-04	1.23E-04	0.00	Brass and bronze ingot	3	2.29E-03	2.07E-04	0.00	Yes
Furnace, metal	Metals	Chromium (Hex)	lbs/ton production	EF	Aluminum	12	3.07E-04	4.97E-04	0.04	Brass and bronze ingot	3	2.29E-03	2.07E-04	0.00	Yes
Furnace, metal	Metals	Copper	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	18	8.37E-04	1.42E-03	1.00	Yes
Furnace, metal	Metals	Copper	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Brass and bronze ingot	3	2.13E-03	1.41E-03	1.00	Yes
Furnace, metal	Metals	Copper	lbs/ton production	EF	Aluminum	18	8.37E-04	1.42E-03	1.00	Brass and bronze ingot	3	2.13E-03	1.41E-03	1.00	No
Furnace, metal	Metals	Lead	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	18	4.18E-04	4.96E-04	1.00	Yes
Furnace, metal	Metals	Lead	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Brass and bronze ingot	3	1.04E-03	2.76E-04	1.00	Yes
Furnace, metal	Metals	Lead	lbs/ton production	EF	Aluminum	18	4.18E-04	4.96E-04	1.00	Brass and bronze ingot	3	1.04E-03	2.76E-04	1.00	No
Furnace, metal	Metals	Manganese	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	18	2.36E-03	8.77E-03	1.00	Yes
Furnace, metal	Metals	Manganese	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Brass and bronze ingot	3	3.89E-04	3.86E-04	1.00	Yes
Furnace, metal	Metals	Manganese	lbs/ton production	EF	Aluminum	18	2.36E-03	8.77E-03	1.00	Brass and bronze ingot	3	3.89E-04	3.86E-04	1.00	No
Furnace, metal	Metals	Mercury	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	9	1.72E-05	2.13E-05	0.37	Yes
Furnace, metal	Metals	Mercury	lbs/ton production	EF	Alloy stock	3	2.15E-04	1.48E-04	1.00	Brass and bronze ingot	3	5.76E-05	8.23E-06	0.00	No
Furnace, metal	Metals	Mercury	lbs/ton production	EF	Aluminum	9	1.72E-05	2.13E-05	0.37	Brass and bronze ingot	3	5.76E-05	8.23E-06	0.00	Yes
Furnace, metal	Metals	Nickel	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	18	1.98E-04	2.24E-04	1.00	Yes
Furnace, metal	Metals	Nickel	lbs/ton production	EF	Alloy stock	3	5.73E-02	6.59E-02	1.00	Brass and bronze ingot	3	9.10E-04	8.28E-05	0.30	No
Furnace, metal	Metals	Nickel	lbs/ton production	EF	Aluminum	18	1.98E-04	2.24E-04	1.00	Brass and bronze ingot	3	[illegible]	[illegible]	0.30	Yes
Furnace, metal	Metals	Selenium	lbs/ton production	EF	Alloy stock	3	1.31E-04	4.10E-06	0.00	Aluminum	9	1.05E-04	1.43E-04	0.02	No
Furnace, metal	Metals	Selenium	lbs/ton production	EF	Alloy stock	3	1.31E-04	4.10E-06	0.00	Brass and bronze ingot	3	1.81E-04	8.23E-06	0.00	Yes
Furnace, metal	Metals	Selenium	lbs/ton production	EF	Aluminum	9	1.05E-04	1.43E-04	0.02	Brass and bronze ingot	3	1.81E-04	8.23E-06	0.00	No
Furnace, metal	Metals	Zinc	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Aluminum	9	3.33E-03	6.04E-03	1.00	Yes
Furnace, metal	Metals	Zinc	lbs/ton production	EF	Alloy stock	3	[illegible]	[illegible]	1.00	Brass and bronze ingot	3	1.14E-03	8.37E-04	1.00	Yes
Furnace, metal	Metals	Zinc	lbs/ton production	EF	Aluminum	9	3.33E-03	6.04E-03	1.00	Brass and bronze ingot	3	1.14E-03	8.37E-04	1.00	No
Furnace, metal	VOC	Hydrogen Sulfide	lbs/ton production	EF	Alloy stock	3	1.64E+00	1.89E-01	0.00	Aluminum	18	8.01E-02	1.14E-01	1.00	Yes
Heater	PAH	Acenaphthene	lbs/MMcf	EF	Natural gas	3	1.39E-06	2.32E-07	0.72	Natural gas/RFG	3	7.53E-06	9.16E-06	1.00	No
Heater	PAH	Acenaphthylene	lbs/MMcf	EF	Natural gas	3	1.21E-05	1.75E-05	0.97	Natural gas/RFG	3	5.88E-05	9.80E-05	1.00	No
Heater	PAH	Anthracene	lbs/MMcf	EF	Natural gas	3	1.61E-06	3.97E-07	0.76	Natural gas/RFG	3	[illegible]	[illegible]	1.00	Yes
Heater	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Natural gas	3	1.41E-06	4.21E-07	0.45	Natural gas/RFG	3	9.57E-06	6.40E-06	1.00	No
Heater	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Natural gas	3	1.14E-06	5.42E-08	0.00	Natural gas/RFG	3	6.07E-06	5.27E-06	0.97	No
Heater	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Natural gas	3	1.14E-06	5.42E-08	0.00	Natural gas/RFG	3	2.63E-06	1.35E-06	1.00	No
Heater	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Natural gas	3	[illegible]	[illegible]	0.30	Natural gas/RFG	3	4.13E-07	4.69E-07	0.77	Yes
Heater	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Natural gas	3	1.14E-06	5.42E-08	0.00	Natural gas/RFG	3	1.46E-06	1.51E-06	0.92	No
Heater	PAH	Chrysene	lbs/MMcf	EF	Natural gas	3	1.39E-06	3.84E-07	0.44	Natural gas/RFG	3	7.91E-07	3.98E-07	0.52	No
Heater	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Natural gas	3	1.14E-06	5.42E-08	0.00	Natural gas/RFG	3	1.38E-07	6.00E-08	0.00	Yes
Heater	PAH	Fluoranthene	lbs/MMcf	EF	Natural gas	3	1.19E-05	5.48E-06	1.00	Natural gas/RFG	3	1.80E-05	1.76E-05	1.00	No
Heater	PAH	Fluorene	lbs/MMcf	EF	Natural gas	3	4.59E-06	1.18E-06	1.00	Natural gas/RFG	3	6.48E-04	9.05E-04	1.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Heater	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Natural gas	3	1.14E-06	5.42E-08	0.00	Natural gas/RFG	3	4.56E-07	1.91E-07	0.49	Yes
Heater	PAH	Naphthalene	lbs/MMcf	EF	Natural gas	3	2.37E-04	4.33E-05	1.00	Natural gas/RFG	3	2.31E-03	3.35E-03	1.00	No
Heater	PAH	Phenanthrene	lbs/MMcf	EF	Natural gas	3	3.37E-05	1.35E-05	1.00	Natural gas/RFG	3	2.06E-04	1.94E-04	1.00	No
Heater	PAH	Pyrene	lbs/MMcf	EF	Natural gas	3	5.60E-06	5.24E-06	1.00	Natural gas/RFG	3	1.25E-05	1.20E-05	1.00	No
Heater	VOC	Acetaldehyde	lbs/MMcf	EF	Natural gas	3	4.61E-03	2.06E-04	0.32	Natural gas/RFG	3	[illegible]	[illegible]	[illegible]	Yes
Heater	VOC	Acrolein	lbs/MMcf	EF	Natural gas	3	4.51E-03	1.65E-04	0.00	Natural gas/RFG	3	2.29E-03	4.86E-04	0.00	Yes
Heater	VOC	Benzene	lbs/MMcf	EF	Natural gas	3	2.34E-03	1.19E-03	0.53	Natural gas/RFG	3	2.12E-02	2.76E-03	0.00	Yes
Heater	VOC	Formaldehyde	lbs/MMcf	EF	Natural gas	3	4.75E-03	5.11E-04	0.37	Natural gas/RFG	3	4.33E-02	3.96E-02	1.00	No
Heater	VOC	Propylene	lbs/MMcf	EF	Natural gas	3	[illegible]	[illegible]	1.00	Natural gas/RFG	3	1.20E-02	1.57E-03	0.00	Yes
Heater	VOC	Toluene	lbs/MMcf	EF	Natural gas	3	3.23E-02	3.68E-02	1.00	Natural gas/RFG	3	2.63E-02	3.43E-03	0.00	No
Heater	VOC	Total Xylene	lbs/MMcf	EF	Natural gas	3	1.87E-02	1.21E-02	1.00	Natural gas/RFG	3	3.03E-02	3.95E-03	0.00	No
Internal combustion engine	PAH	Acenaphthene	lbs/MMcf	EF	Field gas	2	7.41E-04	4.82E-04	0.00	Landfill gas	4	1.93E-04	9.65E-05	0.46	No
Internal combustion engine	PAH	Acenaphthene	lbs/MMcf	EF	Field gas	2	7.41E-04	4.82E-04	0.00	Natural gas	15	1.02E-03	1.02E-03	1.00	No
Internal combustion engine	PAH	Acenaphthene	lbs/MMcf	EF	Landfill gas	4	1.93E-04	9.65E-05	0.46	Natural gas	15	1.02E-03	1.02E-03	1.00	No
Internal combustion engine	PAH	Acenaphthylene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Landfill gas	6	1.11E-03	5.38E-04	1.00	Yes
Internal combustion engine	PAH	Acenaphthylene	lbs/MMcf	EF	Field gas	2	1.11E-02	6.53E-03	1.00	Natural gas	15	8.81E-03	8.37E-03	1.00	No
Internal combustion engine	PAH	Acenaphthylene	lbs/MMcf	EF	Landfill gas	6	1.11E-03	5.38E-04	1.00	Natural gas	15	[illegible]	[illegible]	[illegible]	Yes
Internal combustion engine	PAH	Anthracene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Landfill gas	6	4.32E-04	3.52E-04	0.72	Yes
Internal combustion engine	PAH	Anthracene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Natural gas	15	6.00E-04	7.15E-04	1.00	Yes
Internal combustion engine	PAH	Anthracene	lbs/MMcf	EF	Landfill gas	6	4.32E-04	3.52E-04	0.72	Natural gas	15	6.00E-04	7.15E-04	1.00	No
Internal combustion engine	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Landfill gas	3	2.24E-04	5.71E-05	0.00	Yes
Internal combustion engine	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Field gas	2	8.97E-04	1.95E-05	1.00	Natural gas	15	4.99E-04	8.12E-04	1.00	No
Internal combustion engine	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Landfill gas	3	2.24E-04	5.71E-05	0.00	Natural gas	15	4.99E-04	8.12E-04	1.00	No
Internal combustion engine	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Field gas	2	8.75E-04	9.31E-04	0.00	Landfill gas	4	3.61E-04	2.52E-04	0.87	No
Internal combustion engine	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Field gas	2	8.75E-04	9.31E-04	0.00	Natural gas	15	8.98E-05	1.23E-04	0.97	Yes
Internal combustion engine	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Landfill gas	4	[illegible]	[illegible]	0.87	Natural gas	15	8.98E-05	1.23E-04	0.97	Yes
Internal combustion engine	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Field gas	2	1.48E-04	3.31E-05	0.00	Landfill gas	5	5.13E-04	1.95E-04	0.56	No
Internal combustion engine	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Field gas	2	1.48E-04	3.31E-05	0.00	Natural gas	15	5.88E-04	1.00E-03	0.99	No
Internal combustion engine	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Landfill gas	5	5.13E-04	1.95E-04	0.56	Natural gas	15	5.88E-04	1.00E-03	0.99	No
Internal combustion engine	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Field gas	2	9.40E-05	7.27E-06	0.00	Landfill gas	8	[illegible]	[illegible]	1.00	Yes
Internal combustion engine	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Field gas	2	9.40E-05	7.27E-06	0.00	Natural gas	15	4.53E-04	7.83E-04	1.00	No
Internal combustion engine	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Landfill gas	5	5.55E-04	2.35E-04	1.00	Natural gas	15	4.53E-04	7.83E-04	1.00	No
Internal combustion engine	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Landfill gas	3	4.26E-04	2.44E-04	0.15	Yes
Internal combustion engine	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Natural gas	15	2.14E-04	3.03E-04	0.99	Yes
Internal combustion engine	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Landfill gas	3	4.26E-04	2.44E-04	0.15	Natural gas	15	2.14E-04	3.03E-04	0.99	No
Internal combustion engine	PAH	Chrysene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Landfill gas	3	3.10E-04	5.16E-05	0.00	Yes
Internal combustion engine	PAH	Chrysene	lbs/MMcf	EF	Field gas	2	[illegible]	[illegible]	1.00	Natural gas	15	3.30E-04	6.21E-04	1.00	Yes
Internal combustion engine	PAH	Chrysene	lbs/MMcf	EF	Landfill gas	3	3.10E-04	5.16E-05	0.00	Natural gas	15	3.30E-04	6.21E-04	1.00	No
Internal combustion engine	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Field gas	2	7.70E-05	8.37E-06	0.00	Landfill gas	3	1.82E-05	6.05E-06	0.00	Yes
Internal combustion engine	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Field gas	2	7.70E-05	8.37E-06	0.00	Natural gas	15	2.55E-05	4.05E-05	0.96	No
Internal combustion engine	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Landfill gas	3	1.82E-05	6.05E-06	0.00	Natural gas	15	2.55E-05	4.05E-05	0.96	No
Internal combustion engine	PAH	Fluoranthene	lbs/MMcf	EF	Field gas	2	1.66E-04	7.13E-05	0.00	Landfill gas	6	[illegible]	[illegible]	1.00	Yes
Internal combustion engine	PAH	Fluoranthene	lbs/MMcf	EF	Field gas	2	1.66E-04	7.13E-05	0.00	Natural gas	15	1.33E-03	1.84E-03	1.00	No
Internal combustion engine	PAH	Fluoranthene	lbs/MMcf	EF	Landfill gas	6	1.61E-03	6.06E-04	1.00	Natural gas	15	1.33E-03	1.84E-03	1.00	No
Internal combustion engine	PAH	Fluorene	lbs/MMcf	EF	Field gas	2	2.44E-03	1.65E-03	0.00	Landfill gas	5	5.03E-04	1.63E-04	1.00	Yes
Internal combustion engine	PAH	Fluorene	lbs/MMcf	EF	Field gas	2	2.44E-03	1.65E-03	0.00	Natural gas	15	3.53E-03	4.08E-03	0.97	No
Internal combustion engine	PAH	Fluorene	lbs/MMcf	EF	Landfill gas	5	5.03E-04	1.63E-04	1.00	Natural gas	15	3.53E-03	4.08E-03	0.97	No
Internal combustion engine	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Field gas	2	1.37E-04	1.21E-05	0.00	Landfill gas	5	2.07E-04	7.44E-05	1.00	No
Internal combustion engine	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Field gas	2	1.37E-04	1.21E-05	0.00	Natural gas	15	3.87E-04	6.51E-04	1.00	No
Internal combustion engine	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Landfill gas	5	2.07E-04	7.44E-05	1.00	Natural gas	15	3.87E-04	6.51E-04	1.00	No
Internal combustion engine	PAH	Naphthalene	lbs/MMcf	EF	Field gas	2	2.19E-01	4.13E-03	1.00	Landfill gas	6	9.73E-02	1.52E-01	1.00	No
Internal combustion engine	PAH	Naphthalene	lbs/MMcf	EF	Field gas	2	2.19E-01	4.13E-03	1.00	Natural gas	15	1.13E-01	1.18E-01	1.00	No
Internal combustion engine	PAH	Naphthalene	lbs/MMcf	EF	Landfill gas	6	9.73E-02	1.52E-01	1.00	Natural gas	15	1.13E-01	1.18E-01	1.00	No
Internal combustion engine	PAH	Phenanthrene	lbs/MMcf	EF	Field gas	2	4.91E-03	2.23E-03	1.00	Landfill gas	6	3.74E-03	1.64E-03	1.00	No
Internal combustion engine	PAH	Phenanthrene	lbs/MMcf	EF	Field gas	2	4.91E-03	2.23E-03	1.00	Natural gas	15	7.17E-03	9.89E-03	1.00	No
Internal combustion engine	PAH	Phenanthrene	lbs/MMcf	EF	Landfill gas	6	3.74E-03	1.64E-03	1.00	Natural gas	15	7.17E-03	9.89E-03	1.00	No
Internal combustion engine	PAH	Pyrene	lbs/MMcf	EF	Field gas	2	2.39E-04	9.57E-05	0.64	Landfill gas	8	[illegible]	[illegible]	[illegible]	Yes
Internal combustion engine	PAH	Pyrene	lbs/MMcf	EF	Field gas	2	2.39E-04	9.57E-05	0.64	Natural gas	15	1.74E-03	2.53E-03	1.00	No
Internal combustion engine	PAH	Pyrene	lbs/MMcf	EF	Landfill gas	8	2.92E-03	1.19E-03	1.00	Natural gas	15	1.74E-03	2.53E-03	1.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Internal combustion engine	VOC	Acetaldehyde	lbs/MMcf	EF	Field gas	3	4.77E+00	2.88E+00	1.00	Natural gas	30	2.32E+00	2.55E+00	0.99	Yes
Internal combustion engine	VOC	Acrolein	lbs/MMcf	EF	Field gas	3	2.00E+00	2.13E+00	1.00	Natural gas	29	9.74E-01	1.25E+00	0.99	No
Internal combustion engine	VOC	Benzene	lbs/MMcf	EF	Field gas	13	5.81E+00	4.71E+00	1.00	Landfill gas	6	1.75E-01	3.97E-02	1.00	Yes
Internal combustion engine	VOC	Benzene	lbs/MMcf	EF	Field gas	13	5.81E+00	4.71E+00	1.00	Natural gas	34	1.33E+00	2.28E+00	1.00	Yes
Internal combustion engine	VOC	Benzene	lbs/MMcf	EF	Landfill gas	6	1.75E-01	3.97E-02	1.00	Natural gas	34	1.33E+00	2.28E+00	1.00	No
Internal combustion engine	VOC	Formaldehyde	lbs/MMcf	EF	Field gas	13	2.98E+01	3.32E+01	1.00	Landfill gas	6	1.29E+00	1.64E+00	1.00	Yes
Internal combustion engine	VOC	Formaldehyde	lbs/MMcf	EF	Field gas	13	2.98E+01	3.32E+01	1.00	Natural gas	63	1.15E+01	1.45E+01	0.99	Yes
Internal combustion engine	VOC	Formaldehyde	lbs/MMcf	EF	Landfill gas	6	1.29E+00	1.64E+00	1.00	Natural gas	63	1.15E+01	1.45E+01	0.99	No
Internal combustion engine	VOC	m,p-xylene	lbs/MMcf	EF	Field gas	13	4.14E-01	2.15E-01	1.00	Natural gas	16	1.31E-01	1.27E-01	1.00	Yes
Internal combustion engine	VOC	o-xylene	lbs/MMcf	EF	Field gas	13	1.32E-01	1.28E-01	1.00	Natural gas	16	7.03E-02	6.00E-02	0.97	Yes
Internal combustion engine	VOC	Propylene	lbs/MMcf	EF	Field gas	13	1.74E+01	1.16E+01	0.97	Natural gas	28	1.44E+01	1.74E+01	0.98	No
Internal combustion engine	VOC	Toluene	lbs/MMcf	EF	Field gas	13	1.96E+00	1.71E+00	1.00	Natural gas	28	5.49E-01	6.15E-01	1.00	Yes
Plating operation	Metals	Chromium	mg/amp-hr	EF	Anodizing	11	2.37E-01	2.20E-01	0.91	Hard	19	2.93E-02	2.38E-02	0.62	Yes
Plating operation	Metals	Chromium (Hex)	mg/amp-hr	EF	Anodizing	11	2.16E-01	2.09E-01	0.91	Hard	17	1.57E-02	8.70E-03	0.52	Yes
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Devolatizer	1	4.09E-06		1.00	Extruder	1	1.11E-06		1.00	NA
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Devolatizer	1	4.09E-06		1.00	Mix Tank	1	4.35E-08		1.00	NA
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Devolatizer	1	4.09E-06		1.00	Reactor	3	2.43E-07	3.87E-07	1.00	Yes
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Devolatizer	1	4.09E-06		1.00	Storage Silo	4	5.60E-06	7.44E-06	1.00	No
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Extruder	1	1.11E-06		1.00	Mix Tank	1	4.35E-08		1.00	NA
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Extruder	1	1.11E-06		1.00	Reactor	3	2.43E-07	3.87E-07	1.00	No
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Extruder	1	1.11E-06		1.00	Storage Silo	4	5.60E-06	7.44E-06	1.00	No
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Mix Tank	1	4.35E-08		1.00	Reactor	3	2.43E-07	3.87E-07	1.00	No
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Mix Tank	1	4.35E-08		1.00	Storage Silo	4	5.60E-06	7.44E-06	1.00	No
Polystyrene manufacturing	SVOC	Ethylbenzene	lbs/lbs production	EF	Reactor	3	2.43E-07	3.87E-07	1.00	Storage Silo	4	5.60E-06	7.44E-06	1.00	No
Polystyrene manufacturing	VOC	Benzene	lbs/lbs production	EF	Devolatizer	1	1.29E-09		0.00	Extruder	1	1.11E-07		0.00	NA
Polystyrene manufacturing	VOC	Benzene	lbs/lbs production	EF	Devolatizer	1	1.29E-09		0.00	Mix Tank	1	2.75E-09		0.00	NA
Polystyrene manufacturing	VOC	Benzene	lbs/lbs production	EF	Devolatizer	1	1.29E-09		0.00	Reactor	1	2.76E-09		0.00	NA
Polystyrene manufacturing	VOC	Benzene	lbs/lbs production	EF	Extruder	1	1.11E-07		0.00	Mix Tank	1	2.75E-09		0.00	NA
Polystyrene manufacturing	VOC	Benzene	lbs/lbs production	EF	Extruder	1	1.11E-07		0.00	Reactor	1	2.76E-09		0.00	NA
Polystyrene manufacturing	VOC	Benzene	lbs/lbs production	EF	Mix Tank	1	2.75E-09		0.00	Reactor	1	2.76E-09		0.00	NA
Polystyrene manufacturing	VOC	m,p-Xylene	lbs/lbs production	EF	Devolatizer	1	1.96E-07		1.00	Extruder	1	1.53E-07		0.00	NA
Polystyrene manufacturing	VOC	m,p-Xylene	lbs/lbs production	EF	Devolatizer	1	1.96E-07		1.00	Mix Tank	1	3.67E-09		0.00	NA
Polystyrene manufacturing	VOC	m,p-Xylene	lbs/lbs production	EF	Devolatizer	1	1.96E-07		1.00	Reactor	1	2.00E-08		1.00	NA
Polystyrene manufacturing	VOC	m,p-Xylene	lbs/lbs production	EF	Extruder	1	1.53E-07		0.00	Mix Tank	1	3.67E-09		0.00	NA
Polystyrene manufacturing	VOC	m,p-Xylene	lbs/lbs production	EF	Extruder	1	1.53E-07		0.00	Reactor	1	2.00E-08		1.00	NA
Polystyrene manufacturing	VOC	m,p-Xylene	lbs/lbs production	EF	Mix Tank	1	3.67E-09		0.00	Reactor	1	2.00E-08		1.00	NA
Polystyrene manufacturing	VOC	o-Xylene	lbs/lbs production	EF	Devolatizer	1	6.22E-08		1.00	Extruder	1	1.53E-07		0.00	NA
Polystyrene manufacturing	VOC	o-Xylene	lbs/lbs production	EF	Devolatizer	1	6.22E-08		1.00	Mix Tank	1	3.67E-09		0.00	NA
Polystyrene manufacturing	VOC	o-Xylene	lbs/lbs production	EF	Devolatizer	1	6.22E-08		1.00	Reactor	1	3.68E-09		0.00	NA
Polystyrene manufacturing	VOC	o-Xylene	lbs/lbs production	EF	Extruder	1	1.53E-07		0.00	Mix Tank	1	3.67E-09		0.00	NA
Polystyrene manufacturing	VOC	o-Xylene	lbs/lbs production	EF	Extruder	1	1.53E-07		0.00	Reactor	1	3.68E-09		0.00	NA
Polystyrene manufacturing	VOC	o-Xylene	lbs/lbs production	EF	Mix Tank	1	3.67E-09		0.00	Reactor	1	3.68E-09		0.00	NA
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Devolatizer	1	2.36E-05		1.00	Extruder	1	1.53E-05		1.00	NA
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Devolatizer	1	2.36E-05		1.00	Mix Tank	1	2.41E-05		1.00	NA
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Devolatizer	1	2.36E-05		1.00	Reactor	3	8.41E-06	1.42E-05	1.00	No
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Devolatizer	1	2.36E-05		1.00	Storage Silo	5	2.87E-05	3.93E-05	1.00	No
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Extruder	1	1.53E-05		1.00	Mix Tank	1	2.41E-05		1.00	NA
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Extruder	1	1.53E-05		1.00	Reactor	3	8.41E-06	1.42E-05	1.00	No
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Extruder	1	1.53E-05		1.00	Storage Silo	5	2.87E-05	3.93E-05	1.00	No
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Mix Tank	1	2.41E-05		1.00	Reactor	3	8.41E-06	1.42E-05	1.00	No
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Mix Tank	1	2.41E-05		1.00	Storage Silo	5	2.87E-05	3.93E-05	1.00	No
Polystyrene manufacturing	VOC	Styrene	lbs/lbs production	EF	Reactor	3	8.41E-06	1.42E-05	1.00	Storage Silo	5	2.87E-05	3.93E-05	1.00	No
Polystyrene manufacturing	VOC	Toluene	lbs/lbs production	EF	Devolatizer	1	2.98E-07		1.00	Extruder	1	2.34E-07		1.00	NA
Polystyrene manufacturing	VOC	Toluene	lbs/lbs production	EF	Devolatizer	1	2.98E-07		1.00	Mix Tank	1	2.75E-09		1.00	NA
Polystyrene manufacturing	VOC	Toluene	lbs/lbs production	EF	Devolatizer	1	2.98E-07		1.00	Reactor	1	4.37E-08		1.00	NA
Polystyrene manufacturing	VOC	Toluene	lbs/lbs production	EF	Extruder	1	2.34E-07		1.00	Mix Tank	1	2.75E-09		1.00	NA
Polystyrene manufacturing	VOC	Toluene	lbs/lbs production	EF	Extruder	1	2.34E-07		1.00	Reactor	1	4.37E-08		1.00	NA
Polystyrene manufacturing	VOC	Toluene	lbs/lbs production	EF	Mix Tank	1	2.75E-09		1.00	Reactor	1	4.37E-08		1.00	NA
Steam generator	VOC	Benzene	lbs/MMcf	EF	Natural gas	3	3.88E-03	5.82E-11	0.00	Natural gas/CVR gas	6	4.39E-03	1.92E-03	0.00	No

TABLE A6-1a. MAJOR GROUP COMPARISON (t-statistics).

System Type	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Steam generator	VOC	Formaldehyde	lbs/MMcf	EF	Natural gas	3	8.72E-03	6.29E-03	1.00	Natural gas/CVR gas	3	5.23E-03	3.59E-04	0.32	No
Steam generator	VOC	Toluene	lbs/MMcf	EF	Natural gas	3	1.20E-02	1.65E-10	0.00	Natural gas/CVR gas	6	2.21E-02	5.61E-03	1.00	Yes
Steam generator	VOC	Total Xylene	lbs/MMcf	EF	Natural gas	3	2.77E-02	4.66E-10	0.00	Natural gas/CVR gas	6	1.81E-02	1.10E-02	0.60	No
Turbine	PAH	Acenaphthene	lbs/Mgal	EF	Diesel	3	3.21E-05	2.63E-05	1.00	No. 2 distillate oil	12	7.37E-05	1.07E-04	0.11	No
Turbine	PAH	Acenaphthene	lbs/MMcf	EF	Field gas	3	1.62E-05	8.40E-06	0.75	Natural gas	18	1.90E-05	3.47E-05	0.16	No
Turbine	PAH	Acenaphthylene	lbs/Mgal	EF	Diesel	3	4.14E-06	1.86E-06	0.79	No. 2 distillate oil	12	6.67E-05	1.10E-04	0.07	No
Turbine	PAH	Acenaphthylene	lbs/MMcf	EF	Field gas	3	1.10E-06	1.23E-07	0.00	Natural gas	18	1.47E-05	2.77E-05	0.40	No
Turbine	PAH	Anthracene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	8.07E-05	1.05E-04	0.18	No
Turbine	PAH	Anthracene	lbs/MMcf	EF	Field gas	3	2.48E-07	5.96E-08	0.00	Natural gas	18	3.38E-05	4.77E-05	0.49	No
Turbine	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	6.54E-05	1.11E-04	0.01	No
Turbine	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Field gas	3	3.30E-07	1.25E-07	0.00	Natural gas	18	2.26E-05	4.55E-05	0.04	No
Turbine	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	6.62E-05	1.10E-04	0.05	No
Turbine	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Field gas	3	7.99E-07	3.53E-07	0.00	Natural gas	18	1.39E-05	2.71E-05	0.37	No
Turbine	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Field gas	3	1.44E-06	5.60E-07	0.47	Natural gas	18	1.13E-05	1.97E-05	0.04	No
Turbine	PAH	Benzo(b+k)fluoranthene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	3	3.23E-06	3.82E-07	0.00	Yes
Turbine	PAH	Benzo(e)pyrene	lbs/MMcf	EF	Field gas	3	2.24E-06	1.47E-06	0.27	Natural gas	3	5.44E-07	1.64E-07	0.00	No
Turbine	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	6.24E-05	1.12E-04	0.01	No
Turbine	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Field gas	3	5.31E-06	2.42E-06	0.17	Natural gas	18	1.37E-05	2.54E-05	0.01	No
Turbine	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Field gas	3	4.25E-07	1.62E-07	0.00	Natural gas	18	1.10E-05	1.98E-05	0.02	No
Turbine	PAH	Chrysene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	7.91E-05	1.08E-04	0.20	No
Turbine	PAH	Chrysene	lbs/MMcf	EF	Field gas	3	1.95E-05	7.66E-06	1.00	Natural gas	18	2.52E-05	4.90E-05	0.05	No
Turbine	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	6.24E-05	1.12E-04	0.01	No
Turbine	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Field gas	3	6.91E-06	3.08E-06	0.00	Natural gas	18	2.35E-05	4.72E-05	0.00	No
Turbine	PAH	Fluoranthene	lbs/Mgal	EF	Diesel	3	8.11E-06	5.77E-06	1.00	No. 2 distillate oil	12	9.82E-05	1.13E-04	0.38	No
Turbine	PAH	Fluoranthene	lbs/MMcf	EF	Field gas	3	1.46E-05	6.04E-06	1.00	Natural gas	18	4.32E-05	8.37E-05	1.00	No
Turbine	PAH	Fluorene	lbs/Mgal	EF	Diesel	3	1.77E-05	1.45E-05	0.95	No. 2 distillate oil	12	9.97E-05	1.02E-04	0.32	No
Turbine	PAH	Fluorene	lbs/MMcf	EF	Field gas	3	6.03E-05	4.90E-05	1.00	Natural gas	18	5.80E-05	1.12E-04	1.00	No
Turbine	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 distillate oil	12	6.25E-05	1.12E-04	0.01	No
Turbine	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Field gas	3	3.92E-06	1.74E-06	0.00	Natural gas	18	2.35E-05	4.72E-05	0.01	No
Turbine	PAH	Naphthalene	lbs/Mgal	EF	Diesel	3	5.92E-03	7.08E-04	1.00	No. 2 distillate oil	12	6.78E-03	9.39E-03	1.00	No
Turbine	PAH	Naphthalene	lbs/MMcf	EF	Field gas	3	8.78E-03	7.32E-04	1.00	Natural gas	18	1.66E-03	2.26E-03	0.85	Yes
Turbine	PAH	Phenanthrene	lbs/Mgal	EF	Diesel	3	2.13E-05	1.47E-05	1.00	No. 2 distillate oil	12	3.38E-04	5.62E-04	1.00	No
Turbine	PAH	Phenanthrene	lbs/MMcf	EF	Field gas	3	6.19E-05	2.43E-05	1.00	Natural gas	18	3.13E-04	5.99E-04	0.99	No
Turbine	PAH	Pyrene	lbs/Mgal	EF	Diesel	3	4.46E-06	2.12E-06	0.81	No. 2 distillate oil	12	8.22E-05	1.04E-04	0.25	No
Turbine	PAH	Pyrene	lbs/MMcf	EF	Field gas	3	1.28E-05	5.90E-06	1.00	Natural gas	18	2.77E-05	3.76E-05	1.00	No
Turbine	SVOC	2-Chloronaphthalene	lbs/MMcf	EF	Field gas	3	8.53E-08	1.55E-08	0.00	Natural gas	3	2.72E-07	1.70E-07	0.00	No
Turbine	SVOC	2-Methylnaphthalene	lbs/MMcf	EF	Field gas	3	6.10E-06	1.28E-06	1.00	Natural gas	3	5.29E-06	9.20E-07	1.00	Yes
Turbine	SVOC	Perylene	lbs/MMcf	EF	Field gas	3	8.62E-07	2.68E-07	0.00	Natural gas	3	7.00E-07	2.32E-07	0.00	No
Turbine	VOC	Benzene	lbs/MMcf	EF	Field gas	3	1.46E-02	3.81E-04	0.00	Landfill gas	3	3.96E-01	3.44E-01	1.00	No
Turbine	VOC	Benzene	lbs/MMcf	EF	Field gas	3	1.46E-02	3.81E-04	0.00	Natural gas	21	1.36E-02	9.82E-03	0.43	No
Turbine	VOC	Benzene	lbs/MMcf	EF	Landfill gas	3	3.96E-01	3.44E-01	1.00	Natural gas	21	1.36E-02	9.82E-03	0.43	Yes
Turbine	VOC	Formaldehyde	lbs/MMcf	EF	Field gas	3	1.84E-01	8.55E-02	1.00	Landfill gas	3	1.80E-01	1.73E-02	1.00	No
Turbine	VOC	Formaldehyde	lbs/MMcf	EF	Field gas	3	1.84E-01	8.55E-02	1.00	Natural gas	23	1.25E+00	2.96E+00	1.00	No
Turbine	VOC	Formaldehyde	lbs/MMcf	EF	Landfill gas	3	1.80E-01	1.73E-02	1.00	Natural gas	23	1.25E+00	2.96E+00	1.00	No

TABLE A6-2a. FUEL/MATERIAL TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Oil	Metals	Arsenic	lbs/ton production	EF	Fuel Oil	2	8.52E-06	1.19E-06	0.00	Process Oil 70	3	2.37E-06	1.60E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Beryllium	lbs/ton production	EF	Fuel Oil	3	7.94E-07	1.12E-07	0.00	Process Oil 70	3	4.16E-07	2.80E-08	0.00	Yes
Asphalt Prod., Oil	Metals	Cadmium	lbs/ton production	EF	Fuel Oil	3	2.02E-06	5.43E-07	0.43	Process Oil 70	3	7.67E-07	9.69E-07	0.82	No
Asphalt Prod., Oil	Metals	Chromium	lbs/ton production	EF	Fuel Oil	3	6.57E-05	8.46E-05	1.00	Process Oil 70	3	9.04E-06	7.40E-06	1.00	No
Asphalt Prod., Oil	Metals	Chromium (Hex)	lbs/ton production	EF	Fuel Oil	3	1.01E-06	6.40E-07	0.79	Process Oil 70	3	1.04E-07	3.14E-08	1.00	Yes
Asphalt Prod., Oil	Metals	Copper	lbs/ton production	EF	Fuel Oil	3	2.92E-06	2.13E-06	1.00	Process Oil 70	3	6.01E-06	2.96E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Lead	lbs/ton production	EF	Fuel Oil	2	1.15E-05	0.00E+00	1.00	Process Oil 70	3	1.41E-06	5.50E-07	1.00	Yes
Asphalt Prod., Oil	Metals	Manganese	lbs/ton production	EF	Fuel Oil	3	2.25E-04	5.83E-05	1.00	Process Oil 70	3	1.40E-04	7.79E-05	1.00	No
Asphalt Prod., Oil	Metals	Mercury	lbs/ton production	EF	Fuel Oil	3	7.87E-06	1.24E-06	1.00	Process Oil 70	3	7.02E-06	5.71E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Nickel	lbs/ton production	EF	Fuel Oil	3	3.60E-06	5.53E-06	1.00	Process Oil 70	3	8.42E-06	2.63E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Selenium	lbs/ton production	EF	Fuel Oil	3	2.71E-05	3.22E-05	0.79	Process Oil 70	3	2.08E-07	1.40E-08	0.00	No
Asphalt Prod., Oil	Metals	Zinc	lbs/ton production	EF	Fuel Oil	2	2.19E-04	1.20E-05	1.00	Process Oil 70	3	2.52E-05	8.55E-06	1.00	Yes
Asphalt Prod., Oil	PAH	Acenaphthene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	3.06E-07	8.20E-08	1.00	Yes
Asphalt Prod., Oil	PAH	Acenaphthylene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	5.26E-07	2.35E-07	1.00	No
Asphalt Prod., Oil	PAH	Anthracene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	5.74E-08	1.78E-08	1.00	Yes
Asphalt Prod., Oil	PAH	Benzo(a)anthracene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	1.11E-08	2.14E-09	1.00	Yes
Asphalt Prod., Oil	PAH	Benzo(a)pyrene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	1.84E-09	1.84E-09	0.72	Yes
Asphalt Prod., Oil	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	1.20E-09	2.59E-10	0.75	Yes
Asphalt Prod., Oil	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	Chrysene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	Fluoranthene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	3.57E-08	9.68E-09	1.00	Yes
Asphalt Prod., Oil	PAH	Fluorene	lbs/ton production	EF	Fuel Oil	3	9.14E-07	1.83E-07	1.00	Process Oil 70	3	6.58E-07	2.07E-07	1.00	No
Asphalt Prod., Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	Naphthalene	lbs/ton production	EF	Fuel Oil	3	3.84E-04	1.07E-04	1.00	Process Oil 70	3	3.08E-05	2.70E-06	1.00	Yes
Asphalt Prod., Oil	PAH	Phenanthrene	lbs/ton production	EF	Fuel Oil	3	1.98E-06	7.00E-07	1.00	Process Oil 70	3	6.64E-07	2.18E-07	1.00	Yes
Asphalt Prod., Oil	PAH	Pyrene	lbs/ton production	EF	Fuel Oil	3	6.13E-07	1.17E-07	0.00	Process Oil 70	3	5.62E-08	2.23E-08	1.00	Yes
Asphalt Prod., Oil	VOC	Benzene	lbs/ton production	EF	Fuel Oil	3	2.02E-05	5.00E-06	0.71	Process Oil 70	3	5.98E-06	1.11E-06	1.00	Yes
Asphalt Prod., Oil	VOC	Formaldehyde	lbs/ton production	EF	Fuel Oil	3	3.22E-04	2.07E-04	1.00	Process Oil 70	3	1.38E-04	2.29E-05	1.00	No
Boiler, Fuel Oil	Metals	Antimony	lbs/Mgal	EF	No. 6 Fuel Oil	3	1.64E-03	4.95E-04	1.00	Residual Fuel	3	5.42E-04	3.87E-04	0.00	Yes
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	No. 6 Fuel Oil	27	8.55E-04	8.16E-04	0.72	Residual Fuel	3	4.14E-05	5.55E-06	0.00	No
Boiler, Fuel Oil	Metals	Barium	lbs/Mgal	EF	No. 6 Fuel Oil	3	2.23E-02	6.41E-03	1.00	Residual Fuel	3	7.78E-03	1.14E-02	1.00	No
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	No. 6 Fuel Oil	27	3.60E-04	9.61E-04	0.94	Residual Fuel	3	1.65E-05	1.90E-06	0.00	No
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	No. 6 Fuel Oil	27	2.85E-03	9.76E-03	0.96	Residual Fuel	3	1.65E-04	1.90E-05	0.00	No
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	No. 6 Fuel Oil	27	1.49E-03	1.89E-03	0.85	Residual Fuel	3	3.42E-04	2.59E-04	0.62	No
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	No. 6 Fuel Oil	24	3.22E-04	3.44E-04	0.30	Residual Fuel	3	6.05E-05	7.01E-05	0.88	No
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	No. 6 Fuel Oil	27	3.96E-03	4.57E-03	1.00	Residual Fuel	3	1.70E-03	3.54E-04	1.00	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	No. 6 Fuel Oil	27	4.45E-03	9.37E-03	0.90	Residual Fuel	3	3.31E-04	4.61E-05	0.00	No
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	No. 6 Fuel Oil	27	2.26E-02	1.05E-01	0.99	Residual Fuel	3	5.51E-03	9.22E-03	0.99	No
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	No. 6 Fuel Oil	27	1.17E-03	1.75E-03	0.10	Residual Fuel	3	8.28E-05	1.11E-05	0.00	No
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	No. 6 Fuel Oil	27	1.30E-01	1.48E-01	1.00	Residual Fuel	3	6.77E-04	7.83E-04	0.92	No
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	No. 6 Fuel Oil	27	3.08E-03	8.68E-03	0.65	Residual Fuel	3	4.14E-05	5.55E-06	0.00	No
Boiler, Fuel Oil	Metals	Silver	lbs/Mgal	EF	No. 6 Fuel Oil	3	1.42E-03	4.28E-04	1.00	Residual Fuel	3	2.00E-04	7.86E-05	0.48	Yes
Boiler, Fuel Oil	Metals	Thallium	lbs/Mgal	EF	No. 6 Fuel Oil	3	3.27E-04	3.98E-04	0.00	Residual Fuel	3	1.65E-03	1.90E-04	0.00	Yes
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	No. 6 Fuel Oil	27	7.54E-02	2.16E-01	1.00	Residual Fuel	3	4.51E-02	3.54E-02	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	2.69E-05	3.43E-05	0.48	Yes
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	2.16E-06	1.78E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	No. 6 Fuel Oil	30	2.69E-05	3.43E-05	0.48	Residual Fuel	3	2.16E-06	1.78E-06	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	2.19E-05	4.16E-05	0.28	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	6.45E-06	7.45E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	No. 6 Fuel Oil	30	2.19E-05	4.16E-05	0.28	Residual Fuel	3	6.45E-06	7.45E-06	1.00	No
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.50E-05	2.80E-05	0.05	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	7.29E-06	4.94E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.50E-05	2.80E-05	0.05	Residual Fuel	3	7.29E-06	4.94E-06	1.00	No
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.48E-05	2.82E-05	0.03	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	1.67E-06	9.18E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.48E-05	2.82E-05	0.03	Residual Fuel	3	1.67E-06	9.18E-07	1.00	No
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.68E-05	2.80E-05	0.14	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	1.73E-06	5.59E-07	1.00	Yes

TABLE A6-2a. FUEL/MATERIAL TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.68E-05	2.80E-05	0.14	Residual Fuel	3	1.73E-06	5.59E-07	1.00	No
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	12	3.54E-05	3.62E-05	0.02	Yes
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	3.15E-06	5.73E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	No. 6 Fuel Oil	12	3.54E-05	3.62E-05	0.02	Residual Fuel	3	3.15E-06	5.73E-07	1.00	No
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.47E-05	2.81E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	3.16E-06	1.02E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.47E-05	2.81E-05	0.01	Residual Fuel	3	3.16E-06	1.02E-06	1.00	No
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	12	3.43E-05	3.72E-05	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	6.48E-07	3.17E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	No. 6 Fuel Oil	12	3.43E-05	3.72E-05	0.00	Residual Fuel	3	6.48E-07	3.17E-07	1.00	No
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.72E-05	2.76E-05	0.17	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	1.17E-06	7.05E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.72E-05	2.76E-05	0.17	Residual Fuel	3	1.17E-06	7.05E-07	1.00	No
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.46E-05	2.82E-05	0.00	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	3.09E-06	1.80E-06	1.00	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.46E-05	2.82E-05	0.00	Residual Fuel	3	3.09E-06	1.80E-06	1.00	No
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.99E-05	2.83E-05	0.37	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	2.69E-06	3.33E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.99E-05	2.83E-05	0.37	Residual Fuel	3	2.69E-06	3.33E-07	1.00	No
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	2.37E-05	3.13E-05	0.41	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	3.31E-06	1.73E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	No. 6 Fuel Oil	30	2.37E-05	3.13E-05	0.41	Residual Fuel	3	3.31E-06	1.73E-06	1.00	No
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.46E-05	2.82E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Fuel Oil	2	1.36E-04	1.24E-06	0.00	Residual Fuel	3	1.92E-06	1.10E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.46E-05	2.82E-05	0.01	Residual Fuel	3	1.92E-06	1.10E-06	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	Fuel Oil	2	3.54E-02	5.70E-03	1.00	No. 6 Fuel Oil	30	5.68E-03	1.26E-02	1.00	Yes
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	Fuel Oil	2	3.54E-02	5.70E-03	1.00	Residual Fuel	3	1.03E-04	2.33E-05	1.00	Yes
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	No. 6 Fuel Oil	30	5.68E-03	1.26E-02	1.00	Residual Fuel	3	1.03E-04	2.33E-05	1.00	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	3.45E-05	6.47E-05	0.68	Yes
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	1.35E-05	6.32E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	No. 6 Fuel Oil	30	3.45E-05	6.47E-05	0.68	Residual Fuel	3	1.35E-05	6.32E-06	1.00	No
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	No. 6 Fuel Oil	30	1.59E-05	2.77E-05	0.10	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	Fuel Oil	2	1.38E-04	1.24E-06	0.00	Residual Fuel	3	1.65E-06	4.09E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	No. 6 Fuel Oil	30	1.59E-05	2.77E-05	0.10	Residual Fuel	3	1.65E-06	4.09E-07	1.00	No
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	No. 6 Fuel Oil	29	5.63E-03	8.75E-03	0.84	Residual Fuel	3	5.78E-03	0.00E+00	0.00	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	Fuel Oil	3	2.65E-02	2.40E-02	1.00	No. 6 Fuel Oil	24	2.48E-02	3.75E-02	0.93	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	Fuel Oil	3	2.65E-02	2.40E-02	1.00	Residual Fuel	3	3.15E-01	1.07E-01	1.00	Yes
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	No. 6 Fuel Oil	24	2.48E-02	3.75E-02	0.93	Residual Fuel	3	3.15E-01	1.07E-01	1.00	Yes
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	3.75E-01		1.00	C2 (87% Al2O3, 13% TiO2)	1	3.48E-04		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	3.75E-01		1.00	C3 (70% Ni, 4% Cr)	1	1.86E-04		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	3.75E-01		1.00	C4 (49% Ni, 44% Cr)	1	4.02E-04		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	3.75E-01		1.00	C6 (80% Ni, 20% Cr)	1	1.86E-03		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	3.75E-01		1.00	C7 (100% Chromium Oxide)	1	1.42E-01		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C2 (87% Al2O3, 13% TiO2)	1	3.48E-04		1.00	C3 (70% Ni, 4% Cr)	1	1.86E-04		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C2 (87% Al2O3, 13% TiO2)	1	3.48E-04		1.00	C4 (49% Ni, 44% Cr)	1	4.02E-04		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C2 (87% Al2O3, 13% TiO2)	1	3.48E-04		1.00	C6 (80% Ni, 20% Cr)	1	1.86E-03		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C2 (87% Al2O3, 13% TiO2)	1	3.48E-04		1.00	C7 (100% Chromium Oxide)	1	1.42E-01		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C3 (70% Ni, 4% Cr)	1	1.86E-04		1.00	C4 (49% Ni, 44% Cr)	1	4.02E-04		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C3 (70% Ni, 4% Cr)	1	1.86E-04		1.00	C6 (80% Ni, 20% Cr)	1	1.86E-03		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C3 (70% Ni, 4% Cr)	1	1.86E-04		1.00	C7 (100% Chromium Oxide)	1	1.42E-01		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C4 (49% Ni, 44% Cr)	1	4.02E-04		1.00	C6 (80% Ni, 20% Cr)	1	1.86E-03		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C4 (49% Ni, 44% Cr)	1	4.02E-04		1.00	C7 (100% Chromium Oxide)	1	1.42E-01		1.00	NA
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	C6 (80% Ni, 20% Cr)	1	1.86E-03		1.00	C7 (100% Chromium Oxide)	1	1.42E-01		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	1.63E-02		1.00	C3 (70% Ni, 4% Cr)	1	1.81E-04		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	1.63E-02		1.00	C4 (49% Ni, 44% Cr)	1	3.00E-04		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	1.63E-02		1.00	C6 (80% Ni, 20% Cr)	1	2.58E-04		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C1 (75% Cr3C2, 20% NiCr, 5% Cr)	1	1.63E-02		1.00	C7 (100% Chromium Oxide)	1	8.91E-03		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C3 (70% Ni, 4% Cr)	1	1.81E-04		1.00	C4 (49% Ni, 44% Cr)	1	3.00E-04		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C3 (70% Ni, 4% Cr)	1	1.81E-04		1.00	C6 (80% Ni, 20% Cr)	1	2.58E-04		1.00	NA

TABLE A6-2a. FUEL/MATERIAL TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Description Material/Fuel Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C3 (70% Ni, 4% Cr)	1	1.81E-04		1.00	C7 (100% Chromium Oxide)	1	8.91E-03		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C4 (49% Ni, 44% Cr)	1	3.00E-04		1.00	C6 (80% Ni, 20% Cr)	1	2.58E-04		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C4 (49% Ni, 44% Cr)	1	3.00E-04		1.00	C7 (100% Chromium Oxide)	1	8.91E-03		1.00	NA
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	C6 (80% Ni, 20% Cr)	1	2.58E-04		1.00	C7 (100% Chromium Oxide)	1	8.91E-03		1.00	NA
FBC, Biomass	Dioxin & Furan	4D 2378	lbs/ton	EF	Agricultural Waste	3	4.46E-10	4.17E-11	0.00	Wood Waste	3	2.89E-11	1.03E-11	0.00	Yes
FBC, Biomass	Dioxin & Furan	4F 2378	lbs/ton	EF	Agricultural Waste	3	3.20E-09	2.68E-09	1.00	Wood Waste	3	1.29E-10	5.25E-11	1.00	No
FBC, Biomass	Dioxin & Furan	5D 12378	lbs/ton	EF	Agricultural Waste	3	1.19E-09	1.81E-10	0.24	Wood Waste	3	3.28E-11	1.14E-11	0.00	Yes
FBC, Biomass	Dioxin & Furan	5F 12378	lbs/ton	EF	Agricultural Waste	3	3.08E-09	4.39E-09	1.00	Wood Waste	3	6.27E-11	2.28E-11	1.00	Yes
FBC, Biomass	Dioxin & Furan	5F 23478	lbs/ton	EF	Agricultural Waste	3	4.49E-09	6.23E-09	1.00	Wood Waste	3	1.03E-10	2.69E-11	1.00	Yes
FBC, Biomass	Dioxin & Furan	6D 123478	lbs/ton	EF	Agricultural Waste	3	1.22E-09	4.69E-10	0.00	Wood Waste	3	4.36E-11	4.86E-12	0.29	Yes
FBC, Biomass	Dioxin & Furan	6D 123678	lbs/ton	EF	Agricultural Waste	3	1.27E-09	4.45E-10	0.00	Wood Waste	3	6.38E-11	2.75E-11	0.50	Yes
FBC, Biomass	Dioxin & Furan	6D 123789	lbs/ton	EF	Agricultural Waste	3	1.15E-09	5.30E-10	0.00	Wood Waste	3	4.77E-11	8.28E-12	0.40	Yes
FBC, Biomass	Dioxin & Furan	6F 123478	lbs/ton	EF	Agricultural Waste	3	1.55E-09	5.21E-10	1.00	Wood Waste	3	7.59E-11	3.95E-11	1.00	Yes
FBC, Biomass	Dioxin & Furan	6F 123678	lbs/ton	EF	Agricultural Waste	3	1.68E-09	2.91E-10	1.00	Wood Waste	3	1.12E-10	5.11E-11	1.00	Yes
FBC, Biomass	Dioxin & Furan	6F 123789	lbs/ton	EF	Agricultural Waste	3	6.51E-10	5.42E-10	0.00	Wood Waste	3	2.77E-11	2.63E-11	0.70	No
FBC, Biomass	Dioxin & Furan	6F 234678	lbs/ton	EF	Agricultural Waste	3	1.79E-09	1.40E-10	1.00	Wood Waste	3	3.02E-10	2.69E-10	1.00	Yes
FBC, Biomass	Dioxin & Furan	7D 1234678	lbs/ton	EF	Agricultural Waste	3	6.41E-09	7.00E-09	1.00	Wood Waste	3	6.90E-10	2.02E-10	1.00	Yes
FBC, Biomass	Dioxin & Furan	7F 1234678	lbs/ton	EF	Agricultural Waste	3	7.37E-09	1.00E-09	1.00	Wood Waste	3	1.37E-09	1.44E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	7F 1234789	lbs/ton	EF	Agricultural Waste	3	7.43E-10	5.69E-10	0.63	Wood Waste	3	8.97E-11	9.71E-11	0.92	No
FBC, Biomass	Dioxin & Furan	8D	lbs/ton	EF	Agricultural Waste	3	3.91E-09	7.41E-09	1.00	Wood Waste	3	6.69E-09	2.53E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	8F	lbs/ton	EF	Agricultural Waste	3	5.24E-09	3.44E-09	0.81	Wood Waste	3	1.61E-09	1.85E-09	1.00	No
FBC, Biomass	PAH	Acenaphthene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	7.04E-07	3.53E-07	1.00	Yes
FBC, Biomass	PAH	Acenaphthylene	lbs/ton	EF	Agricultural Waste	3	9.47E-05	9.77E-05	0.95	Wood Waste	3	2.67E-05	1.31E-05	1.00	No
FBC, Biomass	PAH	Anthracene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	5.68E-07	1.92E-07	1.00	Yes
FBC, Biomass	PAH	Benzo(a)anthracene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	2.05E-08	4.18E-09	0.74	Yes
FBC, Biomass	PAH	Benzo(a)pyrene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	1.64E-08	6.23E-10	0.00	Yes
FBC, Biomass	PAH	Benzo(b)fluoranthene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	1.25E-07	1.66E-08	1.00	Yes
FBC, Biomass	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	5.94E-08	3.59E-08	1.00	Yes
FBC, Biomass	PAH	Benzo(k)fluoranthene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	3.00E-08	9.68E-09	1.00	Yes
FBC, Biomass	PAH	Chrysene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	2.35E-07	3.52E-08	1.00	Yes
FBC, Biomass	PAH	dibenz(a,h)anthracene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	1.64E-08	6.23E-10	0.00	Yes
FBC, Biomass	PAH	Fluoranthene	lbs/ton	EF	Agricultural Waste	3	4.79E-06	1.19E-05	1.00	Wood Waste	3	6.73E-06	2.44E-06	1.00	Yes
FBC, Biomass	PAH	Fluorene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	1.32E-06	6.67E-07	1.00	Yes
FBC, Biomass	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	Agricultural Waste	3	1.20E-05	3.01E-06	0.00	Wood Waste	3	2.47E-08	1.15E-08	0.78	Yes
FBC, Biomass	PAH	Naphthalene	lbs/ton	EF	Agricultural Waste	3	7.17E-03	1.25E-03	1.00	Wood Waste	3	2.99E-04	9.94E-05	1.00	Yes
FBC, Biomass	PAH	Phenanthrene	lbs/ton	EF	Agricultural Waste	3	1.13E-04	5.73E-05	1.00	Wood Waste	3	1.92E-05	5.38E-06	1.00	Yes
FBC, Biomass	PAH	Pyrene	lbs/ton	EF	Agricultural Waste	3	4.93E-05	1.00E-05	1.00	Wood Waste	3	4.78E-06	1.66E-06	1.00	Yes
FBC, Biomass	VOC	Formaldehyde	lbs/ton	EF	Agricultural Waste	3	2.24E-02	4.02E-03	1.00	Wood Waste	3	3.66E-04	1.35E-04	1.00	Yes
Turbine, Distillate	PAH	Acenaphthene	lbs/Mgal	EF	Diesel	3	3.21E-05	2.63E-05	1.00	No. 2 Distillate	12	7.37E-05	1.07E-04	0.11	No
Turbine, Distillate	PAH	Acenaphthylene	lbs/Mgal	EF	Diesel	3	4.14E-06	1.86E-06	0.79	No. 2 Distillate	12	6.67E-05	1.10E-04	0.07	No
Turbine, Distillate	PAH	Anthracene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	8.07E-05	1.05E-04	0.18	No
Turbine, Distillate	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	6.54E-05	1.11E-04	0.01	No
Turbine, Distillate	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	6.62E-05	1.10E-04	0.05	No
Turbine, Distillate	PAH	Benzo(b+k)fluoranthene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	3	3.23E-06	3.82E-07	0.00	Yes
Turbine, Distillate	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	6.24E-05	1.12E-04	0.01	No
Turbine, Distillate	PAH	Chrysene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	7.91E-05	1.08E-04	0.20	No
Turbine, Distillate	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	6.24E-05	1.12E-04	0.01	No
Turbine, Distillate	PAH	Fluoranthene	lbs/Mgal	EF	Diesel	3	8.11E-06	5.77E-06	1.00	No. 2 Distillate	12	9.82E-05	1.13E-04	0.38	No
Turbine, Distillate	PAH	Fluorene	lbs/Mgal	EF	Diesel	3	1.77E-05	1.45E-05	0.95	No. 2 Distillate	12	9.97E-05	1.02E-04	0.32	No
Turbine, Distillate	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Diesel	3	2.52E-06	6.60E-08	0.00	No. 2 Distillate	12	6.25E-05	1.12E-04	0.01	No
Turbine, Distillate	PAH	Naphthalene	lbs/Mgal	EF	Diesel	3	5.92E-03	7.08E-04	1.00	No. 2 Distillate	12	6.78E-03	9.39E-03	1.00	No
Turbine, Distillate	PAH	Phenanthrene	lbs/Mgal	EF	Diesel	3	2.13E-05	1.47E-05	1.00	No. 2 Distillate	12	3.38E-04	5.62E-04	1.00	No
Turbine, Distillate	PAH	Pyrene	lbs/Mgal	EF	Diesel	3	4.46E-06	2.12E-06	0.81	No. 2 Distillate	12	8.22E-05	1.04E-04	0.25	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	30500205	6	3.12E-06	3.51E-06	0.01	30500211	3	2.73E-07	3.93E-09	0.00	No
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	30500205	6	9.15E-07	1.53E-06	0.00	30500211	3	5.45E-07	7.85E-09	0.00	No
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	30500205	6	7.92E-06	1.77E-05	0.98	30500211	1	1.62E-06		1.00	No
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	30500205	6	1.53E-05	3.37E-05	1.00	30500211	3	1.96E-06	1.27E-06	1.00	No
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	30500205	5	7.24E-07	8.74E-07	0.07	30500211	3	3.61E-07	1.59E-07	1.00	No
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	30500205	6	2.28E-05	5.36E-05	1.00	30500211	2	1.50E-06	2.22E-07	1.00	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	30500205	6	3.67E-04	8.92E-04	1.00	30500211	3	2.01E-06	8.58E-07	1.00	No
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	30500205	6	2.79E-04	6.64E-04	1.00	30500211	3	1.24E-05	4.38E-06	1.00	No
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	30500205	6	1.82E-06	2.25E-06	0.81	30500211	3	4.88E-08	2.84E-08	0.52	No
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	30500205	6	6.55E-05	1.54E-04	0.00	30500211	3	2.73E-06	3.93E-08	0.00	No
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	30500205	6	3.67E-06	2.96E-06	0.08	30500211	3	2.73E-07	3.93E-09	0.00	No
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	30500205	6	7.96E-04	1.87E-03	1.00	30500211	3	1.82E-05	5.62E-06	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	30500205	5	5.01E-07	6.66E-07	0.03	30500211	3	4.80E-07	4.21E-07	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	30500205	5	5.00E-07	6.66E-07	0.02	30500211	3	3.36E-07	2.72E-07	1.00	No
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	30500205	5	1.12E-06	1.94E-06	0.81	30500211	3	3.21E-08	7.68E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	30500205	5	4.92E-07	6.74E-07	0.01	30500211	3	6.12E-08	2.51E-08	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	30500205	5	4.88E-07	6.77E-07	0.00	30500211	3	2.79E-09	1.45E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	30500205	3	4.39E-09	6.44E-09	1.00	30500211	3	1.39E-08	9.49E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	30500205	5	4.88E-07	6.77E-07	0.00	30500211	3	1.90E-09	6.76E-10	0.23	No
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	30500205	5	4.89E-07	6.77E-07	0.00	30500211	3	5.13E-09	2.90E-09	1.00	No
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	30500205	5	4.89E-07	6.77E-07	0.00	30500211	3	2.70E-08	1.23E-08	1.00	No
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	30500205	5	4.88E-07	6.77E-07	0.00	30500211	3	1.76E-09	8.74E-10	0.00	No
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	30500205	5	5.40E-07	6.31E-07	0.10	30500211	3	2.17E-07	1.63E-08	1.00	No
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	30500205	5	6.55E-07	5.44E-07	0.25	30500211	3	8.83E-07	3.05E-07	1.00	No
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	30500205	5	4.88E-07	6.77E-07	0.00	30500211	3	2.06E-09	5.13E-10	0.29	No
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	30500205	5	6.93E-04	9.53E-04	1.00	30500211	3	4.75E-05	2.78E-05	1.00	No
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	30500205	5	4.95E-06	6.84E-06	1.00	30500211	3	6.27E-07	2.36E-07	1.00	No
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	30500205	5	5.24E-07	6.45E-07	0.07	30500211	3	1.66E-07	8.21E-09	1.00	No
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	30500205	6	5.81E-04	5.20E-04	0.10	30500211	3	[illegible]	[illegible]	1.00	Yes
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	30500205	5	1.70E-04	1.14E-04	1.00	30500211	3	1.32E-04	5.94E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Arsenic	lbs/ton production	EF	30500205	3	2.16E-06	4.32E-07	0.00	30500211	11	8.22E-06	2.09E-05	0.77	No
Asphalt Prod., Natural Gas	Metals	Beryllium	lbs/ton production	EF	30500205	3	2.13E-07	4.12E-08	0.00	30500211	11	9.00E-07	5.89E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Cadmium	lbs/ton production	EF	30500205	3	4.27E-07	8.25E-08	0.00	30500211	11	2.64E-06	3.28E-06	0.78	No
Asphalt Prod., Natural Gas	Metals	Chromium	lbs/ton production	EF	30500205	2	4.51E-06	4.53E-06	1.00	30500211	11	1.69E-06	1.65E-06	0.84	No
Asphalt Prod., Natural Gas	Metals	Chromium (Hex)	lbs/ton production	EF	30500205	2	5.60E-07	1.63E-07	0.60	30500211	11	1.59E-06	2.82E-06	0.83	No
Asphalt Prod., Natural Gas	Metals	Copper	lbs/ton production	EF	30500205	3	3.38E-06	6.12E-07	1.00	30500211	11	4.38E-06	4.39E-06	0.83	No
Asphalt Prod., Natural Gas	Metals	Lead	lbs/ton production	EF	30500205	3	1.07E-06	2.10E-07	0.00	30500211	11	1.40E-05	3.16E-05	0.95	No
Asphalt Prod., Natural Gas	Metals	Manganese	lbs/ton production	EF	30500205	3	1.47E-05	8.27E-06	1.00	30500211	11	5.05E-05	6.96E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Mercury	lbs/ton production	EF	30500205	3	4.73E-07	1.19E-07	1.00	30500211	11	9.12E-06	1.17E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Nickel	lbs/ton production	EF	30500205	3	9.53E-06	5.66E-06	1.00	30500211	11	7.94E-06	1.15E-05	0.46	No
Asphalt Prod., Natural Gas	Metals	Selenium	lbs/ton production	EF	30500205	3	2.15E-06	4.19E-07	0.00	30500211	11	1.36E-05	3.86E-05	0.86	No
Asphalt Prod., Natural Gas	Metals	Zinc	lbs/ton production	EF	30500205	3	3.99E-05	2.43E-06	1.00	30500211	11	2.21E-05	2.18E-05	1.00	No
Asphalt Prod., Natural Gas	PAH	Acenaphthene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	11	7.33E-07	4.20E-07	0.71	No
Asphalt Prod., Natural Gas	PAH	Acenaphthylene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	10	1.61E-06	3.20E-06	0.86	No
Asphalt Prod., Natural Gas	PAH	Anthracene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	11	3.64E-07	4.75E-07	0.42	No
Asphalt Prod., Natural Gas	PAH	Benzo(a)anthracene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.97E-07	5.29E-07	0.03	No
Asphalt Prod., Natural Gas	PAH	Benzo(a)pyrene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.89E-07	5.34E-07	0.00	No
Asphalt Prod., Natural Gas	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.90E-07	5.33E-07	0.00	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	
Asphalt Prod., Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.89E-07	5.33E-07	0.00	No
Asphalt Prod., Natural Gas	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.90E-07	5.33E-07	0.01	No
Asphalt Prod., Natural Gas	PAH	Chrysene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.90E-07	5.33E-07	0.00	No
Asphalt Prod., Natural Gas	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.89E-07	5.34E-07	0.00	No
Asphalt Prod., Natural Gas	PAH	Fluoranthene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	11	5.82E-07	1.09E-06	0.64	No
Asphalt Prod., Natural Gas	PAH	Fluorene	lbs/ton production	EF	30500205	3	2.23E-06	2.52E-07	1.00	30500211	11	1.62E-06	8.29E-07	0.87	No
Asphalt Prod., Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	30500205	3	1.92E-07	7.35E-09	0.00	30500211	8	2.89E-07	5.33E-07	0.00	No
Asphalt Prod., Natural Gas	PAH	Naphthalene	lbs/ton production	EF	30500205	3	2.55E-04	1.80E-05	1.00	30500211	11	2.05E-05	2.34E-05	0.99	Yes
Asphalt Prod., Natural Gas	PAH	Phenanthrene	lbs/ton production	EF	30500205	3	3.76E-06	6.58E-07	1.00	30500211	11	2.35E-06	1.95E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Pyrene	lbs/ton production	EF	30500205	3	1.99E-07	1.09E-08	0.35	30500211	11	8.97E-07	2.08E-06	0.77	No
Asphalt Prod., Natural Gas	VOC	Benzene	lbs/ton production	EF	30500205	2	2.29E-05	2.74E-06	1.00	30500211	11	9.32E-05	1.15E-04	1.00	No
Boiler, Distillate	PAH	Acenaphthene	lbs/Mgal	EF	10200501	2	1.31E-05	1.00E-06	0.00	10300501	14	2.39E-04	4.10E-04	1.00	No
Boiler, Distillate	PAH	Acenaphthylene	lbs/Mgal	EF	10200501	2	1.92E-05	1.20E-06	0.00	10300501	15	7.11E-05	8.69E-05	0.79	No
Boiler, Distillate	PAH	Anthracene	lbs/Mgal	EF	10200501	2	1.53E-05	6.97E-07	0.00	10300501	16	2.50E-05	2.43E-05	1.00	No
Boiler, Distillate	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10200501	2	1.04E-05	2.80E-06	0.59	10300501	14	7.78E-06	4.90E-06	0.48	No
Boiler, Distillate	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10200501	2	1.58E-05	1.94E-06	0.00	10300501	16	6.52E-06	6.17E-06	0.12	No
Boiler, Distillate	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10200501	2	1.15E-05	5.25E-07	0.00	10300501	16	6.07E-06	6.64E-06	0.20	No
Boiler, Distillate	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10200501	2	1.77E-05	1.32E-06	0.00	10300501	18	7.48E-06	7.69E-06	0.26	No
Boiler, Distillate	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10200501	2	1.43E-05	2.53E-06	0.00	10300501	16	9.17E-05	2.37E-04	0.97	No
Boiler, Distillate	PAH	Chrysene	lbs/Mgal	EF	10200501	3	4.22E-05	5.13E-05	0.94	10300501	14	6.53E-06	6.02E-06	0.54	Yes
Boiler, Distillate	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10200501	2	2.60E-05	1.76E-06	0.00	10300501	18	4.33E-06	3.41E-06	0.17	Yes
Boiler, Distillate	PAH	Fluoranthene	lbs/Mgal	EF	10200501	3	4.99E-05	2.75E-05	1.00	10300501	14	2.97E-05	2.11E-05	0.93	No
Boiler, Distillate	PAH	Fluorene	lbs/Mgal	EF	10200501	2	2.04E-05	7.72E-07	0.00	10300501	14	1.31E-04	7.95E-05	1.00	No
Boiler, Distillate	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10200501	2	2.06E-05	1.71E-06	0.00	10300501	18	5.09E-06	3.34E-06	0.23	Yes
Boiler, Distillate	PAH	Naphthalene	lbs/Mgal	EF	10200501	3	1.97E-02	3.89E-03	1.00	10300501	17	4.28E-01	9.71E-01	1.00	No
Boiler, Distillate	PAH	Phenanthrene	lbs/Mgal	EF	10200501	3	1.59E-04	3.28E-05	1.00	10300501	15	4.14E-04	3.06E-04	1.00	No
Boiler, Distillate	PAH	Pyrene	lbs/Mgal	EF	10200501	3	6.30E-05	5.00E-05	0.39	10300501	14	3.60E-05	2.40E-05	1.00	No
Boiler, Distillate	VOC	Formaldehyde	lbs/Mgal	EF	10200501	3	1.03E+00	1.80E-01	1.00	10300501	15	2.14E-01	4.71E-01	1.00	Yes
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	10100401	9	1.06E-03	5.51E-04	1.00	10200401	15	5.76E-04	9.64E-04	0.78	No
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	10100401	9	1.06E-03	5.51E-04	1.00	10200402	3	2.29E-04	5.83E-05	0.31	Yes
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	10100401	9	1.06E-03	5.51E-04	1.00	10200403	3	1.44E-03	2.44E-04	0.00	No
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	10200401	15	5.76E-04	9.64E-04	0.78	10200402	3	2.29E-04	5.83E-05	0.31	No
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	10200401	15	5.76E-04	9.64E-04	0.78	10200403	3	1.44E-03	2.44E-04	0.00	No
Boiler, Fuel Oil	Metals	Arsenic	lbs/Mgal	EF	10200402	3	2.29E-04	5.83E-05	0.31	10200403	3	1.44E-03	2.44E-04	0.00	Yes
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	10100401	9	1.48E-05	1.50E-05	0.62	10200401	15	6.19E-04	1.25E-03	0.97	No
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	10100401	9	1.48E-05	1.50E-05	0.62	10200402	3	5.12E-05	1.48E-06	0.00	Yes
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	10100401	9	1.48E-05	1.50E-05	0.62	10200403	3	6.29E-05	7.69E-06	0.00	Yes
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	10200401	15	6.19E-04	1.25E-03	0.97	10200402	3	5.12E-05	1.48E-06	0.00	No
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	10200401	15	6.19E-04	1.25E-03	0.97	10200403	3	6.29E-05	7.69E-06	0.00	No
Boiler, Fuel Oil	Metals	Beryllium	lbs/Mgal	EF	10200402	3	5.12E-05	1.48E-06	0.00	10200403	3	6.29E-05	7.69E-06	0.00	No
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	10100401	9	2.23E-04	2.32E-04	1.00	10200401	15	4.12E-04	7.10E-04	0.80	No
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	10100401	9	2.23E-04	2.32E-04	1.00	10200402	3	2.23E-02	2.45E-02	1.00	Yes
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	10100401	9	2.23E-04	2.32E-04	1.00	10200403	3	8.56E-04	3.52E-04	0.00	Yes
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	10200401	15	4.12E-04	7.10E-04	0.80	10200402	3	2.23E-02	2.45E-02	1.00	Yes
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	10200401	15	4.12E-04	7.10E-04	0.80	10200403	3	8.56E-04	3.52E-04	0.00	No
Boiler, Fuel Oil	Metals	Cadmium	lbs/Mgal	EF	10200402	3	2.23E-02	2.45E-02	1.00	10200403	3	8.56E-04	3.52E-04	0.00	No
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	10100401	9	6.09E-04	2.44E-04	1.00	10200401	15	1.01E-03	1.86E-03	0.97	No
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	10100401	9	6.09E-04	2.44E-04	1.00	10200402	3	1.99E-03	4.18E-04	0.00	Yes

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	10100401	9	6.09E-04	2.44E-04	1.00	10200403	3	4.83E-03	1.24E-03	1.00	Yes
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	10200401	15	1.01E-03	1.86E-03	0.97	10200402	3	1.99E-03	4.18E-04	0.00	No
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	10200401	15	1.01E-03	1.86E-03	0.97	10200403	3	4.83E-03	1.24E-03	1.00	Yes
Boiler, Fuel Oil	Metals	Chromium	lbs/Mgal	EF	10200402	3	1.99E-03	4.18E-04	0.00	10200403	3	4.83E-03	1.24E-03	1.00	Yes
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	10100401	9	1.81E-04	1.72E-04	0.90	10200401	12	1.50E-04	8.63E-05	0.56	No
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	10100401	9	1.81E-04	1.72E-04	0.90	10200402	3	3.48E-04	5.15E-05	0.00	No
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	10100401	9	1.81E-04	1.72E-04	0.90	10200403	3	1.15E-03	5.70E-05	0.00	Yes
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	10200401	12	1.50E-04	8.63E-05	0.56	10200402	3	3.48E-04	5.15E-05	0.00	Yes
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	10200401	12	1.50E-04	8.63E-05	0.56	10200403	3	1.15E-03	5.70E-05	0.00	Yes
Boiler, Fuel Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	10200402	3	3.48E-04	5.15E-05	0.00	10200403	3	1.15E-03	5.70E-05	0.00	Yes
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	10100401	9	1.40E-03	5.60E-04	1.00	10200401	15	5.18E-03	5.52E-03	1.00	No
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	10100401	9	1.40E-03	5.60E-04	1.00	10200402	3	3.41E-03	2.35E-03	1.00	Yes
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	10100401	9	1.40E-03	5.60E-04	1.00	10200403	3	3.86E-03	4.20E-03	1.00	No
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	10200401	15	5.18E-03	5.52E-03	1.00	10200402	3	3.41E-03	2.35E-03	1.00	No
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	10200401	15	5.18E-03	5.52E-03	1.00	10200403	3	3.86E-03	4.20E-03	1.00	No
Boiler, Fuel Oil	Metals	Copper	lbs/Mgal	EF	10200402	3	3.41E-03	2.35E-03	1.00	10200403	3	3.86E-03	4.20E-03	1.00	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	10100401	9	1.61E-03	1.12E-03	1.00	10200401	15	6.32E-03	1.24E-02	0.96	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	10100401	9	1.61E-03	1.12E-03	1.00	10200402	3	2.44E-03	4.06E-04	0.39	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	10100401	9	1.61E-03	1.12E-03	1.00	10200403	3	1.56E-03	1.54E-03	0.00	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	10200401	15	6.32E-03	1.24E-02	0.96	10200402	3	2.44E-03	4.06E-04	0.39	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	10200401	15	6.32E-03	1.24E-02	0.96	10200403	3	1.56E-03	1.54E-03	0.00	No
Boiler, Fuel Oil	Metals	Lead	lbs/Mgal	EF	10200402	3	2.44E-03	4.06E-04	0.39	10200403	3	1.56E-03	1.54E-03	0.00	No
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	10100401	9	1.58E-03	1.37E-03	1.00	10200401	15	3.94E-02	1.41E-01	1.00	No
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	10100401	9	1.58E-03	1.37E-03	1.00	10200402	3	1.66E-03	2.32E-04	0.00	No
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	10100401	9	1.58E-03	1.37E-03	1.00	10200403	3	5.81E-03	5.54E-03	1.00	Yes
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	10200401	15	3.94E-02	1.41E-01	1.00	10200402	3	1.66E-03	2.32E-04	0.00	No
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	10200401	15	3.94E-02	1.41E-01	1.00	10200403	3	5.81E-03	5.54E-03	1.00	No
Boiler, Fuel Oil	Metals	Manganese	lbs/Mgal	EF	10200402	3	1.66E-03	2.32E-04	0.00	10200403	3	5.81E-03	5.54E-03	1.00	No
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	10100401	9	3.06E-03	1.91E-03	0.00	10200401	15	2.76E-04	3.73E-04	0.75	Yes
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	10100401	9	3.06E-03	1.91E-03	0.00	10200402	3	5.43E-05	9.58E-07	0.00	Yes
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	10100401	9	3.06E-03	1.91E-03	0.00	10200403	3	1.03E-05	3.93E-06	0.00	Yes
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	10200401	15	2.76E-04	3.73E-04	0.75	10200402	3	5.43E-05	9.58E-07	0.00	No
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	10200401	15	2.76E-04	3.73E-04	0.75	10200403	3	1.03E-05	3.93E-06	0.00	No
Boiler, Fuel Oil	Metals	Mercury	lbs/Mgal	EF	10200402	3	5.43E-05	9.58E-07	0.00	10200403	3	1.03E-05	3.93E-06	0.00	Yes
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	10100401	9	9.75E-02	5.45E-02	1.00	10200401	15	1.06E-01	1.71E-01	1.00	No
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	10100401	9	9.75E-02	5.45E-02	1.00	10200402	3	1.59E-02	1.97E-03	0.65	Yes
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	10100401	9	9.75E-02	5.45E-02	1.00	10200403	3	3.34E-01	6.58E-02	1.00	Yes
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	10200401	15	1.06E-01	1.71E-01	1.00	10200402	3	1.59E-02	1.97E-03	0.65	No
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	10200401	15	1.06E-01	1.71E-01	1.00	10200403	3	3.34E-01	6.58E-02	1.00	Yes
Boiler, Fuel Oil	Metals	Nickel	lbs/Mgal	EF	10200402	3	1.59E-02	1.97E-03	0.65	10200403	3	3.34E-01	6.58E-02	1.00	Yes
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	10100401	9	9.61E-04	6.71E-04	0.87	10200401	15	4.32E-03	1.16E-02	0.69	No
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	10100401	9	9.61E-04	6.71E-04	0.87	10200402	3	3.67E-04	6.47E-05	0.00	No
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	10100401	9	9.61E-04	6.71E-04	0.87	10200403	3	2.88E-03	1.24E-03	0.17	Yes
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	10200401	15	4.32E-03	1.16E-02	0.69	10200402	3	3.67E-04	6.47E-05	0.00	No
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	10200401	15	4.32E-03	1.16E-02	0.69	10200403	3	2.88E-03	1.24E-03	0.17	No
Boiler, Fuel Oil	Metals	Selenium	lbs/Mgal	EF	10200402	3	3.67E-04	6.47E-05	0.00	10200403	3	2.88E-03	1.24E-03	0.17	Yes
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	10100401	9	1.41E-02	8.27E-03	1.00	10200401	15	1.26E-01	2.84E-01	1.00	No
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	10100401	9	1.41E-02	8.27E-03	1.00	10200402	3	1.26E-01	1.24E-01	1.00	Yes

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	10100401	9	1.41E-02	8.27E-03	1.00	10200403	3	1.60E-02	1.29E-02	1.00	No
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	10200401	15	1.26E-01	2.84E-01	1.00	10200402	3	3.55E-02	1.74E-02	1.00	No
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	10200401	15	1.26E-01	2.84E-01	1.00	10200403	3	1.60E-02	1.29E-02	1.00	No
Boiler, Fuel Oil	Metals	Zinc	lbs/Mgal	EF	10200402	3	3.55E-02	1.74E-02	1.00	10200403	3	1.60E-02	1.29E-02	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100401	12	3.11E-05	3.67E-05	0.99	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100401	12	3.11E-05	3.67E-05	0.99	10200401	15	2.85E-05	3.51E-05	0.03	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100401	12	3.11E-05	3.67E-05	0.99	10200402	3	2.79E-06	1.87E-06	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100401	12	3.11E-05	3.67E-05	0.99	10200403	3	1.44E-06	1.10E-07	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.85E-05	3.51E-05	0.03	Yes
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	2.79E-06	1.87E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	1.44E-06	1.10E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10200401	15	2.85E-05	3.51E-05	0.03	10200402	3	2.79E-06	1.87E-06	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10200401	15	2.85E-05	3.51E-05	0.03	10200403	3	1.44E-06	1.10E-07	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	10200402	3	2.79E-06	1.87E-06	1.00	10200403	3	1.44E-06	1.10E-07	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10200401	15	2.92E-05	3.47E-05	0.05	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10200402	3	7.48E-05	9.57E-05	0.81	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10200403	3	2.86E-07	4.60E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.92E-05	3.47E-05	0.05	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	7.48E-05	9.57E-05	0.81	No
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	2.86E-07	4.60E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10200401	15	2.92E-05	3.47E-05	0.05	10200402	3	7.48E-05	9.57E-05	0.81	No
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10200401	15	2.92E-05	3.47E-05	0.05	10200403	3	2.86E-07	4.60E-08	0.00	No
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	10200402	3	7.48E-05	9.57E-05	0.81	10200403	3	2.86E-07	4.60E-08	0.00	No
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100401	12	2.27E-06	1.56E-06	0.90	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100401	12	2.27E-06	1.56E-06	0.90	10200401	15	2.94E-05	3.45E-05	0.05	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100401	12	2.27E-06	1.56E-06	0.90	10200402	3	9.08E-07	8.86E-07	0.00	No
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100401	12	2.27E-06	1.56E-06	0.90	10200403	3	4.03E-08	2.36E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.94E-05	3.45E-05	0.05	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	9.08E-07	8.86E-07	0.00	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	4.03E-08	2.36E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10200401	15	2.94E-05	3.45E-05	0.05	10200402	3	9.08E-07	8.86E-07	0.00	No
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10200401	15	2.94E-05	3.45E-05	0.05	10200403	3	4.03E-08	2.36E-08	0.00	No
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	10200402	3	9.08E-07	8.86E-07	0.00	10200403	3	4.03E-08	2.36E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100401	12	2.08E-06	3.45E-06	0.52	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100401	12	2.08E-06	3.45E-06	0.52	10200401	15	2.82E-05	3.53E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100401	12	2.08E-06	3.45E-06	0.52	10200402	3	1.76E-08	1.92E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100401	12	2.08E-06	3.45E-06	0.52	10200403	3	5.99E-08	4.25E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.82E-05	3.53E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	1.76E-08	1.92E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	5.99E-08	4.25E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10200401	15	2.82E-05	3.53E-05	0.01	10200402	3	1.76E-08	1.92E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10200401	15	2.82E-05	3.53E-05	0.01	10200403	3	5.99E-08	4.25E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	10200402	3	1.76E-08	1.92E-08	0.00	10200403	3	5.99E-08	4.25E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10200401	15	3.28E-05	3.28E-05	0.16	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10200402	3	9.09E-07	1.53E-06	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100401	12	1.08E-06	2.09E-07	0.00	10200403	3	7.07E-08	3.78E-08	0.00	Yes

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	3.28E-05	3.28E-05	0.16	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	9.09E-07	1.53E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	7.07E-08	3.78E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10200401	15	3.28E-05	3.28E-05	0.16	10200402	3	9.09E-07	1.53E-06	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10200401	15	3.28E-05	3.28E-05	0.16	10200403	3	7.07E-08	3.78E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	10200402	3	9.09E-07	1.53E-06	0.00	10200403	3	7.07E-08	3.78E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	9	4.68E-05	3.48E-05	0.02	Yes
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	2.36E-06	1.25E-06	0.63	Yes
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	1.95E-06	5.53E-07	0.37	Yes
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10200401	9	4.68E-05	3.48E-05	0.02	10200402	3	2.36E-06	1.25E-06	0.63	No
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10200401	9	4.68E-05	3.48E-05	0.02	10200403	3	1.95E-06	5.53E-07	0.37	No
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	10200402	3	2.36E-06	1.25E-06	0.63	10200403	3	1.95E-06	5.53E-07	0.37	No
Boiler, Fuel Oil	PAH	Benzo(b+k)fluoranthene	lbs/Mgal	EF	10100401	12	1.52E-06	1.52E-06	0.34	10200401	6	1.60E-06	1.28E-06	0.43	No
Boiler, Fuel Oil	PAH	Benzo(e)pyrene	lbs/Mgal	EF	10200402	3	1.03E-06	1.42E-06	0.00	10200403	3	8.53E-07	3.85E-07	0.00	No
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100401	12	1.29E-06	7.46E-07	0.23	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100401	12	1.29E-06	7.46E-07	0.23	10200401	15	2.85E-05	3.51E-05	0.02	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100401	12	1.29E-06	7.46E-07	0.23	10200402	3	1.02E-06	1.50E-06	0.00	No
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100401	12	1.29E-06	7.46E-07	0.23	10200403	3	1.65E-06	4.81E-07	0.00	No
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.85E-05	3.51E-05	0.02	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	1.02E-06	1.50E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	1.65E-06	4.81E-07	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10200401	15	2.85E-05	3.51E-05	0.02	10200402	3	1.02E-06	1.50E-06	0.00	No
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10200401	15	2.85E-05	3.51E-05	0.02	10200403	3	1.65E-06	4.81E-07	0.00	No
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	10200402	3	1.02E-06	1.50E-06	0.00	10200403	3	1.65E-06	4.81E-07	0.00	No
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	9	4.60E-05	3.60E-05	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	1.28E-08	9.24E-09	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	6.69E-08	6.32E-08	0.00	Yes
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10200401	9	4.60E-05	3.60E-05	0.00	10200402	3	1.28E-08	9.24E-09	0.00	No
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10200401	9	4.60E-05	3.60E-05	0.00	10200403	3	6.69E-08	6.32E-08	0.00	No
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	10200402	3	1.28E-08	9.24E-09	0.00	10200403	3	6.69E-08	6.32E-08	0.00	No
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100401	12	1.14E-06	2.70E-07	0.12	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100401	12	1.14E-06	2.70E-07	0.12	10200401	15	2.81E-05	3.54E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100401	12	1.14E-06	2.70E-07	0.12	10200402	3	2.16E-05	3.99E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100401	12	1.14E-06	2.70E-07	0.12	10200403	3	6.45E-06	1.89E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.81E-05	3.54E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	2.16E-05	3.99E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	6.45E-06	1.89E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10200401	15	2.81E-05	3.54E-05	0.01	10200402	3	2.16E-05	3.99E-06	1.00	No
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10200401	15	2.81E-05	3.54E-05	0.01	10200403	3	6.45E-06	1.89E-06	1.00	No
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	10200402	3	2.16E-05	3.99E-06	1.00	10200403	3	6.45E-06	1.89E-06	1.00	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100401	12	1.10E-06	2.11E-07	0.09	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100401	12	1.10E-06	2.11E-07	0.09	10200401	15	2.85E-05	3.51E-05	0.02	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100401	12	1.10E-06	2.11E-07	0.09	10200402	3	1.16E-06	1.44E-06	0.00	No
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100401	12	1.10E-06	2.11E-07	0.09	10200403	3	1.06E-06	1.40E-06	0.00	No
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.85E-05	3.51E-05	0.02	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	1.16E-06	1.44E-06	0.00	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	1.06E-06	1.40E-06	0.00	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10200401	15	2.85E-05	3.51E-05	0.02	10200402	3	1.16E-06	1.44E-06	0.00	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10200401	15	2.85E-05	3.51E-05	0.02	10200403	3	1.06E-06	1.40E-06	0.00	No
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	10200402	3	1.16E-06	1.44E-06	0.00	10200403	3	1.06E-06	1.40E-06	0.00	No
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100401	12	3.24E-06	4.80E-06	0.87	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100401	12	3.24E-06	4.80E-06	0.87	10200401	15	2.92E-05	3.65E-05	0.24	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100401	12	3.24E-06	4.80E-06	0.87	10200402	3	2.86E-05	9.51E-06	0.58	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100401	12	3.24E-06	4.80E-06	0.87	10200403	3	1.36E-05	3.74E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.92E-05	3.65E-05	0.24	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	2.86E-05	9.51E-06	0.58	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	1.36E-05	3.74E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10200401	15	2.92E-05	3.65E-05	0.24	10200402	3	2.86E-05	9.51E-06	0.58	No
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10200401	15	2.92E-05	3.65E-05	0.24	10200403	3	1.36E-05	3.74E-06	1.00	No
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	10200402	3	2.86E-05	9.51E-06	0.58	10200403	3	1.36E-05	3.74E-06	1.00	No
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100401	12	3.75E-06	3.60E-06	0.90	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100401	12	3.75E-06	3.60E-06	0.90	10200401	15	2.93E-05	3.44E-05	0.06	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100401	12	3.75E-06	3.60E-06	0.90	10200402	3	7.01E-05	1.63E-05	1.00	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100401	12	3.75E-06	3.60E-06	0.90	10200403	3	8.18E-06	2.93E-07	1.00	No
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.93E-05	3.44E-05	0.06	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	7.01E-05	1.63E-05	1.00	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	8.18E-06	2.93E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10200401	15	2.93E-05	3.44E-05	0.06	10200402	3	7.01E-05	1.63E-05	1.00	No
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10200401	15	2.93E-05	3.44E-05	0.06	10200403	3	8.18E-06	2.93E-07	1.00	No
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	10200402	3	7.01E-05	1.63E-05	1.00	10200403	3	8.18E-06	2.93E-07	1.00	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100401	12	1.26E-06	6.42E-07	0.21	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100401	12	1.26E-06	6.42E-07	0.21	10200401	15	2.83E-05	3.53E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100401	12	1.26E-06	6.42E-07	0.21	10200402	3	5.01E-07	5.86E-07	0.00	No
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100401	12	1.26E-06	6.42E-07	0.21	10200403	3	5.69E-07	2.53E-07	0.00	No
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.83E-05	3.53E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	5.01E-07	5.86E-07	0.00	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	5.69E-07	2.53E-07	0.00	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10200401	15	2.83E-05	3.53E-05	0.01	10200402	3	5.01E-07	5.86E-07	0.00	No
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10200401	15	2.83E-05	3.53E-05	0.01	10200403	3	5.69E-07	2.53E-07	0.00	No
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	10200402	3	5.01E-07	5.86E-07	0.00	10200403	3	5.69E-07	2.53E-07	0.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100401	12	3.21E-03	2.85E-03	1.00	10100501	2	3.54E-02	8.76E-03	1.00	Yes
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100401	12	3.21E-03	2.85E-03	1.00	10200401	15	8.78E-03	1.73E-02	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100401	12	3.21E-03	2.85E-03	1.00	10200402	3	9.77E-05	6.35E-05	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100401	12	3.21E-03	2.85E-03	1.00	10200403	3	7.26E-05	8.87E-06	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100501	2	3.54E-02	8.76E-03	1.00	10200401	15	8.78E-03	1.73E-02	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100501	2	3.54E-02	8.76E-03	1.00	10200402	3	9.77E-05	6.35E-05	1.00	Yes
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10100501	2	3.54E-02	8.76E-03	1.00	10200403	3	7.26E-05	8.87E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10200401	15	8.78E-03	1.73E-02	1.00	10200402	3	9.77E-05	6.35E-05	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10200401	15	8.78E-03	1.73E-02	1.00	10200403	3	7.26E-05	8.87E-06	1.00	No
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	10200402	3	9.77E-05	6.35E-05	1.00	10200403	3	7.26E-05	8.87E-06	1.00	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100401	12	7.47E-06	7.63E-06	0.97	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100401	12	7.47E-06	7.63E-06	0.97	10200401	15	5.05E-05	8.65E-05	0.57	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100401	12	7.47E-06	7.63E-06	0.97	10200402	3	6.00E-05	3.15E-05	1.00	Yes
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100401	12	7.47E-06	7.63E-06	0.97	10200403	3	1.64E-05	3.05E-06	1.00	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	5.05E-05	8.65E-05	0.57	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	6.00E-05	3.15E-05	1.00	Yes

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	1.64E-05	3.05E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10200401	15	5.05E-05	8.65E-05	0.57	10200402	3	6.00E-05	3.15E-05	1.00	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10200401	15	5.05E-05	8.65E-05	0.57	10200403	3	1.64E-05	3.05E-06	1.00	No
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	10200402	3	6.00E-05	3.15E-05	1.00	10200403	3	1.64E-05	3.05E-06	1.00	No
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100401	12	2.50E-06	3.53E-06	0.78	10100501	2	1.38E-04	1.24E-06	0.00	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100401	12	2.50E-06	3.53E-06	0.78	10200401	15	2.82E-05	3.53E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100401	12	2.50E-06	3.53E-06	0.78	10200402	3	1.87E-06	1.90E-06	0.70	No
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100401	12	2.50E-06	3.53E-06	0.78	10200403	3	7.48E-06	3.56E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200401	15	2.82E-05	3.53E-05	0.01	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200402	3	1.87E-06	1.90E-06	0.70	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10100501	2	1.38E-04	1.24E-06	0.00	10200403	3	7.48E-06	3.56E-06	1.00	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10200401	15	2.82E-05	3.53E-05	0.01	10200402	3	1.87E-06	1.90E-06	0.70	No
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10200401	15	2.82E-05	3.53E-05	0.01	10200403	3	7.48E-06	3.56E-06	1.00	No
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	10200402	3	1.87E-06	1.90E-06	0.70	10200403	3	7.48E-06	3.56E-06	1.00	No
Boiler, Fuel Oil	SVOC	2-Chloronaphthalene	lbs/Mgal	EF	10200402	3	2.84E-07	9.93E-08	0.00	10200403	3	2.27E-08	6.16E-09	0.00	Yes
Boiler, Fuel Oil	SVOC	2-Methylnaphthalene	lbs/Mgal	EF	10200402	3	1.49E-04	4.87E-05	1.00	10200403	3	1.09E-05	1.25E-06	1.00	Yes
Boiler, Fuel Oil	SVOC	Perylene	lbs/Mgal	EF	10200402	3	9.17E-07	1.52E-06	0.00	10200403	3	1.09E-07	9.58E-08	0.00	No
Boiler, Fuel Oil	VOC	Acetaldehyde	lbs/Mgal	EF	10100401	3	5.33E-03	4.23E-03	0.82	10200401	3	4.86E-03	4.86E-04	0.00	No
Boiler, Fuel Oil	VOC	Acetaldehyde	lbs/Mgal	EF	10100401	3	5.33E-03	4.23E-03	0.82	10200403	3	1.79E-03	1.38E-03	0.87	No
Boiler, Fuel Oil	VOC	Acetaldehyde	lbs/Mgal	EF	10200401	3	4.86E-03	4.86E-04	0.00	10200403	3	1.79E-03	1.38E-03	0.87	Yes
Boiler, Fuel Oil	VOC	Acrolein	lbs/Mgal	EF	10200401	3	4.86E-03	4.86E-04	0.00	10200403	3	2.17E-03	1.03E-03	0.00	Yes
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	10100401	9	3.49E-04	2.54E-05	0.00	10200401	18	8.66E-03	1.01E-02	0.85	Yes
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	10100401	9	3.49E-04	2.54E-05	0.00	10200402	2	3.82E-03	6.70E-04	0.56	Yes
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	10100401	9	3.49E-04	2.54E-05	0.00	10200403	3	4.63E-03	1.51E-04	0.00	Yes
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	10200401	18	8.66E-03	1.01E-02	0.85	10200402	2	3.82E-03	6.70E-04	0.56	No
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	10200401	18	8.66E-03	1.01E-02	0.85	10200403	3	4.63E-03	1.51E-04	0.00	No
Boiler, Fuel Oil	VOC	Benzene	lbs/Mgal	EF	10200402	2	3.82E-03	6.70E-04	0.56	10200403	3	4.63E-03	1.51E-04	0.00	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100401	9	4.90E-02	5.13E-02	1.00	10100501	3	2.65E-02	2.40E-02	1.00	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100401	9	4.90E-02	5.13E-02	1.00	10200401	12	8.82E-02	1.52E-01	0.99	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100401	9	4.90E-02	5.13E-02	1.00	10200402	3	1.02E-03	7.55E-04	0.48	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100401	9	4.90E-02	5.13E-02	1.00	10200403	3	1.09E-02	5.14E-03	0.00	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100501	3	2.65E-02	2.40E-02	1.00	10200401	12	8.82E-02	1.52E-01	0.99	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100501	3	2.65E-02	2.40E-02	1.00	10200402	3	1.02E-03	7.55E-04	0.48	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10100501	3	2.65E-02	2.40E-02	1.00	10200403	3	1.09E-02	5.14E-03	0.00	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10200401	12	8.82E-02	1.52E-01	0.99	10200402	3	1.02E-03	7.55E-04	0.48	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10200401	12	8.82E-02	1.52E-01	0.99	10200403	3	1.09E-02	5.14E-03	0.00	No
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	10200402	3	1.02E-03	7.55E-04	0.48	10200403	3	1.09E-02	5.14E-03	0.00	Yes
Boiler, Fuel Oil	VOC	Toluene	lbs/Mgal	EF	10200401	3	8.85E-03	3.86E-03	1.00	10200403	3	5.75E-03	1.88E-04	0.00	No
Boiler, Fuel Oil	VOC	Total Xylene	lbs/Mgal	EF	10200401	3	7.52E-03	4.61E-03	1.00	10200403	3	1.10E-02	3.61E-04	0.00	No
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	40200101	4	1.30E-01	1.77E-01	1.00	40202499	2	2.94E-04	1.53E-04	1.00	No
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	40200101	3	8.48E-03	8.02E-03	1.00	40202499	2	2.41E-04	8.44E-05	1.00	No
Furnace, Aluminum	Metals	Arsenic	lbs/ton production	EF	30400103	3	7.52E-06	5.54E-07	0.00	30400199	6	3.82E-04	3.89E-04	0.00	No
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	30400103	6	2.16E-05	9.26E-06	0.00	30400107	3	8.00E-05	0.00E+00	0.00	Yes
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	30400103	6	2.16E-05	9.26E-06	0.00	30400199	9	2.56E-05	3.62E-05	0.00	No
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	30400107	3	8.00E-05	0.00E+00	0.00	30400199	9	2.56E-05	3.62E-05	0.00	Yes
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	30400103	6	9.36E-05	1.13E-04	0.95	30400107	3	4.37E-04	3.71E-04	1.00	No
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	30400103	6	9.36E-05	1.13E-04	0.95	30400199	9	8.26E-04	1.74E-03	1.00	No
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	30400107	3	4.37E-04	3.71E-04	1.00	30400199	9	8.26E-04	1.74E-03	1.00	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Furnace, Aluminum	Metals	Chromium	lbs/ton production	EF	30400103	6	5.07E-05	5.60E-05	1.00	30400199	6	2.48E-04	2.99E-04	1.00	No
Furnace, Aluminum	Metals	Chromium (Hex)	lbs/ton production	EF	30400103	6	2.21E-05	2.07E-05	1.00	30400199	6	5.91E-04	5.90E-04	0.00	Yes
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	30400103	6	2.80E-04	3.00E-04	1.00	30400107	3	1.15E-03	1.21E-04	1.00	Yes
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	30400103	6	2.80E-04	3.00E-04	1.00	30400199	9	1.10E-03	1.96E-03	1.00	No
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	30400107	3	1.15E-03	1.21E-04	1.00	30400199	9	1.10E-03	1.96E-03	1.00	No
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	30400103	6	5.42E-04	6.57E-04	1.00	30400107	3	4.48E-04	6.97E-05	1.00	No
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	30400103	6	5.42E-04	6.57E-04	1.00	30400199	9	3.26E-04	4.79E-04	1.00	No
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	30400107	3	4.48E-04	6.97E-05	1.00	30400199	9	3.26E-04	4.79E-04	1.00	No
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	30400103	6	6.38E-03	1.52E-02	1.00	30400107	3	1.87E-04	4.03E-05	1.00	No
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	30400103	6	6.38E-03	1.52E-02	1.00	30400199	9	4.05E-04	8.49E-04	1.00	No
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	30400107	3	1.87E-04	4.03E-05	1.00	30400199	9	4.05E-04	8.49E-04	1.00	No
Furnace, Aluminum	Metals	Mercury	lbs/ton production	EF	30400103	3	4.64E-06	2.63E-06	1.00	30400199	6	2.35E-05	2.41E-05	0.30	No
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	30400103	6	2.33E-04	2.75E-04	1.00	30400107	3	2.51E-04	8.81E-05	1.00	No
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	30400103	6	2.33E-04	2.75E-04	1.00	30400199	9	1.56E-04	2.31E-04	1.00	No
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	30400107	3	2.51E-04	8.81E-05	1.00	30400199	9	1.56E-04	2.31E-04	1.00	No
Furnace, Aluminum	Metals	Selenium	lbs/ton production	EF	30400103	3	8.16E-06	2.09E-06	0.73	30400199	6	1.53E-04	1.56E-04	0.00	No
Furnace, Aluminum	Metals	Zinc	lbs/ton production	EF	30400103	3	5.14E-04	4.07E-04	1.00	30400199	6	4.73E-03	7.16E-03	1.00	No
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	30400103	3	5.84E-02	2.95E-02	1.00	30400107	3	1.17E-02	1.27E-02	0.75	No
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	30400103	3	5.84E-02	2.95E-02	1.00	30400199	3	8.00E-06	0.00E+00	0.00	Yes
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	30400107	3	1.17E-02	1.27E-02	0.75	30400199	3	8.00E-06	0.00E+00	0.00	No
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	30400103	3	8.88E-02	1.58E-02	1.00	30400107	3	1.34E-01	6.77E-03	1.00	Yes
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	30400103	3	8.88E-02	1.58E-02	1.00	30400199	3	2.56E-04	9.06E-05	1.00	Yes
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	30400107	3	1.34E-01	6.77E-03	1.00	30400199	3	2.56E-04	9.06E-05	1.00	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	30400103	6	9.46E-02	7.82E-02	1.00	30400107	3	2.90E-01	1.02E-02	1.00	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	30400103	6	9.46E-02	7.82E-02	1.00	30400199	9	3.88E-04	2.17E-04	0.47	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	30400107	3	2.90E-01	1.02E-02	1.00	30400199	9	3.88E-04	2.17E-04	0.47	Yes
Furnace, Glass	Metals	Arsenic	lbs/ton production	EF	30501402	6	2.05E-04	2.13E-04	1.00	30501403	3	8.26E-05	1.56E-05	1.00	No
Furnace, Glass	Metals	Chromium	lbs/ton production	EF	30501402	6	5.02E-05	3.99E-05	1.00	30501403	3	3.28E-04	6.84E-05	1.00	Yes
Furnace, Glass	Metals	Chromium (Hex)	lbs/ton production	EF	30501402	6	3.30E-06	8.71E-07	0.00	30501403	6	1.53E-03	1.72E-03	0.99	No
ICE, Diesel	PAH	Acenaphthene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20200102	15	2.08E-03	5.18E-03	1.00	No
ICE, Diesel	PAH	Acenaphthene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20300101	6	8.71E-04	1.33E-03	0.84	No
ICE, Diesel	PAH	Acenaphthene	lbs/Mgal	EF	20200102	15	2.08E-03	5.18E-03	1.00	20300101	6	8.71E-04	1.33E-03	0.84	No
ICE, Diesel	PAH	Acenaphthylene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20200102	15	2.87E-03	4.43E-03	1.00	No
ICE, Diesel	PAH	Acenaphthylene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20300101	6	9.45E-04	7.35E-04	0.90	No
ICE, Diesel	PAH	Acenaphthylene	lbs/Mgal	EF	20200102	15	2.87E-03	4.43E-03	1.00	20300101	6	9.45E-04	7.35E-04	0.90	No
ICE, Diesel	PAH	Anthracene	lbs/Mgal	EF	20100102	3	1.33E-03	2.13E-04	1.00	20200102	15	5.80E-04	8.01E-04	1.00	No
ICE, Diesel	PAH	Anthracene	lbs/Mgal	EF	20100102	3	1.33E-03	2.13E-04	1.00	20300101	6	2.67E-04	2.33E-05	0.47	Yes
ICE, Diesel	PAH	Anthracene	lbs/Mgal	EF	20200102	15	5.80E-04	8.01E-04	1.00	20300101	6	2.67E-04	2.33E-05	0.47	No
ICE, Diesel	PAH	Benzo(a)anthracene	lbs/Mgal	EF	20100102	3	1.11E-03	2.36E-05	1.00	20200102	15	1.61E-04	1.76E-04	1.00	Yes
ICE, Diesel	PAH	Benzo(a)anthracene	lbs/Mgal	EF	20100102	3	1.11E-03	1.36E-05	1.00	20300101	6	1.42E-04	1.52E-04	0.01	Yes
ICE, Diesel	PAH	Benzo(a)anthracene	lbs/Mgal	EF	20200102	15	1.61E-04	1.76E-04	1.00	20300101	6	1.42E-04	1.52E-04	0.01	No
ICE, Diesel	PAH	Benzo(a)pyrene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20200102	15	1.81E-05	2.28E-05	0.19	No
ICE, Diesel	PAH	Benzo(a)pyrene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20300101	6	1.40E-04	1.53E-04	0.00	No
ICE, Diesel	PAH	Benzo(a)pyrene	lbs/Mgal	EF	20200102	15	1.81E-05	2.28E-05	0.19	20300101	6	1.40E-04	1.53E-04	0.00	Yes
ICE, Diesel	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	20200102	12	8.31E-05	7.26E-05	0.63	20300101	6	1.44E-04	1.49E-04	0.03	No
ICE, Diesel	PAH	Benzo(b+k)fluoranthene	lbs/Mgal	EF	20100102	3	2.85E-06	1.15E-07	0.00	20200102	3	1.44E-06	2.72E-08	0.00	Yes
ICE, Diesel	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	20100102	3	3.39E-04	6.94E-05	1.00	20200102	15	4.52E-05	4.40E-05	0.65	Yes
ICE, Diesel	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	20100102	3	3.39E-04	6.94E-05	1.00	20300101	6	1.42E-04	1.51E-04	0.02	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	
ICE, Diesel	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	20200102	15	4.52E-05	4.40E-05	0.65	20300101	6	1.42E-04	1.61E-04	0.02	Yes
ICE, Diesel	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	20200102	12	2.42E-05	2.33E-05	0.70	20300101	6	1.41E-04	1.63E-04	0.00	Yes
ICE, Diesel	PAH	Chrysene	lbs/Mgal	EF	20100102	3	4.80E-04	4.87E-05	1.00	20200102	15	7.43E-05	7.53E-05	1.00	Yes
ICE, Diesel	PAH	Chrysene	lbs/Mgal	EF	20100102	3	4.80E-04	4.87E-05	1.00	20300101	6	1.53E-04	1.39E-04	0.09	Yes
ICE, Diesel	PAH	Chrysene	lbs/Mgal	EF	20200102	15	7.43E-05	7.53E-05	1.00	20300101	6	1.53E-04	1.39E-04	0.09	No
ICE, Diesel	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	20100102	3	2.85E-04	5.89E-05	1.00	20200102	15	4.27E-05	4.44E-05	0.28	Yes
ICE, Diesel	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	20100102	3	2.85E-04	5.89E-05	1.00	20300101	6	1.40E-04	1.53E-04	0.00	No
ICE, Diesel	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	20200102	15	4.27E-05	4.44E-05	0.28	20300101	6	1.40E-04	1.53E-04	0.00	Yes
ICE, Diesel	PAH	Fluoranthene	lbs/Mgal	EF	20100102	3	1.30E-03	1.70E-04	1.00	20200102	15	9.45E-04	8.20E-04	1.00	No
ICE, Diesel	PAH	Fluoranthene	lbs/Mgal	EF	20100102	3	1.30E-03	1.70E-04	1.00	20300101	6	2.84E-04	2.40E-05	0.51	Yes
ICE, Diesel	PAH	Fluoranthene	lbs/Mgal	EF	20200102	15	9.45E-04	8.20E-04	1.00	20300101	6	2.84E-04	2.40E-05	0.51	No
ICE, Diesel	PAH	Fluorene	lbs/Mgal	EF	20100102	3	1.22E-02	1.06E-03	1.00	20200102	15	3.82E-03	3.61E-03	1.00	Yes
ICE, Diesel	PAH	Fluorene	lbs/Mgal	EF	20100102	3	1.22E-02	1.06E-03	1.00	20300101	6	6.49E-04	4.23E-04	0.78	Yes
ICE, Diesel	PAH	Fluorene	lbs/Mgal	EF	20200102	15	3.82E-03	3.61E-03	1.00	20300101	6	6.49E-04	4.23E-04	0.78	Yes
ICE, Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	20100102	3	2.25E-04	2.43E-05	1.00	20200102	15	3.94E-05	4.34E-05	0.34	Yes
ICE, Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	20100102	3	2.25E-04	2.43E-05	1.00	20300101	6	1.40E-04	1.53E-04	0.00	No
ICE, Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	20200102	15	3.94E-05	4.34E-05	0.34	20300101	6	1.40E-04	1.53E-04	0.00	Yes
ICE, Diesel	PAH	Naphthalene	lbs/Mgal	EF	20100102	3	1.91E-02	3.19E-03	1.00	20200102	15	3.92E-02	5.28E-02	1.00	No
ICE, Diesel	PAH	Naphthalene	lbs/Mgal	EF	20100102	3	1.91E-02	3.19E-03	1.00	20300101	6	1.56E-02	1.41E-02	1.00	No
ICE, Diesel	PAH	Naphthalene	lbs/Mgal	EF	20200102	15	3.92E-02	5.28E-02	1.00	20300101	6	1.56E-02	1.41E-02	1.00	No
ICE, Diesel	PAH	Phenanthrene	lbs/Mgal	EF	20100102	3	1.45E-02	1.13E-03	1.00	20200102	15	7.27E-03	7.13E-03	1.00	No
ICE, Diesel	PAH	Phenanthrene	lbs/Mgal	EF	20100102	3	1.45E-02	1.13E-03	1.00	20300101	6	3.11E-03	3.07E-03	1.00	Yes
ICE, Diesel	PAH	Phenanthrene	lbs/Mgal	EF	20200102	15	7.27E-03	7.13E-03	1.00	20300101	6	3.11E-03	3.07E-03	1.00	No
ICE, Diesel	PAH	Pyrene	lbs/Mgal	EF	20100102	3	7.40E-03	5.71E-04	1.00	20200102	15	6.57E-04	4.83E-04	1.00	Yes
ICE, Diesel	PAH	Pyrene	lbs/Mgal	EF	20100102	3	7.40E-03	5.71E-04	1.00	20300101	6	2.37E-04	5.42E-05	0.41	Yes
ICE, Diesel	PAH	Pyrene	lbs/Mgal	EF	20200102	15	6.57E-04	4.83E-04	1.00	20300101	6	2.37E-04	5.42E-05	0.41	No
ICE, Diesel	VOC	Benzene	lbs/Mgal	EF	20100102	3	3.25E-02	4.18E-03	1.00	20200102	9	1.15E-01	4.80E-02	1.00	Yes
ICE, Diesel	VOC	Benzene	lbs/Mgal	EF	20100102	3	3.25E-02	4.18E-03	1.00	20300101	3	2.85E-01	4.33E-02	1.00	Yes
ICE, Diesel	VOC	Benzene	lbs/Mgal	EF	20200102	9	1.15E-01	4.80E-02	1.00	20300101	3	2.85E-01	4.33E-02	1.00	Yes
ICE, Diesel	VOC	Formaldehyde	lbs/Mgal	EF	20100102	3	6.82E-02	4.59E-02	1.00	20200102	15	7.47E-02	9.47E-02	1.00	No
ICE, Diesel	VOC	Formaldehyde	lbs/Mgal	EF	20100102	3	6.82E-02	4.59E-02	1.00	20300101	6	8.79E-02	6.83E-02	1.00	No
ICE, Diesel	VOC	Formaldehyde	lbs/Mgal	EF	20200102	15	7.47E-02	9.47E-02	1.00	20300101	6	8.79E-02	6.83E-02	1.00	No
ICE, Diesel	VOC	Propylene	lbs/Mgal	EF	20200102	9	3.67E-01	1.62E-01	1.00	20300101	3	2.97E-01	4.54E-02	1.00	No
ICE, Diesel	VOC	Toluene	lbs/Mgal	EF	20200102	9	4.92E-02	1.88E-02	1.00	20300101	3	8.50E-02	2.38E-02	1.00	Yes
ICE, Diesel	VOC	Total Xylene	lbs/Mgal	EF	20200102	6	3.13E-02	1.06E-02	1.00	20300101	3	1.51E-02	6.93E-03	1.00	Yes
ICE, Field Gas	VOC	Benzene	lbs/MMcf	EF	20200202	6	1.72E+00	6.13E-01	1.00	20200252	5	7.85E+00	4.77E+00	1.00	Yes
ICE, Field Gas	VOC	Benzene	lbs/MMcf	EF	20200202	6	1.72E+00	6.13E-01	1.00	20200254	2	1.10E+01	1.26E-01	1.00	Yes
ICE, Field Gas	VOC	Benzene	lbs/MMcf	EF	20200252	5	7.85E+00	4.77E+00	1.00	20200254	2	1.10E+01	1.26E-01	1.00	No
ICE, Field Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200202	9	4.15E+01	3.18E+01	1.00	20200252	6	5.09E+01	3.55E+01	1.00	No
ICE, Field Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200202	9	4.15E+01	3.18E+01	1.00	20200254	3	5.05E+00	8.04E-01	1.00	No
ICE, Field Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200252	6	5.09E+01	3.55E+01	1.00	20200254	3	5.05E+00	8.04E-01	1.00	No
ICE, Field Gas	VOC	m,p-xylene	lbs/MMcf	EF	20200202	6	3.02E-01	3.01E-01	1.00	20200252	5	6.04E-01	4.88E-01	1.00	No
ICE, Field Gas	VOC	m,p-xylene	lbs/MMcf	EF	20200202	6	3.02E-01	3.01E-01	1.00	20200254	2	5.37E-01	3.62E-02	1.00	No
ICE, Field Gas	VOC	m,p-xylene	lbs/MMcf	EF	20200252	5	6.04E-01	4.88E-01	1.00	20200254	2	5.37E-01	3.62E-02	1.00	No
ICE, Field Gas	VOC	o-xylene	lbs/MMcf	EF	20200202	6	8.97E-02	2.30E-02	1.00	20200252	5	2.88E-01	2.54E-01	1.00	No
ICE, Field Gas	VOC	o-xylene	lbs/MMcf	EF	20200202	6	8.97E-02	2.30E-02	1.00	20200254	2	2.68E-01	1.81E-02	1.00	Yes
ICE, Field Gas	VOC	o-xylene	lbs/MMcf	EF	20200252	5	2.88E-01	2.54E-01	1.00	20200254	2	2.68E-01	1.81E-02	1.00	No
ICE, Field Gas	VOC	Propylene	lbs/MMcf	EF	20200202	6	1.59E+01	4.86E+00	1.00	20200252	5	2.49E+01	1.41E+01	1.00	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
ICE, Field Gas	VOC	Propylene	lbs/MMcf	EF	20200202	6	1.69E+01	4.84E+00	1.00	20200254	2	3.04E+00	0.00E+00	0.00	Yes
ICE, Field Gas	VOC	Propylene	lbs/MMcf	EF	20200252	5	2.49E+01	1.41E+01	1.00	20200254	2	3.04E+00	0.00E+00	0.00	No
ICE, Field Gas	VOC	Toluene	lbs/MMcf	EF	20200202	6	7.68E-01	3.92E-01	1.00	20200252	5	2.86E+00	2.08E+00	1.00	Yes
ICE, Field Gas	VOC	Toluene	lbs/MMcf	EF	20200202	6	7.68E-01	3.92E-01	1.00	20200254	2	3.44E+00	1.57E-01	1.00	Yes
ICE, Field Gas	VOC	Toluene	lbs/MMcf	EF	20200252	5	2.86E+00	2.08E+00	1.00	20200254	2	3.44E+00	1.57E-01	1.00	No
ICE, Natural Gas	PAH	Acenaphthene	lbs/MMcf	EF	20200202	12	7.91E-04	8.62E-04	1.00	20200254	3	1.94E-03	1.26E-03	1.00	No
ICE, Natural Gas	PAH	Acenaphthylene	lbs/MMcf	EF	20200202	12	7.40E-03	8.82E-03	1.00	20200254	3	1.45E-02	1.74E-03	1.00	No
ICE, Natural Gas	PAH	Anthracene	lbs/MMcf	EF	20200202	12	2.91E-04	3.17E-04	1.00	20200254	3	1.84E-03	3.92E-04	1.00	Yes
ICE, Natural Gas	PAH	Benzo(a)anthracene	lbs/MMcf	EF	20200202	12	5.50E-04	9.08E-04	1.00	20200254	3	2.94E-04	4.08E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(a)pyrene	lbs/MMcf	EF	20200202	12	8.36E-05	1.38E-04	0.96	20200254	3	1.15E-04	3.18E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	20200202	12	6.76E-04	1.11E-03	0.99	20200254	3	2.37E-04	5.53E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	20200202	12	5.17E-04	8.71E-04	1.00	20200254	3	1.95E-04	4.46E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	20200202	12	2.42E-04	3.36E-04	0.99	20200254	3	1.03E-04	2.07E-05	1.00	No
ICE, Natural Gas	PAH	Chrysene	lbs/MMcf	EF	20200202	12	3.35E-04	6.99E-04	1.00	20200254	3	3.10E-04	7.71E-05	1.00	No
ICE, Natural Gas	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	20200202	12	2.87E-05	4.50E-05	0.95	20200254	3	1.25E-05	1.72E-06	1.00	No
ICE, Natural Gas	PAH	Fluoranthene	lbs/MMcf	EF	20200202	12	1.41E-03	2.06E-03	1.00	20200254	3	9.95E-04	1.94E-04	1.00	No
ICE, Natural Gas	PAH	Fluorene	lbs/MMcf	EF	20200202	12	2.68E-03	4.07E-03	0.96	20200254	3	6.91E-03	1.99E-03	1.00	No
ICE, Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	20200202	12	4.42E-04	7.23E-04	1.00	20200254	3	1.69E-04	3.43E-05	1.00	No
ICE, Natural Gas	PAH	Naphthalene	lbs/MMcf	EF	20200202	12	1.23E-01	1.31E-01	1.00	20200254	3	7.65E-02	1.58E-02	1.00	No
ICE, Natural Gas	PAH	Phenanthrene	lbs/MMcf	EF	20200202	12	7.19E-03	1.11E-02	1.00	20200254	3	7.07E-03	1.92E-03	1.00	No
ICE, Natural Gas	PAH	Pyrene	lbs/MMcf	EF	20200202	12	1.73E-03	2.84E-03	1.00	20200254	3	1.79E-03	7.53E-04	1.00	No
ICE, Natural Gas	SVOC	Ethylbenzene	lbs/MMcf	EF	20200202	9	7.52E-02	3.34E-02	1.00	20200254	3	1.16E-02	3.13E-03	1.00	Yes
ICE, Natural Gas	VOC	1,3-Butadiene	lbs/MMcf	EF	20200202	9	7.70E-01	6.07E-01	1.00	20200254	3	1.04E-01	3.92E-04	1.00	No
ICE, Natural Gas	VOC	Acetaldehyde	lbs/MMcf	EF	20200202	24	2.67E+00	2.72E+00	0.99	20200254	6	8.83E-01	9.05E-01	1.00	No
ICE, Natural Gas	VOC	Acrolein	lbs/MMcf	EF	20200202	23	1.02E+00	1.40E+00	0.99	20200254	6	7.94E-01	3.38E-01	1.00	No
ICE, Natural Gas	VOC	Benzene	lbs/MMcf	EF	20200202	23	1.05E+00	7.21E-01	1.00	20200254	11	1.91E+00	3.94E+00	1.00	No
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200202	42	1.53E+01	1.60E+01	1.00	20200252	9	5.15E+00	7.50E+00	0.91	No
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200202	42	1.53E+01	1.60E+01	1.00	20200254	12	2.80E+00	4.47E+00	1.00	Yes
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200252	9	5.15E+00	7.50E+00	0.91	20200254	12	2.80E+00	4.47E+00	1.00	No
ICE, Natural Gas	VOC	m,p-xylene	lbs/MMcf	EF	20200202	14	8.63E-02	3.99E-02	1.00	20200254	2	4.41E-01	1.78E-02	1.00	Yes
ICE, Natural Gas	VOC	o-xylene	lbs/MMcf	EF	20200202	14	4.94E-02	1.95E-02	0.95	20200254	2	2.17E-01	7.13E-03	1.00	Yes
ICE, Natural Gas	VOC	Propylene	lbs/MMcf	EF	20200202	23	1.40E+01	1.69E+01	0.97	20200254	5	1.60E+01	2.15E+01	1.00	No
ICE, Natural Gas	VOC	Toluene	lbs/MMcf	EF	20200202	23	4.36E-01	2.67E-01	1.00	20200254	6	1.07E+00	1.32E+00	1.00	Yes
ICE, Natural Gas	VOC	Total Xylene	lbs/MMcf	EF	20200202	9	5.31E-01	3.04E-01	1.00	20200254	3	6.02E-02	1.86E-02	1.00	Yes
Turbine, Distillate	PAH	Acenaphthene	lbs/Mgal	EF	20100101	9	9.69E-05	1.16E-04	0.12	20200103	6	1.82E-05	2.03E-05	0.76	No
Turbine, Distillate	PAH	Acenaphthylene	lbs/Mgal	EF	20100101	9	8.61E-05	1.22E-04	0.06	20200103	6	6.32E-06	7.79E-06	0.59	No
Turbine, Distillate	PAH	Anthracene	lbs/Mgal	EF	20100101	9	9.80E-05	1.17E-04	0.17	20200103	6	1.56E-05	1.83E-05	0.32	No
Turbine, Distillate	PAH	Benzo(a)anthracene	lbs/Mgal	EF	20100101	9	8.53E-05	1.23E-04	0.01	20200103	6	4.22E-06	2.93E-06	0.00	No
Turbine, Distillate	PAH	Benzo(a)pyrene	lbs/Mgal	EF	20100101	9	8.33E-05	1.24E-04	0.01	20200103	6	8.61E-06	1.01E-05	0.56	No
Turbine, Distillate	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	20100101	6	1.32E-04	1.29E-04	0.08	20200103	3	2.15E-05	1.45E-05	0.86	No
Turbine, Distillate	PAH	Benzo(b+k)fluoranthene	lbs/Mgal	EF	20100101	3	2.52E-06	6.60E-08	0.00	20200103	3	3.23E-06	3.82E-07	0.00	Yes
Turbine, Distillate	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	20100101	9	8.26E-05	1.25E-04	0.01	20200103	6	2.18E-06	1.25E-06	0.00	No
Turbine, Distillate	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	20100101	6	1.30E-04	1.31E-04	0.07	20200103	3	6.92E-06	4.04E-06	0.00	No
Turbine, Distillate	PAH	Chrysene	lbs/Mgal	EF	20100101	9	1.03E-04	1.15E-04	0.21	20200103	6	4.82E-06	2.70E-06	0.00	No
Turbine, Distillate	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	20100101	9	8.25E-05	1.25E-04	0.01	20200103	6	2.30E-06	1.19E-06	0.00	No
Turbine, Distillate	PAH	Fluoranthene	lbs/Mgal	EF	20100101	9	1.35E-04	1.20E-04	0.38	20200103	6	1.34E-05	1.16E-05	0.88	Yes
Turbine, Distillate	PAH	Fluorene	lbs/Mgal	EF	20100101	9	1.37E-04	1.08E-04	0.36	20200103	6	1.76E-05	1.22E-05	0.21	Yes
Turbine, Distillate	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	20100101	9	8.26E-05	1.24E-04	0.01	20200103	6	2.29E-06	1.22E-06	0.00	No

TABLE A6-3a. SOURCE CLASSIFICATION CODE TYPE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	
Turbine, Distillate	PAH	Naphthalene	lbs/Mgal	EF	20100101	9	1.08E-02	8.56E-03	1.00	20200103	6	3.87E-04	1.08E-04	1.00	Yes
Turbine, Distillate	PAH	Phenanthrene	lbs/Mgal	EF	20100101	9	4.12E-04	6.40E-04	1.00	20200103	6	6.91E-05	5.97E-05	1.00	No
Turbine, Distillate	PAH	Pyrene	lbs/Mgal	EF	20100101	9	1.01E-04	1.15E-04	0.20	20200103	6	1.44E-05	1.40E-05	0.89	No
Turbine, Distillate	VOC	Formaldehyde	lbs/Mgal	EF	20100101	6	3.19E-02	2.66E-02	1.00	20200103	6	7.05E-02	6.83E-02	1.00	No
Turbine, Nautral Gas	VOC	Formaldehyde	lbs/MMcf	EF	20200201	3	4.88E+00	6.18E-01	1.00	20200203	19	1.10E-01	1.06E-01	0.97	Yes

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	C/WS	2	5.26E-06	7.65E-07	0.00	Yes
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	FF	3	6.60E-08	4.74E-08	1.00	Yes
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/WS	2	5.26E-06	7.65E-07	0.00	FF	3	6.60E-08	4.74E-08	1.00	Yes
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/WS	2	5.26E-06	7.65E-07	0.00	WS	1	8.02E-06		0.00	No
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	FF	3	6.60E-08	4.74E-08	1.00	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/FF	3	5.45E-07	7.85E-09	0.00	C/WS	2	5.17E-07	5.77E-08	0.00	No
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/FF	3	5.45E-07	7.85E-09	0.00	FF	3	1.50E-07	1.42E-08	0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/FF	3	5.45E-07	7.85E-09	0.00	WS	1	4.01E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/WS	2	5.17E-07	5.77E-08	0.00	FF	3	1.50E-07	1.42E-08	0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/WS	2	5.17E-07	5.77E-08	0.00	WS	1	4.01E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	FF	3	1.50E-07	1.42E-08	0.00	WS	1	4.01E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/FF	1	1.62E-06		1.00	C/WS	2	1.51E-06	7.86E-07	0.68	No
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/FF	1	1.62E-06		1.00	FF	3	1.38E-07	3.92E-08	0.78	Yes
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/FF	1	1.62E-06		1.00	WS	1	4.41E-05		1.00	NA
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/WS	2	1.51E-06	7.86E-07	0.68	FF	3	1.38E-07	3.92E-08	0.78	Yes
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/WS	2	1.51E-06	7.86E-07	0.68	WS	1	4.41E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	FF	3	1.38E-07	3.92E-08	0.78	WS	1	4.41E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/FF	3	1.96E-06	1.27E-06	1.00	C/WS	2	3.15E-06	3.04E-07	1.00	No
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/FF	3	1.96E-06	1.27E-06	1.00	FF	3	5.23E-07	3.40E-07	1.00	No
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/FF	3	1.96E-06	1.27E-06	1.00	WS	1	8.42E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/WS	2	3.15E-06	3.04E-07	1.00	FF	3	5.23E-07	3.40E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/WS	2	3.15E-06	3.04E-07	1.00	WS	1	8.42E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	FF	3	5.23E-07	3.40E-07	1.00	WS	1	8.42E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	C/FF	3	3.61E-07	1.59E-07	1.00	C/WS	2	1.68E-06	6.04E-08	0.00	Yes
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	C/FF	3	3.61E-07	1.59E-07	1.00	FF	3	8.56E-08	3.14E-08	1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	C/WS	2	1.68E-06	6.04E-08	0.00	FF	3	8.56E-08	3.14E-08	1.00	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/FF	2	1.50E-06	2.22E-07	1.00	C/WS	2	5.45E-07	9.71E-08	0.56	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/FF	2	1.50E-06	2.22E-07	1.00	FF	3	1.12E-06	3.15E-07	1.00	No
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/FF	2	1.50E-06	2.22E-07	1.00	WS	1	1.32E-04		1.00	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/WS	2	5.45E-07	9.71E-08	0.56	FF	3	1.12E-06	3.15E-07	1.00	No
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/WS	2	5.45E-07	9.71E-08	0.56	WS	1	1.32E-04		1.00	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	FF	3	1.12E-06	3.15E-07	1.00	WS	1	1.32E-04		1.00	Yes
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/FF	3	2.01E-06	8.58E-07	1.00	C/WS	2	3.12E-06	1.11E-06	0.63	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/FF	3	2.01E-06	8.58E-07	1.00	FF	3	2.27E-06	1.54E-06	1.00	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/FF	3	2.01E-06	8.58E-07	1.00	WS	1	2.19E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/WS	2	3.12E-06	1.11E-06	0.63	FF	3	2.27E-06	1.54E-06	1.00	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/WS	2	3.12E-06	1.11E-06	0.63	WS	1	2.19E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	FF	3	2.27E-06	1.54E-06	1.00	WS	1	2.19E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/FF	3	1.24E-05	4.38E-06	1.00	C/WS	2	1.86E-05	1.34E-05	1.00	No
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/FF	3	1.24E-05	4.38E-06	1.00	FF	3	9.11E-07	1.82E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/FF	3	1.24E-05	4.38E-06	1.00	WS	1	1.64E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/WS	2	1.86E-05	1.34E-05	1.00	FF	3	9.11E-07	1.82E-07	1.00	No
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/WS	2	1.86E-05	1.34E-05	1.00	WS	1	1.64E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	FF	3	9.11E-07	1.82E-07	1.00	WS	1	1.64E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/FF	3	4.88E-08	2.84E-08	0.52	C/WS	2	4.00E-06	3.33E-06	1.00	No
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/FF	3	4.88E-08	2.84E-08	0.52	FF	3	7.06E-07	7.92E-08	0.00	Yes
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/FF	3	4.88E-08	2.84E-08	0.52	WS	1	8.02E-07		1.00	Yes
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/WS	2	4.00E-06	3.33E-06	1.00	FF	3	7.06E-07	7.92E-08	0.00	No
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/WS	2	4.00E-06	3.33E-06	1.00	WS	1	8.02E-07		1.00	No
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	FF	3	7.06E-07	7.92E-08	0.00	WS	1	8.02E-07		1.00	No
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/FF	3	2.73E-06	3.93E-08	0.00	C/WS	2	5.26E-06	7.65E-07	0.00	Yes

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/FF	3	2.73E-06	3.93E-08	0.00	FF	3	5.35E-07	2.00E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/FF	3	2.73E-06	3.93E-08	0.00	WS	1	3.61E-04		0.00	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/WS	2	5.26E-06	7.65E-07	0.00	FF	3	5.35E-07	2.00E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/WS	2	5.26E-06	7.65E-07	0.00	WS	1	3.81E-04		0.00	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	FF	3	5.35E-07	2.00E-07	1.00	WS	1	3.81E-04		0.00	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	C/WS	2	5.26E-06	7.65E-07	0.00	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	FF	3	1.16E-06	5.08E-07	0.50	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/WS	2	5.26E-06	7.65E-07	0.00	FF	3	1.16E-06	5.08E-07	0.50	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/WS	2	5.26E-06	7.65E-07	0.00	WS	1	8.02E-06		0.00	No
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	FF	3	1.16E-06	5.08E-07	0.50	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/FF	3	1.82E-05	5.62E-06	1.00	C/WS	2	6.62E-06	1.34E-05	1.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/FF	3	1.82E-05	5.62E-06	1.00	FF	3	6.71E-06	6.28E-06	1.00	No
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/FF	3	1.82E-05	5.62E-06	1.00	WS	1	4.62E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/WS	2	6.62E-05	1.34E-05	1.00	FF	3	6.71E-06	6.28E-06	1.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/WS	2	6.62E-05	1.34E-05	1.00	WS	1	4.62E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	FF	3	6.71E-06	6.28E-06	1.00	WS	1	4.62E-03		1.00	Yes
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	C/FF	3	4.80E-07	4.21E-07	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	No
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	C/FF	3	4.80E-07	4.21E-07	1.00	FF	3	2.11E-08	1.08E-08	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	2.11E-08	1.08E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	C/FF	3	3.36E-07	2.72E-07	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	C/FF	3	3.36E-07	2.72E-07	1.00	FF	3	2.04E-08	1.89E-08	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	2.04E-08	1.89E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	C/FF	3	3.21E-08	7.68E-09	1.00	C/WS	2	2.78E-06	2.42E-06	0.81	No
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	C/FF	3	3.21E-08	7.68E-09	1.00	FF	3	1.68E-08	7.54E-09	1.00	No
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	C/WS	2	2.78E-06	2.42E-06	0.81	FF	3	1.68E-08	7.54E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/FF	3	6.12E-08	2.51E-08	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/FF	3	6.12E-08	2.51E-08	1.00	FF	3	6.41E-09	2.56E-09	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	6.41E-09	2.56E-09	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/FF	3	2.79E-09	1.45E-09	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/FF	3	2.79E-09	1.45E-09	1.00	FF	3	3.13E-10	5.29E-11	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	3.13E-10	5.29E-11	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	C/FF	3	1.39E-08	9.49E-09	1.00	FF	3	4.39E-09	6.44E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/FF	3	1.90E-09	6.76E-10	0.23	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/FF	3	1.90E-09	6.76E-10	0.23	FF	3	5.03E-10	3.10E-11	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	5.03E-10	3.10E-11	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/FF	3	5.13E-09	2.90E-09	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/FF	3	5.13E-09	2.90E-09	1.00	FF	3	1.13E-09	1.31E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	1.13E-09	1.31E-09	1.00	Yes
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	C/FF	3	2.70E-08	1.23E-08	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	C/FF	3	2.70E-08	1.23E-08	1.00	FF	3	1.25E-09	3.67E-10	1.00	Yes
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	1.25E-09	3.67E-10	1.00	Yes
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/FF	3	1.76E-09	8.74E-10	0.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/FF	3	1.76E-09	8.74E-10	0.00	FF	3	1.90E-10	1.08E-10	0.00	Yes
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	1.90E-10	1.08E-10	0.00	Yes
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	C/FF	3	2.17E-07	1.63E-08	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	C/FF	3	2.17E-07	1.63E-08	1.00	FF	3	8.67E-08	3.88E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	8.67E-08	3.88E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	C/FF	3	8.83E-07	3.05E-07	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	No
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	C/FF	3	8.83E-07	3.05E-07	1.00	FF	3	2.78E-07	1.92E-07	1.00	Yes
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	2.78E-07	1.92E-07	1.00	Yes
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/FF	3	2.06E-09	5.13E-10	0.29	C/WS	2	1.22E-06	2.17E-07	0.00	Yes

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/FF	3	2.00E-09	5.13E-10	0.29	FF	3	3.00E-10	6.03E-12	1.00	Yes
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	3.00E-10	6.03E-12	1.00	Yes
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	C/FF	3	4.75E-05	2.78E-05	1.00	C/WS	2	1.72E-03	3.83E-04	1.00	Yes
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	C/FF	3	4.75E-05	2.78E-05	1.00	FF	3	1.08E-05	4.70E-06	1.00	No
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	C/WS	2	1.72E-03	2.63E-04	1.00	FF	3	1.08E-05	4.70E-06	1.00	Yes
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	C/FF	3	6.27E-07	2.36E-07	1.00	C/WS	2	1.13E-05	7.28E-06	1.00	No
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	C/FF	3	6.27E-07	2.36E-07	1.00	FF	3	7.23E-07	3.10E-07	1.00	No
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	C/WS	2	1.13E-05	7.28E-06	1.00	FF	3	7.23E-07	3.10E-07	1.00	No
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	C/FF	3	1.66E-07	8.21E-09	1.00	C/WS	2	1.22E-06	2.17E-07	0.00	Yes
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	C/FF	3	1.66E-07	8.21E-09	1.00	FF	3	5.99E-08	2.56E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	C/WS	2	1.22E-06	2.17E-07	0.00	FF	3	5.99E-08	2.56E-08	1.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/FF	3	1.58E-02	1.62E-03	1.00	C/WS	2	2.21E-05	7.81E-06	0.63	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/FF	3	1.58E-02	1.62E-03	1.00	FF	3	1.04E-03	4.65E-05	0.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/FF	3	1.58E-02	1.62E-03	1.00	WS	1	3.05E-04		1.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/WS	2	2.21E-05	7.81E-06	0.63	FF	3	1.04E-03	4.65E-05	0.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/WS	2	2.21E-05	7.81E-06	0.63	WS	1	3.05E-04		1.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	FF	3	1.04E-03	4.65E-05	0.00	WS	1	3.05E-04		1.00	Yes
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	C/FF	3	1.32E-04	5.94E-05	1.00	C/WS	2	6.12E-05	1.53E-05	1.00	No
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	C/FF	3	1.32E-04	5.94E-05	1.00	FF	3	2.43E-04	7.74E-05	1.00	No
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	C/WS	2	6.12E-05	1.53E-05	1.00	FF	3	2.43E-04	7.74E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Arsenic	lbs/ton production	EF	C/FF	6	9.48E-07	5.49E-07	0.00	C/WS	5	1.70E-05	3.03E-05	0.83	No
Asphalt Prod., Natural Gas	Metals	Arsenic	lbs/ton production	EF	C/FF	6	9.48E-07	5.49E-07	0.00	FF	3	2.16E-06	4.32E-07	0.00	Yes
Asphalt Prod., Natural Gas	Metals	Arsenic	lbs/ton production	EF	C/WS	5	1.70E-05	3.03E-05	0.83	FF	3	2.16E-06	4.32E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Beryllium	lbs/ton production	EF	C/FF	6	1.14E-06	5.31E-07	0.00	C/WS	5	6.17E-07	5.74E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Beryllium	lbs/ton production	EF	C/FF	6	1.14E-06	5.31E-07	0.00	FF	3	2.13E-07	4.12E-08	0.00	Yes
Asphalt Prod., Natural Gas	Metals	Beryllium	lbs/ton production	EF	C/WS	5	6.17E-07	5.74E-07	0.00	FF	3	2.13E-07	4.12E-08	0.00	No
Asphalt Prod., Natural Gas	Metals	Cadmium	lbs/ton production	EF	C/FF	6	2.30E-06	2.83E-06	0.75	C/WS	5	3.04E-06	4.06E-06	0.81	No
Asphalt Prod., Natural Gas	Metals	Cadmium	lbs/ton production	EF	C/FF	6	2.30E-06	2.83E-06	0.75	FF	3	4.27E-07	8.25E-08	0.00	No
Asphalt Prod., Natural Gas	Metals	Cadmium	lbs/ton production	EF	C/WS	5	3.04E-06	4.06E-06	0.81	FF	3	4.27E-07	8.25E-08	0.00	No
Asphalt Prod., Natural Gas	Metals	Chromium	lbs/ton production	EF	C/FF	6	1.17E-06	2.65E-07	0.58	C/WS	5	2.32E-06	2.41E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Chromium	lbs/ton production	EF	C/FF	6	1.17E-06	2.65E-07	0.58	FF	2	4.51E-06	4.53E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Chromium	lbs/ton production	EF	C/WS	5	2.32E-06	2.41E-06	1.00	FF	2	4.51E-06	4.53E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Chromium (Hex)	lbs/ton production	EF	C/FF	6	6.51E-07	3.68E-07	0.25	C/WS	5	2.72E-06	4.09E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Chromium (Hex)	lbs/ton production	EF	C/FF	6	6.51E-07	3.68E-07	0.25	FF	2	5.60E-07	1.63E-07	0.60	No
Asphalt Prod., Natural Gas	Metals	Chromium (Hex)	lbs/ton production	EF	C/WS	5	2.72E-06	4.09E-06	1.00	FF	2	5.60E-07	1.63E-07	0.60	No
Asphalt Prod., Natural Gas	Metals	Copper	lbs/ton production	EF	C/FF	6	3.49E-06	1.51E-06	0.61	C/WS	5	5.46E-06	6.53E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Copper	lbs/ton production	EF	C/FF	6	3.49E-06	1.51E-06	0.61	FF	3	3.38E-06	6.12E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Copper	lbs/ton production	EF	C/WS	5	5.46E-06	6.53E-06	1.00	FF	3	3.38E-06	6.12E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Lead	lbs/ton production	EF	C/FF	6	6.03E-06	7.80E-06	1.00	C/WS	5	2.36E-05	4.70E-05	0.94	No
Asphalt Prod., Natural Gas	Metals	Lead	lbs/ton production	EF	C/FF	6	6.03E-06	7.80E-06	1.00	FF	3	1.07E-06	2.10E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Lead	lbs/ton production	EF	C/WS	5	2.36E-05	4.70E-05	0.94	FF	3	1.07E-06	2.10E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Manganese	lbs/ton production	EF	C/FF	6	1.41E-05	1.10E-05	1.00	C/WS	5	9.42E-05	8.72E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Manganese	lbs/ton production	EF	C/FF	6	1.41E-05	1.10E-05	1.00	FF	3	1.47E-05	8.27E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Manganese	lbs/ton production	EF	C/WS	5	9.42E-05	8.72E-05	1.00	FF	3	1.47E-05	8.27E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Mercury	lbs/ton production	EF	C/FF	6	1.53E-05	1.31E-05	1.00	C/WS	5	1.66E-06	1.08E-06	1.00	Yes
Asphalt Prod., Natural Gas	Metals	Mercury	lbs/ton production	EF	C/FF	6	1.53E-05	1.31E-05	1.00	FF	3	4.73E-07	1.19E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Mercury	lbs/ton production	EF	C/WS	5	1.66E-06	1.08E-06	1.00	FF	3	4.73E-07	1.19E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Nickel	lbs/ton production	EF	C/FF	6	4.86E-06	3.40E-06	0.00	C/WS	5	1.16E-05	1.69E-05	0.69	No
Asphalt Prod., Natural Gas	Metals	Nickel	lbs/ton production	EF	C/FF	6	4.86E-06	3.40E-06	0.00	FF	3	9.53E-06	5.66E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Nickel	lbs/ton production	EF	C/WS	5	1.16E-05	1.69E-05	0.69	FF	3	9.53E-06	5.66E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Selenium	lbs/ton production	EF	C/FF	6	9.47E-07	5.47E-07	0.00	C/WS	5	2.89E-05	5.66E-05	0.90	No
Asphalt Prod., Natural Gas	Metals	Selenium	lbs/ton production	EF	C/FF	6	9.47E-07	5.47E-07	0.00	FF	3	2.15E-06	4.19E-07	0.00	Yes

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Natural Gas	Metals	Selenium	lbs/ton production	EF	C/WS	5	2.89E-05	5.66E-05	0.90	FF	3	2.15E-06	4.19E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Zinc	lbs/ton production	EF	C/FF	6	1.48E-05	6.66E-06	1.00	C/WS	5	3.08E-05	3.10E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Zinc	lbs/ton production	EF	C/FF	6	1.48E-05	6.66E-06	1.00	FF	3	3.99E-05	2.43E-06	1.00	Yes
Asphalt Prod., Natural Gas	Metals	Zinc	lbs/ton production	EF	C/WS	5	3.08E-05	3.10E-05	1.00	FF	3	3.99E-05	2.43E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Acenaphthene	lbs/ton production	EF	C/FF	6	8.29E-07	3.34E-07	1.00	C/WS	5	6.19E-07	5.22E-07	0.25	No
Asphalt Prod., Natural Gas	PAH	Acenaphthene	lbs/ton production	EF	C/FF	6	8.29E-07	3.34E-07	1.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Acenaphthene	lbs/ton production	EF	C/WS	5	6.19E-07	5.22E-07	0.25	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Acenaphthylene	lbs/ton production	EF	C/FF	6	2.24E-06	4.12E-06	1.00	C/WS	4	6.69E-07	5.60E-07	0.14	No
Asphalt Prod., Natural Gas	PAH	Acenaphthylene	lbs/ton production	EF	C/FF	6	2.24E-06	4.12E-06	1.00	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Acenaphthylene	lbs/ton production	EF	C/WS	4	6.69E-07	5.60E-07	0.14	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Anthracene	lbs/ton production	EF	C/FF	6	2.50E-07	3.63E-07	1.00	C/WS	5	5.00E-07	5.98E-07	0.08	No
Asphalt Prod., Natural Gas	PAH	Anthracene	lbs/ton production	EF	C/FF	6	2.50E-07	3.63E-07	1.00	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Anthracene	lbs/ton production	EF	C/WS	5	5.00E-07	5.98E-07	0.08	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/FF	6	1.12E-08	2.54E-09	1.00	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/FF	6	1.12E-08	2.54E-09	1.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/FF	6	1.15E-09	3.82E-10	0.33	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/FF	6	1.15E-09	3.82E-10	0.33	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	C/FF	6	1.67E-09	1.52E-09	0.90	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	C/FF	6	1.67E-09	1.52E-09	0.90	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/FF	6	1.44E-09	3.65E-10	0.57	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/FF	6	1.44E-09	3.65E-10	0.57	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/FF	6	2.67E-09	1.58E-09	0.77	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/FF	6	2.67E-09	1.58E-09	0.77	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Chrysene	lbs/ton production	EF	C/FF	6	1.75E-09	7.87E-10	0.64	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Chrysene	lbs/ton production	EF	C/FF	6	1.75E-09	7.87E-10	0.64	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Chrysene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/FF	6	1.09E-09	5.37E-10	0.38	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/FF	6	1.09E-09	5.37E-10	0.38	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Fluoranthene	lbs/ton production	EF	C/FF	6	6.78E-07	1.43E-06	1.00	C/WS	5	4.67E-07	6.26E-07	0.01	No
Asphalt Prod., Natural Gas	PAH	Fluoranthene	lbs/ton production	EF	C/FF	6	6.78E-07	1.43E-06	1.00	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Fluoranthene	lbs/ton production	EF	C/WS	5	4.67E-07	6.26E-07	0.01	FF	3	1.92E-07	7.35E-09	0.00	No
Asphalt Prod., Natural Gas	PAH	Fluorene	lbs/ton production	EF	C/FF	6	1.82E-06	7.23E-07	1.00	C/WS	5	1.38E-06	9.67E-07	0.67	No
Asphalt Prod., Natural Gas	PAH	Fluorene	lbs/ton production	EF	C/FF	6	1.82E-06	7.23E-07	1.00	FF	3	2.23E-06	2.52E-07	1.00	No
Asphalt Prod., Natural Gas	PAH	Fluorene	lbs/ton production	EF	C/WS	5	1.38E-06	9.67E-07	0.67	FF	3	2.23E-06	2.52E-07	1.00	No
Asphalt Prod., Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/FF	6	1.29E-09	4.93E-10	0.52	C/WS	2	1.15E-06	4.87E-08	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/FF	6	1.29E-09	4.93E-10	0.52	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/WS	2	1.15E-06	4.87E-08	0.00	FF	3	1.92E-07	7.35E-09	0.00	Yes
Asphalt Prod., Natural Gas	PAH	Naphthalene	lbs/ton production	EF	C/FF	6	3.30E-05	2.54E-05	1.00	C/WS	5	5.43E-06	6.61E-06	0.92	Yes
Asphalt Prod., Natural Gas	PAH	Naphthalene	lbs/ton production	EF	C/FF	6	3.30E-05	2.54E-05	1.00	FF	3	2.88E-06	1.00E-06	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Naphthalene	lbs/ton production	EF	C/WS	5	5.43E-06	6.61E-06	0.92	FF	3	2.88E-06	1.00E-06	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Phenanthrene	lbs/ton production	EF	C/FF	6	2.88E-06	2.44E-06	1.00	C/WS	5	1.71E-06	1.03E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Phenanthrene	lbs/ton production	EF	C/FF	6	2.88E-06	2.44E-06	1.00	FF	3	3.76E-06	6.58E-07	1.00	No
Asphalt Prod., Natural Gas	PAH	Phenanthrene	lbs/ton production	EF	C/WS	5	1.71E-06	1.03E-06	1.00	FF	3	3.76E-06	6.58E-07	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Pyrene	lbs/ton production	EF	C/FF	6	1.25E-06	2.83E-06	1.00	C/WS	5	4.72E-07	6.23E-07	0.02	No
Asphalt Prod., Natural Gas	PAH	Pyrene	lbs/ton production	EF	C/FF	6	1.25E-06	2.83E-06	1.00	FF	3	1.99E-07	1.09E-08	0.35	No
Asphalt Prod., Natural Gas	PAH	Pyrene	lbs/ton production	EF	C/WS	5	4.72E-07	6.23E-07	0.02	FF	3	1.99E-07	1.09E-08	0.35	No

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Natural Gas	VOC	Benzene	lbs/ton production	EF	C/FF	6	1.27E-04	1.37E-04	1.00	C/WS	5	5.32E-05	7.82E-05	1.00	No
Asphalt Prod., Natural Gas	VOC	Benzene	lbs/ton production	EF	C/FF	6	1.27E-04	1.37E-04	1.00	FF	2	2.29E-05	2.74E-06	1.00	No
Asphalt Prod., Natural Gas	VOC	Benzene	lbs/ton production	EF	C/WS	5	5.32E-05	7.82E-05	1.00	FF	2	2.29E-05	2.74E-06	1.00	No
Asphalt Prod., Natural Gas	VOC	Formaldehyde	lbs/ton production	EF	C/FF	6	3.79E-04	3.79E-04	1.00	C/WS	3	1.33E-05	3.43E-06	1.00	No
Boiler, Fuel Oil	PAH	Acenaphthene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	2.47E-05	3.34E-05	0.48	Yes
Boiler, Fuel Oil	PAH	Acenaphthylene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	2.05E-05	3.99E-05	0.30	Yes
Boiler, Fuel Oil	PAH	Anthracene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.43E-05	2.68E-05	0.10	Yes
Boiler, Fuel Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.36E-05	2.71E-05	0.04	Yes
Boiler, Fuel Oil	PAH	Benzo(a)pyrene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.54E-05	2.70E-05	0.15	Yes
Boiler, Fuel Oil	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	15	2.89E-05	3.47E-05	0.04	Yes
Boiler, Fuel Oil	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.37E-05	2.70E-05	0.03	Yes
Boiler, Fuel Oil	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	15	2.76E-05	3.58E-05	0.00	Yes
Boiler, Fuel Oil	PAH	Chrysene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.58E-05	2.67E-05	0.17	Yes
Boiler, Fuel Oil	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.36E-05	2.70E-05	0.02	Yes
Boiler, Fuel Oil	PAH	Fluoranthene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.83E-05	2.74E-05	0.38	Yes
Boiler, Fuel Oil	PAH	Fluorene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	2.18E-05	3.04E-05	0.42	Yes
Boiler, Fuel Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.34E-05	2.71E-05	0.02	Yes
Boiler, Fuel Oil	PAH	Naphthalene	lbs/Mgal	EF	FF	2	3.54E-02	5.78E-03	1.00	None	33	5.17E-03	1.21E-02	1.00	Yes
Boiler, Fuel Oil	PAH	Phenanthrene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	3.26E-05	6.19E-05	0.69	Yes
Boiler, Fuel Oil	PAH	Pyrene	lbs/Mgal	EF	FF	2	1.38E-04	1.24E-06	0.00	None	33	1.46E-05	2.67E-05	0.11	Yes
Boiler, Fuel Oil	VOC	Formaldehyde	lbs/Mgal	EF	FF	3	2.65E-02	2.40E-02	1.00	None	27	5.69E-02	1.08E-01	0.97	No
Coating, Green PE	Metals	Chromium	lbs/gal paint	EF	BF	3	3.33E-04	1.08E-04	1.00	PA	4	1.19E-04	5.38E-05	0.68	Yes
Coating, Green PE	Metals	Chromium	lbs/gal paint	EF	BF	3	3.33E-04	1.08E-04	1.00	WC	2	4.15E-05	8.22E-06	1.00	Yes
Coating, Green PE	Metals	Chromium	lbs/gal paint	EF	BF	3	3.33E-04	1.08E-04	1.00	WT	3	1.28E-04	6.13E-06	1.00	Yes
Coating, Green PE	Metals	Chromium	lbs/gal paint	EF	PA	4	1.19E-04	5.38E-05	0.68	WC	2	4.15E-05	8.22E-06	1.00	No
Coating, Green PE	Metals	Chromium	lbs/gal paint	EF	PA	4	1.19E-04	5.38E-05	0.68	WT	3	1.28E-04	6.13E-06	1.00	No
Coating, Green PE	Metals	Chromium	lbs/gal paint	EF	WC	2	4.15E-05	8.22E-06	1.00	WT	3	1.28E-04	6.13E-06	1.00	Yes
Coating, Green PE	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.75E-04	1.18E-04	1.00	PA	4	3.10E-05	2.02E-05	1.00	No
Coating, Green PE	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.75E-04	1.18E-04	1.00	WC	2	4.31E-06	1.03E-06	1.00	No
Coating, Green PE	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.75E-04	1.18E-04	1.00	WT	3	3.99E-05	9.96E-06	1.00	No
Coating, Green PE	Metals	Chromium (Hex)	lbs/gal paint	EF	PA	4	3.10E-05	2.02E-05	1.00	WC	2	4.31E-06	1.03E-06	1.00	No
Coating, Green PE	Metals	Chromium (Hex)	lbs/gal paint	EF	PA	4	3.10E-05	2.02E-05	1.00	WT	3	3.99E-05	9.96E-06	1.00	No
Coating, Green PE	Metals	Chromium (Hex)	lbs/gal paint	EF	WC	2	4.31E-06	1.03E-06	1.00	WT	3	3.99E-05	9.96E-06	1.00	Yes
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	BF	3	1.53E-03	7.22E-04	1.00	PA	4	7.33E-04	7.81E-04	0.95	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	BF	3	1.53E-03	7.22E-04	1.00	WC	4	1.18E-03	9.76E-04	1.00	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	BF	3	1.53E-03	7.22E-04	1.00	WSN	3	1.03E-03	6.24E-04	1.00	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	BF	3	1.53E-03	7.22E-04	1.00	WT	6	2.60E-04	1.21E-04	0.63	Yes
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	PA	4	7.33E-04	7.81E-04	0.95	WC	4	1.18E-03	9.76E-04	1.00	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	PA	4	7.33E-04	7.81E-04	0.95	WSN	3	1.03E-03	6.24E-04	1.00	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	PA	4	7.33E-04	7.81E-04	0.95	WT	6	2.60E-04	1.21E-04	0.63	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	WC	4	1.18E-03	9.76E-04	1.00	WSN	3	1.03E-03	6.24E-04	1.00	No
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	WC	4	1.18E-03	9.76E-04	1.00	WT	6	2.60E-04	1.21E-04	0.63	Yes
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	WSN	3	1.03E-03	6.24E-04	1.00	WT	6	2.60E-04	1.21E-04	0.63	Yes
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.28E-03	7.08E-04	1.00	PA	4	2.87E-04	3.20E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.28E-03	7.08E-04	1.00	WC	4	8.40E-04	7.13E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.28E-03	7.08E-04	1.00	WSN	3	8.32E-04	4.49E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	BF	3	1.28E-03	7.08E-04	1.00	WT	6	2.26E-04	1.63E-04	1.00	Yes
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	PA	4	2.87E-04	3.20E-04	1.00	WC	4	8.40E-04	7.13E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	PA	4	2.87E-04	3.20E-04	1.00	WSN	3	8.32E-04	4.49E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	PA	4	2.87E-04	3.20E-04	1.00	WT	6	2.26E-04	1.63E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	WC	4	8.40E-04	7.13E-04	1.00	WSN	3	8.32E-04	4.49E-04	1.00	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	WC	4	8.40E-04	7.13E-04	1.00	WT	6	2.26E-04	1.63E-04	1.00	No

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	WSN	3	8.32E-04	4.49E-04	1.00	WT	6	2.26E-04	1.63E-04	1.00	Yes
Coating, Powder	Metals	Chromium	lbs/lbs powder	EF	AF	2	2.94E-04	1.53E-04	1.00	None	4	1.30E-01	1.77E-01	1.00	No
Coating, Powder	Metals	Chromium (Hex)	lbs/lbs powder	EF	AF	2	2.41E-04	8.44E-05	1.00	None	3	8.48E-03	8.02E-03	1.00	No
FBC, Biomass	Dioxin & Furan	4D 2378	lbs/ton	EF	AI/C/ESP	3	2.89E-11	1.03E-11	0.00	AI/C/FF	3	4.46E-10	4.17E-11	0.00	Yes
FBC, Biomass	Dioxin & Furan	4F 2378	lbs/ton	EF	AI/C/ESP	3	1.29E-10	5.25E-11	1.00	AI/C/FF	3	3.20E-09	2.68E-09	1.00	No
FBC, Biomass	Dioxin & Furan	5D 12378	lbs/ton	EF	AI/C/ESP	3	3.28E-11	1.14E-11	0.00	AI/C/FF	3	1.19E-09	1.01E-10	0.25	Yes
FBC, Biomass	Dioxin & Furan	5F 12378	lbs/ton	EF	AI/C/ESP	3	6.27E-11	2.28E-11	1.00	AI/C/FF	3	2.10E-09	1.79E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	5F 23478	lbs/ton	EF	AI/C/ESP	3	1.03E-10	2.69E-11	1.00	AI/C/FF	3	4.06E-09	2.00E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	6D 123478	lbs/ton	EF	AI/C/ESP	3	4.36E-11	4.86E-12	0.29	AI/C/FF	3	1.22E-09	4.69E-10	0.00	Yes
FBC, Biomass	Dioxin & Furan	6D 123678	lbs/ton	EF	AI/C/ESP	3	6.38E-11	2.75E-11	0.50	AI/C/FF	3	1.27E-09	4.45E-10	0.00	Yes
FBC, Biomass	Dioxin & Furan	6D 123789	lbs/ton	EF	AI/C/ESP	3	4.77E-11	8.28E-12	0.40	AI/C/FF	3	1.15E-09	5.30E-10	0.00	Yes
FBC, Biomass	Dioxin & Furan	6F 123478	lbs/ton	EF	AI/C/ESP	3	7.59E-11	3.95E-11	1.00	AI/C/FF	3	1.03E-09	5.21E-10	1.00	Yes
FBC, Biomass	Dioxin & Furan	6F 123678	lbs/ton	EF	AI/C/ESP	3	1.12E-10	5.11E-11	1.00	AI/C/FF	3	1.66E-09	5.31E-10	1.00	Yes
FBC, Biomass	Dioxin & Furan	6F 123789	lbs/ton	EF	AI/C/ESP	3	2.77E-11	2.63E-11	0.70	AI/C/FF	3	6.51E-10	5.42E-10	0.00	No
FBC, Biomass	Dioxin & Furan	6F 234678	lbs/ton	EF	AI/C/ESP	3	3.02E-10	2.69E-10	1.00	AI/C/FF	3	1.79E-09	1.46E-10	1.00	Yes
FBC, Biomass	Dioxin & Furan	7D 1234678	lbs/ton	EF	AI/C/ESP	3	6.90E-10	2.02E-10	1.00	AI/C/FF	3	2.11E-09	7.00E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	7F 1234678	lbs/ton	EF	AI/C/ESP	3	1.37E-09	1.44E-09	1.00	AI/C/FF	3	1.26E-09	1.00E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	7F 1234789	lbs/ton	EF	AI/C/ESP	3	8.97E-11	9.71E-11	0.92	AI/C/FF	3	7.43E-10	5.89E-10	0.63	No
FBC, Biomass	Dioxin & Furan	8D	lbs/ton	EF	AI/C/ESP	3	6.69E-09	2.53E-09	1.00	AI/C/FF	3	6.01E-09	1.21E-09	1.00	Yes
FBC, Biomass	Dioxin & Furan	8F	lbs/ton	EF	AI/C/ESP	3	1.61E-09	1.85E-09	1.00	AI/C/FF	3	5.24E-09	3.44E-09	0.81	No
FBC, Biomass	PAH	Acenaphthene	lbs/ton	EF	AI/C/ESP	3	7.04E-07	3.53E-07	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Acenaphthylene	lbs/ton	EF	AI/C/ESP	3	2.67E-05	1.31E-05	1.00	AI/C/FF	3	9.47E-05	9.77E-05	0.95	No
FBC, Biomass	PAH	Anthracene	lbs/ton	EF	AI/C/ESP	3	5.68E-07	1.92E-07	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Benzo(a)anthracene	lbs/ton	EF	AI/C/ESP	3	2.05E-08	4.18E-09	0.74	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Benzo(a)pyrene	lbs/ton	EF	AI/C/ESP	3	1.64E-08	6.23E-10	0.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Benzo(b)fluoranthene	lbs/ton	EF	AI/C/ESP	3	1.25E-07	1.66E-08	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	AI/C/ESP	3	5.94E-08	3.59E-08	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Benzo(k)fluoranthene	lbs/ton	EF	AI/C/ESP	3	3.00E-08	9.68E-09	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Chrysene	lbs/ton	EF	AI/C/ESP	3	2.35E-07	3.52E-08	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	dibenz(a,h)anthracene	lbs/ton	EF	AI/C/ESP	3	1.64E-08	6.23E-10	0.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Fluoranthene	lbs/ton	EF	AI/C/ESP	3	6.73E-06	2.44E-06	1.00	AI/C/FF	3	4.79E-05	1.15E-05	1.00	Yes
FBC, Biomass	PAH	Fluorene	lbs/ton	EF	AI/C/ESP	3	1.32E-06	6.67E-07	1.00	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	AI/C/ESP	3	2.47E-08	1.15E-08	0.78	AI/C/FF	3	1.20E-05	3.01E-06	0.00	Yes
FBC, Biomass	PAH	Naphthalene	lbs/ton	EF	AI/C/ESP	3	2.99E-04	9.94E-05	1.00	AI/C/FF	3	7.17E-03	1.29E-03	1.00	Yes
FBC, Biomass	PAH	Phenanthrene	lbs/ton	EF	AI/C/ESP	3	1.92E-05	5.38E-06	1.00	AI/C/FF	3	1.13E-04	8.79E-05	1.00	Yes
FBC, Biomass	PAH	Pyrene	lbs/ton	EF	AI/C/ESP	3	4.78E-06	1.66E-06	1.00	AI/C/FF	3	4.93E-05	1.66E-05	1.00	Yes
FBC, Biomass	VOC	Formaldehyde	lbs/ton	EF	AI/C/ESP	3	3.66E-04	1.35E-04	1.00	AI/C/FF	3	2.34E-02	4.07E-03	1.00	Yes
FBC, Coal	Dioxin & Furan	4D 2378	lbs/ton	EF	LI/AI/C/FF	12	4.22E-10	4.03E-10	0.00	LI/AI/FF/ESP	2	9.89E-10	8.97E-10	0.00	No
FBC, Coal	Dioxin & Furan	4D Total	lbs/ton	EF	LI/AI/C/FF	12	4.79E-10	4.28E-10	0.00	LI/AI/FF/ESP	3	1.81E-09	1.56E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	4F 2378	lbs/ton	EF	LI/AI/C/FF	12	8.18E-10	1.27E-09	0.08	LI/AI/FF/ESP	3	2.92E-09	2.71E-09	0.00	No
FBC, Coal	Dioxin & Furan	4F Total	lbs/ton	EF	LI/AI/C/FF	12	1.80E-09	2.09E-09	0.63	LI/AI/FF/ESP	3	2.92E-09	2.71E-09	0.00	No
FBC, Coal	Dioxin & Furan	5D 12378	lbs/ton	EF	LI/AI/C/FF	12	4.99E-10	5.06E-10	0.00	LI/AI/FF/ESP	1	1.88E-09		0.00	Yes
FBC, Coal	Dioxin & Furan	5D Total	lbs/ton	EF	LI/AI/C/FF	12	5.63E-10	4.85E-10	0.06	LI/AI/FF/ESP	3	1.55E-08	1.48E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	5F 12378	lbs/ton	EF	LI/AI/C/FF	12	4.95E-10	3.78E-10	0.29	LI/AI/FF/ESP	3	4.56E-09	4.09E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	5F 23478	lbs/ton	EF	LI/AI/C/FF	12	5.88E-10	4.85E-10	0.43	LI/AI/FF/ESP	3	4.56E-09	4.09E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	5F Total	lbs/ton	EF	LI/AI/C/FF	12	2.73E-09	4.50E-09	0.85	LI/AI/FF/ESP	3	4.56E-09	4.09E-09	0.00	No
FBC, Coal	Dioxin & Furan	6D 123478	lbs/ton	EF	LI/AI/C/FF	12	4.95E-10	3.67E-10	0.06	LI/AI/FF/ESP	3	1.26E-08	1.16E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	6D 123678	lbs/ton	EF	LI/AI/C/FF	12	5.13E-10	3.66E-10	0.07	LI/AI/FF/ESP	1	2.21E-09		0.00	Yes
FBC, Coal	Dioxin & Furan	6D 123789	lbs/ton	EF	LI/AI/C/FF	12	4.93E-10	3.72E-10	0.05	LI/AI/FF/ESP	3	1.26E-08	1.16E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	6D Total	lbs/ton	EF	LI/AI/C/FF	12	1.14E-09	1.63E-09	0.60	LI/AI/FF/ESP	3	1.26E-08	1.16E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	6F 123478	lbs/ton	EF	LI/AI/C/FF	12	6.38E-10	5.56E-10	0.48	LI/AI/FF/ESP	3	6.89E-09	4.95E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	6F 123678	lbs/ton	EF	LI/AI/C/FF	12	7.58E-10	7.75E-10	0.56	LI/AI/FF/ESP	3	6.89E-09	4.95E-09	0.00	Yes

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
FBC, Coal	Dioxin & Furan	6F 123789	lbs/ton	EF	LI/AI/C/FF	12	5.92E-10	4.75E-10	0.44	LI/AI/FF/ESP	3	6.89E-09	4.95E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	6F 234678	lbs/ton	EF	LI/AI/C/FF	12	1.12E-09	1.58E-09	0.71	LI/AI/FF/ESP	3	6.89E-09	4.95E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	6F Total	lbs/ton	EF	LI/AI/C/FF	12	4.61E-09	9.03E-09	0.92	LI/AI/FF/ESP	3	6.89E-09	4.95E-09	0.00	No
FBC, Coal	Dioxin & Furan	7D 1234678	lbs/ton	EF	LI/AI/C/FF	12	1.56E-09	1.78E-09	0.74	LI/AI/FF/ESP	2	6.15E-09	5.27E-09	0.00	Yes
FBC, Coal	Dioxin & Furan	7D Total	lbs/ton	EF	LI/AI/C/FF	12	2.81E-09	3.81E-09	0.84	LI/AI/FF/ESP	3	1.23E-08	1.12E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	7F 1234678	lbs/ton	EF	LI/AI/C/FF	12	4.54E-09	8.77E-09	0.90	LI/AI/FF/ESP	3	1.26E-08	1.09E-08	0.00	No
FBC, Coal	Dioxin & Furan	7F 1234789	lbs/ton	EF	LI/AI/C/FF	12	9.40E-10	8.57E-10	0.52	LI/AI/FF/ESP	3	1.26E-08	1.09E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	7F Total	lbs/ton	EF	LI/AI/C/FF	12	8.14E-09	1.63E-08	0.94	LI/AI/FF/ESP	3	1.26E-08	1.09E-08	0.00	No
FBC, Coal	Dioxin & Furan	8D	lbs/ton	EF	LI/AI/C/FF	12	7.28E-09	1.20E-08	0.95	LI/AI/FF/ESP	3	3.89E-08	3.46E-08	0.00	Yes
FBC, Coal	Dioxin & Furan	8F	lbs/ton	EF	LI/AI/C/FF	12	3.69E-09	6.58E-09	0.88	LI/AI/FF/ESP	3	5.59E-08	5.45E-08	0.00	Yes
FBC, Coal	Halogens	HCl	lbs/ton	EF	LI/AI/C/FF	12	2.54E-02	1.21E-02	1.00	LI/AI/FF/ESP	3	1.31E-02	6.39E-03	1.00	No
FBC, Coal	Metals	Arsenic	lbs/ton	EF	LI/AI/C/FF	12	2.72E-05	4.65E-05	0.11	LI/AI/FF/ESP	3	6.14E-05	2.15E-05	1.00	No
FBC, Coal	Metals	Beryllium	lbs/ton	EF	LI/AI/C/FF	12	1.41E-06	7.61E-07	0.00	LI/AI/FF/ESP	3	1.15E-05	2.61E-07	0.00	Yes
FBC, Coal	Metals	Cadmium	lbs/ton	EF	LI/AI/C/FF	12	1.20E-05	7.17E-06	0.43	LI/AI/FF/ESP	3	1.15E-05	2.61E-07	0.00	No
FBC, Coal	Metals	Chromium	lbs/ton	EF	LI/AI/C/FF	12	2.69E-05	3.58E-05	0.99	LI/AI/FF/ESP	3	1.11E-04	1.37E-04	1.00	Yes
FBC, Coal	Metals	Chromium (Hex)	lbs/ton	EF	LI/AI/C/FF	12	1.14E-05	8.93E-06	0.04	LI/AI/FF/ESP	3	[illegible]	[illegible]	1.00	Yes
FBC, Coal	Metals	Copper	lbs/ton	EF	LI/AI/C/FF	12	1.60E-04	1.34E-04	1.00	LI/AI/FF/ESP	3	2.49E-05	1.26E-06	0.68	No
FBC, Coal	Metals	Lead	lbs/ton	EF	LI/AI/C/FF	12	6.76E-05	8.40E-05	0.76	LI/AI/FF/ESP	3	3.61E-05	7.50E-06	1.00	No
FBC, Coal	Metals	Manganese	lbs/ton	EF	LI/AI/C/FF	12	2.60E-03	8.61E-03	1.00	LI/AI/FF/ESP	3	1.18E-04	7.33E-06	1.00	No
FBC, Coal	Metals	Mercury	lbs/ton	EF	LI/AI/C/FF	12	3.22E-04	4.92E-04	0.09	LI/AI/FF/ESP	3	2.56E-07	5.29E-09	0.00	No
FBC, Coal	Metals	Nickel	lbs/ton	EF	LI/AI/C/FF	12	2.25E-04	4.41E-04	1.00	LI/AI/FF/ESP	3	5.75E-05	1.36E-06	0.00	No
FBC, Coal	Metals	Selenium	lbs/ton	EF	LI/AI/C/FF	12	5.99E-05	8.39E-05	0.00	LI/AI/FF/ESP	3	1.15E-06	2.61E-08	0.00	No
FBC, Coal	Metals	Zinc	lbs/ton	EF	LI/AI/C/FF	12	1.24E-03	1.29E-03	1.00	LI/AI/FF/ESP	3	3.41E-04	2.16E-05	1.00	No
FBC, Coal	PAH	Acenaphthene	lbs/ton	EF	LI/AI/C/FF	15	2.65E-06	5.23E-06	0.01	LI/AI/FF/ESP	3	2.33E-07	1.04E-07	1.00	No
FBC, Coal	PAH	Acenaphthylene	lbs/ton	EF	LI/AI/C/FF	15	2.65E-06	5.23E-06	0.00	LI/AI/FF/ESP	3	1.89E-07	4.78E-08	1.00	No
FBC, Coal	PAH	Anthracene	lbs/ton	EF	LI/AI/C/FF	15	2.63E-06	5.24E-06	0.01	LI/AI/FF/ESP	3	2.64E-07	1.87E-07	1.00	No
FBC, Coal	PAH	Benzo(a)anthracene	lbs/ton	EF	LI/AI/C/FF	15	2.64E-06	5.24E-06	0.00	LI/AI/FF/ESP	3	6.22E-08	9.12E-09	1.00	No
FBC, Coal	PAH	Benzo(a)pyrene	lbs/ton	EF	LI/AI/C/FF	15	2.66E-06	5.22E-06	0.00	LI/AI/FF/ESP	3	1.31E-06	6.83E-07	0.00	No
FBC, Coal	PAH	Benzo(b)fluoranthene	lbs/ton	EF	LI/AI/C/FF	6	6.45E-06	6.91E-06	0.00	LI/AI/FF/ESP	3	1.21E-07	6.11E-08	0.82	No
FBC, Coal	PAH	Benzo(g,h,i)perylene	lbs/ton	EF	LI/AI/C/FF	15	2.66E-06	5.22E-06	0.00	LI/AI/FF/ESP	3	5.46E-08	2.73E-08	0.27	No
FBC, Coal	PAH	Benzo(k)fluoranthene	lbs/ton	EF	LI/AI/C/FF	6	6.45E-06	6.91E-06	0.00	LI/AI/FF/ESP	3	4.26E-08	1.58E-08	0.79	No
FBC, Coal	PAH	Chrysene	lbs/ton	EF	LI/AI/C/FF	15	2.64E-06	5.24E-06	0.00	LI/AI/FF/ESP	3	3.01E-07	9.04E-08	1.00	No
FBC, Coal	PAH	dibenz(a,h)anthracene	lbs/ton	EF	LI/AI/C/FF	15	2.68E-06	5.22E-06	0.00	LI/AI/FF/ESP	3	2.14E-08	8.07E-09	0.46	No
FBC, Coal	PAH	Fluoranthene	lbs/ton	EF	LI/AI/C/FF	15	2.64E-06	5.24E-06	0.00	LI/AI/FF/ESP	3	3.89E-07	2.51E-07	1.00	No
FBC, Coal	PAH	Fluorene	lbs/ton	EF	LI/AI/C/FF	15	2.71E-06	5.20E-06	0.04	LI/AI/FF/ESP	3	9.30E-07	1.06E-07	1.00	No
FBC, Coal	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton	EF	LI/AI/C/FF	15	2.68E-06	5.22E-06	0.00	LI/AI/FF/ESP	3	4.03E-08	2.54E-08	0.26	No
FBC, Coal	PAH	Naphthalene	lbs/ton	EF	LI/AI/C/FF	15	2.98E-04	6.10E-04	0.99	LI/AI/FF/ESP	3	7.33E-05	1.97E-05	1.00	No
FBC, Coal	PAH	Phenanthrene	lbs/ton	EF	LI/AI/C/FF	15	2.80E-06	5.16E-06	0.09	LI/AI/FF/ESP	3	4.93E-06	7.77E-07	1.00	No
FBC, Coal	PAH	Pyrene	lbs/ton	EF	LI/AI/C/FF	15	2.64E-06	5.24E-06	0.01	LI/AI/FF/ESP	3	3.37E-07	2.09E-07	1.00	No
FBC, Coal	VOC	Formaldehyde	lbs/ton	EF	LI/AI/C/FF	15	2.97E-03	3.30E-03	0.97	LI/AI/FF/ESP	3	3.05E-04	2.94E-05	1.00	No
Furnace, Aluminum	Metals	Arsenic	lbs/ton production	EF	FF	3	7.32E-04	9.74E-05	0.00	None	6	1.93E-05	1.30E-05	0.00	Yes
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	FF	9	5.55E-05	3.23E-05	0.00	None	9	1.12E-05	1.42E-05	0.00	Yes
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	FF	9	1.01E-03	1.66E-03	1.00	None	9	2.71E-05	2.31E-05	0.89	No
Furnace, Aluminum	Metals	Chromium	lbs/ton production	EF	FF	3	4.88E-04	2.20E-04	1.00	None	9	3.72E-05	4.87E-05	1.00	Yes
Furnace, Aluminum	Metals	Chromium (Hex)	lbs/ton production	EF	FF	3	1.12E-03	1.85E-04	0.00	None	9	3.59E-05	2.65E-05	0.41	Yes
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	FF	9	1.82E-03	1.70E-03	1.00	None	9	5.80E-05	6.72E-05	1.00	Yes
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	FF	9	5.66E-04	3.21E-04	1.00	None	9	2.71E-04	6.08E-04	1.00	No
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	FF	9	5.00E-04	8.03E-04	1.00	None	9	4.22E-03	1.25E-02	1.00	No
Furnace, Aluminum	Metals	Mercury	lbs/ton production	EF	FF	3	6.52E-05	5.87E-06	0.32	None	6	3.18E-06	2.31E-06	0.73	Yes
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	FF	9	2.79E-04	1.72E-04	1.00	None	9	1.16E-04	2.50E-04	1.00	No
Furnace, Aluminum	Metals	Selenium	lbs/ton production	EF	FF	3	2.93E-04	3.76E-05	0.00	None	6	1.03E-05	2.74E-06	0.29	Yes
Furnace, Aluminum	Metals	Zinc	lbs/ton production	EF	FF	9	5.23E-03	8.14E-03	1.00	None	6	3.51E-04	3.17E-04	1.00	Yes

TABLE A6-4a. AIR POLLUTION CONTROL SYSTEM COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	FF	6	3.50E-02	3.27E-02	0.96	None	3	8.00E-06	0.00E+00	0.00	No
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	FF	9	1.11E-01	2.70E-02	1.00	None	3	2.56E-04	9.06E-05	1.00	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	FF	9	1.52E-01	1.28E-01	1.00	None	9	7.95E-03	1.15E-02	1.00	Yes
Furnace, Glass	Metals	Arsenic	lbs/ton production	EF	FF	3	3.70E-05	8.17E-06	1.00	None	6	2.28E-04	1.92E-04	1.00	No
Furnace, Glass	Metals	Chromium	lbs/ton production	EF	FF	3	1.60E-05	1.67E-05	1.00	None	6	2.06E-04	1.45E-04	1.00	No
Furnace, Glass	Metals	Chromium (Hex)	lbs/ton production	EF	FF	3	4.09E-06	1.42E-07	0.00	None	9	1.02E-03	1.56E-03	0.99	No
Plating, Anodizing	Metals	Chromium	mg/amp-hr	EF	DM/WS/FF	4	4.14E-03	2.08E-04	0.00	WS	7	3.70E-01	3.99E-01	1.00	No
Plating, Anodizing	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/WS/FF	2	4.15E-02	9.41E-04	0.00	WS	7	2.64E-01	3.09E-01	1.00	No
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM	1	5.80E-02		1.00	DM/PB	1	3.50E-02		1.00	NA
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM	1	5.80E-02		1.00	DM/WS/FF	6	8.23E-04	6.20E-04	0.63	Yes
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM	1	5.80E-02		1.00	DM/WS/PB	2	3.76E-02	4.19E-03	1.00	No
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM	1	5.80E-02		1.00	WS	9	4.26E-02	1.84E-02	0.45	No
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM/PB	1	3.50E-02		1.00	DM/WS/FF	6	8.23E-04	6.20E-04	0.63	Yes
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM/PB	1	3.50E-02		1.00	DM/WS/PB	2	3.76E-02	4.19E-03	1.00	No
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM/PB	1	3.50E-02		1.00	WS	9	4.26E-02	1.84E-02	0.45	No
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM/WS/FF	6	8.23E-04	6.20E-04	0.63	DM/WS/PB	2	3.76E-02	4.19E-03	1.00	Yes
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM/WS/FF	6	8.23E-04	6.20E-04	0.63	WS	9	4.26E-02	1.84E-02	0.45	Yes
Plating, Hard	Metals	Chromium	mg/amp-hr	EF	DM/WS/PB	2	3.76E-02	4.19E-03	1.00	WS	9	4.26E-02	1.84E-02	0.45	No
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM	1	2.49E-02		1.00	DM/PB	1	1.36E-02		1.00	NA
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM	1	2.49E-02		1.00	DM/WS/FF	4	3.96E-03	1.63E-03	0.00	Yes
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM	1	2.49E-02		1.00	DM/WS/PB	2	2.80E-02	1.21E-02	1.00	No
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM	1	2.49E-02		1.00	WS	9	1.75E-02	3.36E-03	0.29	No
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/PB	1	1.36E-02		1.00	DM/WS/FF	4	3.96E-03	1.63E-03	0.00	Yes
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/PB	1	1.36E-02		1.00	DM/WS/PB	2	2.80E-02	1.21E-02	1.00	No
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/PB	1	1.36E-02		1.00	WS	9	1.75E-02	3.36E-03	0.29	No
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/WS/FF	4	3.96E-03	1.63E-03	0.00	DM/WS/PB	2	2.80E-02	1.21E-02	1.00	Yes
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/WS/FF	4	3.96E-03	1.63E-03	0.00	WS	9	1.75E-02	3.36E-03	0.29	Yes
Plating, Hard	Metals	Chromium (Hex)	mg/amp-hr	EF	DM/WS/PB	2	2.80E-02	1.21E-02	1.00	WS	9	1.75E-02	3.36E-03	0.29	Yes
SG, Crude Oil	Metals	Arsenic	lbs/Mgal	EF	None	3	6.86E-04	9.78E-05	1.00	SO2 Scrub	6	1.15E-03	1.01E-03	1.00	No
SG, Crude Oil	Metals	Beryllium	lbs/Mgal	EF	None	3	5.12E-05	6.78E-06	0.00	SO2 Scrub	6	2.87E-04	3.88E-05	0.61	Yes
SG, Crude Oil	Metals	Cadmium	lbs/Mgal	EF	None	3	2.81E-05	6.72E-06	1.00	SO2 Scrub	6	2.30E-04	1.63E-04	1.00	No
SG, Crude Oil	Metals	Chromium	lbs/Mgal	EF	None	3	2.18E-04	8.24E-05	1.00	SO2 Scrub	6	1.18E-03	6.81E-04	1.00	No
SG, Crude Oil	Metals	Chromium (Hex)	lbs/Mgal	EF	None	3	9.26E-05	2.81E-06	0.00	SO2 Scrub	6	2.01E-04	9.32E-05	0.58	No
SG, Crude Oil	Metals	Copper	lbs/Mgal	EF	None	3	6.46E-04	2.89E-04	1.00	SO2 Scrub	6	1.17E-03	4.57E-04	1.00	No
SG, Crude Oil	Metals	Lead	lbs/Mgal	EF	None	3	3.74E-04	1.19E-04	1.00	SO2 Scrub	6	2.37E-04	3.47E-05	0.15	Yes
SG, Crude Oil	Metals	Manganese	lbs/Mgal	EF	None	1	2.44E-04		1.00	SO2 Scrub	6	3.49E-03	1.64E-03	1.00	No
SG, Crude Oil	Metals	Mercury	lbs/Mgal	EF	None	1	3.60E-05		1.00	SO2 Scrub	6	2.55E-03	2.76E-03	1.00	No
SG, Crude Oil	Metals	Nickel	lbs/Mgal	EF	None	3	3.72E-01	2.53E-02	1.00	SO2 Scrub	6	3.55E-01	1.82E-02	1.00	No
SG, Crude Oil	Metals	Selenium	lbs/Mgal	EF	None	3	4.41E-04	9.79E-05	1.00	SO2 Scrub	6	1.55E-03	1.45E-03	0.96	No
SG, Crude Oil	Metals	Zinc	lbs/Mgal	EF	None	3	3.28E-02	3.26E-02	1.00	SO2 Scrub	6	1.05E-01	1.20E-01	0.93	No
SG, Crude Oil	PAH	Acenaphthylene	lbs/Mgal	EF	None	3	8.63E-06	8.44E-06	1.00	SO2 Scrub	6	6.91E-06	5.71E-06	0.13	No
SG, Crude Oil	PAH	Anthracene	lbs/Mgal	EF	None	2	1.29E-05	1.72E-05	1.00	SO2 Scrub	6	5.95E-06	8.66E-06	1.00	No
SG, Crude Oil	PAH	Benzo(a)anthracene	lbs/Mgal	EF	None	2	3.16E-06	2.49E-06	1.00	SO2 Scrub	6	9.27E-06	5.58E-06	0.35	No
SG, Crude Oil	PAH	Chrysene	lbs/Mgal	EF	None	3	1.37E-05	1.81E-05	1.00	SO2 Scrub	6	9.90E-06	6.18E-06	0.40	No
SG, Crude Oil	PAH	Fluoranthene	lbs/Mgal	EF	None	3	5.66E-06	8.23E-07	1.00	SO2 Scrub	6	1.68E-05	1.79E-05	0.64	No
SG, Crude Oil	PAH	Fluorene	lbs/Mgal	EF	None	3	1.70E-05	1.99E-05	1.00	SO2 Scrub	6	1.28E-05	1.65E-05	1.00	No
SG, Crude Oil	PAH	Naphthalene	lbs/Mgal	EF	None	2	4.08E-04	1.61E-04	1.00	SO2 Scrub	6	9.26E-04	7.08E-04	1.00	No
SG, Crude Oil	PAH	Phenanthrene	lbs/Mgal	EF	None	3	4.67E-06	4.25E-06	1.00	SO2 Scrub	6	3.50E-05	6.27E-05	1.00	No
SG, Crude Oil	PAH	Pyrene	lbs/Mgal	EF	None	3	4.43E-05	2.83E-05	1.00	SO2 Scrub	6	1.19E-05	8.93E-06	0.50	Yes

TABLE A6-5a. CONTRACTOR COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Contractor	Size	Average	Standard Deviation	Detect Ratio	Description Contractor	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	V	2	5.26E-06	7.65E-07	0.00	Other	7	1.29E-06	2.97E-06	0.02	No
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	V	2	5.17E-07	5.77E-08	0.00	Other	7	8.70E-07	1.40E-06	0.00	No
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	V	2	1.51E-06	7.86E-07	0.68	Other	5	9.22E-06	1.95E-05	1.00	No
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	V	2	3.15E-06	3.04E-07	1.00	Other	7	1.31E-05	3.14E-05	1.00	No
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	V	2	1.68E-06	6.04E-08	0.00	Other	6	2.23E-07	1.82E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	V	2	5.45E-07	9.71E-08	0.56	Other	6	2.31E-05	5.35E-05	1.00	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	V	2	3.12E-06	1.11E-06	0.63	Other	7	3.14E-04	8.26E-04	1.00	No
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	V	2	1.86E-05	1.34E-05	1.00	Other	7	2.39E-04	6.16E-04	1.00	No
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	V	2	4.00E-06	1.33E-06	1.00	Other	7	4.38E-07	3.69E-07	0.29	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	V	2	5.26E-06	7.65E-07	0.00	Other	7	5.58E-05	1.43E-04	0.00	No
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	V	2	5.26E-06	7.65E-07	0.00	Other	7	1.76E-06	2.81E-06	0.14	No
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	V	2	6.62E-05	1.34E-05	1.00	Other	7	6.71E-04	1.74E-03	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	2.51E-07	3.66E-07	1.00	Yes
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.78E-07	2.44E-07	1.00	Yes
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	V	2	2.78E-06	2.42E-06	0.81	Other	6	2.45E-08	1.08E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	3.38E-08	3.40E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.55E-09	1.64E-09	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.20E-09	8.77E-10	0.39	Yes
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	3.13E-09	2.97E-09	1.00	Yes
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.41E-08	1.61E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	9.74E-10	1.02E-09	0.00	Yes
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.52E-07	7.60E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	5.81E-07	4.02E-07	1.00	No
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.18E-09	1.02E-09	0.38	Yes
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	V	2	1.72E-03	3.83E-04	1.00	Other	6	2.91E-05	2.69E-05	1.00	Yes
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	V	2	1.13E-05	7.28E-06	1.00	Other	6	6.75E-07	2.52E-07	1.00	Yes
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	V	2	1.22E-06	2.17E-07	0.00	Other	6	1.13E-07	6.07E-08	1.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	V	2	2.21E-05	7.81E-06	0.63	Other	7	7.17E-03	7.93E-03	0.94	No
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	V	2	6.12E-05	1.53E-05	1.00	Other	6	1.88E-04	8.67E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Arsenic	lbs/ton production	EF	V	5	1.82E-05	2.94E-05	0.77	Other	9	6.69E-07	6.02E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Beryllium	lbs/ton production	EF	V	5	6.12E-07	5.80E-07	0.00	Other	9	8.32E-07	6.21E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Cadmium	lbs/ton production	EF	V	5	2.86E-06	4.19E-06	0.71	Other	9	1.78E-06	2.37E-06	0.79	No
Asphalt Prod., Natural Gas	Metals	Chromium	lbs/ton production	EF	V	4	4.88E-06	2.74E-06	1.00	Other	9	9.92E-07	3.67E-07	0.67	Yes
Asphalt Prod., Natural Gas	Metals	Chromium (Hex)	lbs/ton production	EF	V	4	3.85E-06	4.15E-06	0.97	Other	9	4.47E-07	4.22E-07	0.27	Yes
Asphalt Prod., Natural Gas	Metals	Copper	lbs/ton production	EF	V	5	5.78E-06	6.36E-06	1.00	Other	9	3.27E-06	1.31E-06	0.72	No
Asphalt Prod., Natural Gas	Metals	Lead	lbs/ton production	EF	V	5	2.36E-05	4.69E-05	0.91	Other	9	4.36E-06	6.66E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Manganese	lbs/ton production	EF	V	5	8.38E-05	9.63E-05	1.00	Other	9	2.00E-05	1.37E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Mercury	lbs/ton production	EF	V	5	9.60E-07	6.83E-07	1.00	Other	9	1.08E-05	1.24E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Nickel	lbs/ton production	EF	V	5	1.98E-05	1.39E-05	0.83	Other	9	3.63E-06	3.26E-06	0.00	Yes
Asphalt Prod., Natural Gas	Metals	Selenium	lbs/ton production	EF	V	5	3.01E-05	5.58E-05	0.86	Other	9	6.68E-07	6.01E-07	0.00	No
Asphalt Prod., Natural Gas	Metals	Zinc	lbs/ton production	EF	V	5	4.91E-05	1.69E-05	1.00	Other	9	1.30E-05	6.04E-06	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Acenaphthene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	9	6.40E-07	4.08E-07	1.00	No
Asphalt Prod., Natural Gas	PAH	Acenaphthylene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	8	1.72E-06	3.61E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Anthracene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	9	1.88E-07	3.03E-07	1.00	No
Asphalt Prod., Natural Gas	PAH	Benzo(a)anthracene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.12E-08	2.54E-09	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(a)pyrene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.15E-09	3.82E-10	0.33	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.67E-09	1.52E-09	0.90	Yes
Asphalt Prod., Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.44E-09	3.65E-10	0.57	Yes

TABLE A6-5a. CONTRACTOR COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Contractor	Size	Average	Standard Deviation	Detect Ratio	Description Contractor	Size	Average	Standard Deviation	Detect Ratio	
Asphalt Prod., Natural Gas	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	2.67E-09	1.58E-09	0.77	Yes
Asphalt Prod., Natural Gas	PAH	Chrysene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.75E-09	7.87E-10	0.64	Yes
Asphalt Prod., Natural Gas	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.09E-09	5.37E-10	0.38	Yes
Asphalt Prod., Natural Gas	PAH	Fluoranthene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	9	4.56E-07	1.18E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Fluorene	lbs/ton production	EF	V	5	1.80E-06	6.16E-07	0.74	Other	9	1.72E-06	8.90E-07	1.00	No
Asphalt Prod., Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	V	5	5.77E-07	5.27E-07	0.00	Other	6	1.29E-09	4.93E-10	0.52	Yes
Asphalt Prod., Natural Gas	PAH	Naphthalene	lbs/ton production	EF	V	5	[illegible]	[illegible]	1.00	Other	9	2.48E-05	2.39E-05	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Phenanthrene	lbs/ton production	EF	V	5	3.01E-06	1.17E-06	1.00	Other	9	2.45E-06	2.15E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Pyrene	lbs/ton production	EF	V	5	5.81E-07	5.23E-07	0.07	Other	9	8.39E-07	2.32E-06	1.00	No
Asphalt Prod., Natural Gas	VOC	Benzene	lbs/ton production	EF	V	4	6.57E-05	8.48E-05	1.00	Other	9	8.98E-05	1.21E-04	1.00	No
Asphalt Prod., Oil	Metals	Arsenic	lbs/ton production	EF	V	2	8.52E-06	1.19E-06	0.00	Other	3	2.37E-06	1.60E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Beryllium	lbs/ton production	EF	V	3	7.94E-07	1.12E-07	0.00	Other	3	4.16E-07	2.80E-08	0.00	Yes
Asphalt Prod., Oil	Metals	Cadmium	lbs/ton production	EF	V	3	2.02E-06	5.43E-07	0.43	Other	3	7.67E-07	9.69E-07	0.82	No
Asphalt Prod., Oil	Metals	Chromium	lbs/ton production	EF	V	3	6.57E-05	8.46E-05	1.00	Other	3	9.04E-06	7.40E-06	1.00	No
Asphalt Prod., Oil	Metals	Chromium (Hex)	lbs/ton production	EF	V	3	[illegible]	[illegible]	0.79	Other	3	1.04E-07	3.14E-08	1.00	Yes
Asphalt Prod., Oil	Metals	Copper	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	6.01E-06	2.96E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Lead	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	1.41E-06	5.50E-07	1.00	Yes
Asphalt Prod., Oil	Metals	Manganese	lbs/ton production	EF	V	3	2.25E-04	5.83E-05	1.00	Other	3	1.40E-04	7.79E-05	1.00	No
Asphalt Prod., Oil	Metals	Mercury	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	7.02E-06	5.71E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Nickel	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	8.42E-06	2.63E-06	1.00	Yes
Asphalt Prod., Oil	Metals	Selenium	lbs/ton production	EF	V	3	2.71E-05	3.22E-05	0.79	Other	3	2.08E-07	1.40E-08	0.00	No
Asphalt Prod., Oil	Metals	Zinc	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	2.52E-05	8.55E-06	1.00	Yes
Asphalt Prod., Oil	PAH	Acenaphthene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	3.06E-07	8.20E-08	1.00	Yes
Asphalt Prod., Oil	PAH	Acenaphthylene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	5.26E-07	2.35E-07	1.00	No
Asphalt Prod., Oil	PAH	Anthracene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	5.74E-08	1.78E-08	1.00	Yes
Asphalt Prod., Oil	PAH	Benzo(a)anthracene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	1.11E-08	2.14E-09	1.00	Yes
Asphalt Prod., Oil	PAH	Benzo(a)pyrene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	1.84E-09	1.84E-09	0.72	Yes
Asphalt Prod., Oil	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	1.20E-09	2.59E-10	0.75	Yes
Asphalt Prod., Oil	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	Chrysene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	Fluoranthene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	3.57E-08	9.68E-09	1.00	Yes
Asphalt Prod., Oil	PAH	Fluorene	lbs/ton production	EF	V	3	9.14E-07	1.83E-07	1.00	Other	3	6.58E-07	2.07E-07	1.00	No
Asphalt Prod., Oil	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	8.17E-10	7.87E-11	0.00	Yes
Asphalt Prod., Oil	PAH	Naphthalene	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	3.08E-05	2.70E-06	1.00	Yes
Asphalt Prod., Oil	PAH	Phenanthrene	lbs/ton production	EF	V	3	[illegible]	[illegible]	1.00	Other	3	6.64E-07	2.18E-07	1.00	Yes
Asphalt Prod., Oil	PAH	Pyrene	lbs/ton production	EF	V	3	6.13E-07	1.17E-07	0.00	Other	3	5.62E-08	2.23E-08	1.00	Yes
Asphalt Prod., Oil	VOC	Benzene	lbs/ton production	EF	V	3	2.02E-05	5.00E-06	0.71	Other	3	[illegible]	[illegible]	1.00	Yes
Asphalt Prod., Oil	VOC	Formaldehyde	lbs/ton production	EF	V	3	3.22E-04	2.07E-04	1.00	Other	3	1.38E-04	2.29E-05	1.00	No

TABLE A6-6a. FUEL REGION COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Region	Size	Average	Standard Deviation	Detect Ratio	Description Region	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
ICE, Natural Gas	PAH	Acenaphthene	lbs/MMcf	EF	Central	12	1.10E-03	1.13E-03	1.00	Southern	3	7.17E-04	2.14E-04	1.00	No
ICE, Natural Gas	PAH	Acenaphthylene	lbs/MMcf	EF	Central	12	9.12E-03	9.32E-03	1.00	Southern	3	7.59E-03	3.15E-03	1.00	No
ICE, Natural Gas	PAH	Anthracene	lbs/MMcf	EF	Central	12	6.86E-04	7.80E-04	1.00	Southern	3	2.56E-04	1.06E-04	1.00	No
ICE, Natural Gas	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Central	12	6.04E-04	8.83E-04	1.00	Southern	3	7.78E-05	1.84E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Central	12	1.03E-04	1.35E-04	0.99	Southern	3	3.55E-05	1.42E-05	0.76	No
ICE, Natural Gas	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Central	12	6.53E-04	1.10E-03	1.00	Southern	3	3.27E-04	5.22E-04	0.95	No
ICE, Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Central	12	5.40E-04	8.58E-04	1.00	Southern	3	1.03E-04	1.35E-04	1.00	No
ICE, Natural Gas	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Central	12	1.35E-04	1.84E-04	1.00	Southern	3	6.30E-04	5.21E-04	0.98	Yes
ICE, Natural Gas	PAH	Chrysene	lbs/MMcf	EF	Central	12	3.89E-04	6.87E-04	1.00	Southern	3	9.64E-05	2.63E-05	1.00	No
ICE, Natural Gas	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Central	12	2.91E-05	4.48E-05	0.95	Southern	3	1.09E-05	3.86E-06	1.00	No
ICE, Natural Gas	PAH	Fluoranthene	lbs/MMcf	EF	Central	12	1.60E-03	1.97E-03	1.00	Southern	3	2.50E-04	9.05E-05	1.00	No
ICE, Natural Gas	PAH	Fluorene	lbs/MMcf	EF	Central	12	4.30E-03	4.24E-03	1.00	Southern	3	4.60E-04	1.50E-04	0.00	No
ICE, Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Central	12	4.54E-04	7.15E-04	1.00	Southern	3	1.20E-04	1.52E-04	1.00	No
ICE, Natural Gas	PAH	Naphthalene	lbs/MMcf	EF	Central	12	1.11E-01	1.27E-01	1.00	Southern	3	1.22E-01	8.93E-02	1.00	No
ICE, Natural Gas	PAH	Phenanthrene	lbs/MMcf	EF	Central	12	8.73E-03	1.05E-02	1.00	Southern	3	8.93E-04	3.36E-04	1.00	No
ICE, Natural Gas	PAH	Pyrene	lbs/MMcf	EF	Central	12	2.15E-03	2.70E-03	1.00	Southern	3	1.23E-04	5.07E-05	1.00	No
ICE, Natural Gas	VOC	Acetaldehyde	lbs/MMcf	EF	Central	12	3.69E-01	7.46E-01	0.90	Southern	16	2.81E+00	2.81E+00	1.00	Yes
ICE, Natural Gas	VOC	Acrolein	lbs/MMcf	EF	Central	12	1.92E-01	2.38E-01	0.89	Southern	17	1.83E+00	1.38E+00	1.00	Yes
ICE, Natural Gas	VOC	Benzene	lbs/MMcf	EF	Central	12	6.76E-01	7.97E-01	1.00	Southern	22	1.68E+00	2.74E+00	1.00	No
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	Central	12	3.55E+00	6.68E+00	1.00	Southern	61	1.34E+01	1.62E+01	0.96	Yes
ICE, Natural Gas	VOC	Propylene	lbs/MMcf	EF	Central	12	5.13E+00	4.03E+00	1.00	Southern	10	2.13E+01	2.03E+01	0.90	Yes
ICE, Natural Gas	VOC	Toluene	lbs/MMcf	EF	Central	12	3.82E-01	3.81E-01	1.00	Southern	16	6.75E-01	7.31E-01	1.00	No
Turbine, Nautral Gas	PAH	Acenaphthene	lbs/MMcf	EF	Central	15	2.16E-05	3.77E-05	0.13	Northern	3	6.07E-06	1.23E-06	0.72	No
Turbine, Nautral Gas	PAH	Acenaphthylene	lbs/MMcf	EF	Central	15	1.66E-05	3.01E-05	0.38	Northern	3	5.45E-06	6.04E-07	0.69	No
Turbine, Nautral Gas	PAH	Anthracene	lbs/MMcf	EF	Central	15	3.62E-05	5.18E-05	0.44	Northern	3	2.17E-05	1.55E-05	0.92	No
Turbine, Nautral Gas	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Central	15	2.61E-05	4.93E-05	0.04	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Central	15	1.57E-05	2.95E-05	0.39	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Central	15	1.25E-05	2.15E-05	0.05	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Central	15	1.55E-05	2.76E-05	0.01	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Central	15	1.22E-05	2.16E-05	0.02	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Chrysene	lbs/MMcf	EF	Central	15	2.92E-05	5.31E-05	0.06	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Central	15	2.73E-05	5.11E-05	0.00	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Fluoranthene	lbs/MMcf	EF	Central	15	4.94E-05	9.08E-05	1.00	Northern	3	1.18E-05	5.95E-06	1.00	No
Turbine, Nautral Gas	PAH	Fluorene	lbs/MMcf	EF	Central	15	6.38E-05	1.22E-04	1.00	Northern	3	2.90E-05	2.33E-05	1.00	No
Turbine, Nautral Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Central	15	2.73E-05	5.11E-05	0.01	Northern	3	4.95E-06	7.92E-08	0.00	No
Turbine, Nautral Gas	PAH	Naphthalene	lbs/MMcf	EF	Central	15	1.70E-03	2.49E-03	1.00	Northern	3	1.49E-03	2.27E-05	0.00	No
Turbine, Nautral Gas	PAH	Phenanthrene	lbs/MMcf	EF	Central	15	3.57E-04	6.51E-04	1.00	Northern	3	9.17E-05	2.47E-05	0.74	No
Turbine, Nautral Gas	PAH	Pyrene	lbs/MMcf	EF	Central	15	3.05E-05	4.06E-05	1.00	Northern	3	1.35E-05	8.84E-06	1.00	No
Turbine, Nautral Gas	SVOC	Ethylbenzene	lbs/MMcf	EF	Central	12	2.00E-02	1.62E-02	0.55	Northern	3	9.74E-03	9.48E-06	0.00	No
Turbine, Nautral Gas	VOC	Acetaldehyde	lbs/MMcf	EF	Central	7	6.35E-02	1.02E-01	0.96	Northern	3	8.06E-02	2.82E-02	1.00	No
Turbine, Nautral Gas	VOC	Acrolein	lbs/MMcf	EF	Central	9	2.81E-02	2.47E-02	0.79	Northern	3	1.05E-02	3.02E-04	0.00	No
Turbine, Nautral Gas	VOC	Benzene	lbs/MMcf	EF	Central	15	1.54E-02	1.12E-02	0.53	Northern	3	9.28E-03	9.04E-06	0.00	No
Turbine, Nautral Gas	VOC	Benzene	lbs/MMcf	EF	Central	15	1.54E-02	1.12E-02	0.53	Southern	3	8.71E-03	0.00E+00	0.00	No
Turbine, Nautral Gas	VOC	Benzene	lbs/MMcf	EF	Northern	3	9.28E-03	9.04E-06	0.00	Southern	3	8.71E-03	0.00E+00	0.00	Yes
Turbine, Nautral Gas	VOC	Formaldehyde	lbs/MMcf	EF	Central	14	8.87E-02	7.10E-02	0.97	Northern	3	6.69E-02	2.86E-02	0.82	No
Turbine, Nautral Gas	VOC	Formaldehyde	lbs/MMcf	EF	Central	14	8.87E-02	7.10E-02	0.97	Southern	6	2.84E+00	2.48E+00	1.00	Yes

TABLE A6-6a. FUEL REGION COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Region	Size	Average	Standard Deviation	Detect Ratio	Description Region	Size	Average	Standard Deviation	Detect Ratio	
Turbine, Nautral Gas	VOC	Formaldehyde	lbs/MMcf	EF	Northern	3	[illegible]	[illegible]	0.82	Southern	5	2.94E+00	2.46E+00	1.00	No
Turbine, Nautral Gas	VOC	m,p-xylene	lbs/MMcf	EF	Central	[illegible]	[illegible]	[illegible]	1.00	Northern	3	1.03E-02	1.88E-03	0.69	Yes
Turbine, Nautral Gas	VOC	o-xylene	lbs/MMcf	EF	Central	[illegible]	[illegible]	[illegible]	1.00	Northern	3	8.38E-03	2.35E-03	0.23	Yes
Turbine, Nautral Gas	VOC	Toluene	lbs/MMcf	EF	Central	[illegible]	[illegible]	[illegible]	[illegible]	Northern	3	1.66E-02	1.19E-03	1.00	Yes

TABLE A6-7a. METAL FURNACE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Furnace Type	Size	Average	Standard Deviation	Detect Ratio	Description Furnace Type	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	Dross	3	8.00E-05	0.00E+00	0.00	Melting Pot	3	4.00E-07	0.00E+00	0.00	NA
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	Dross	3	8.00E-05	0.00E+00	0.00	Reverb.	6	2.16E-05	9.26E-06	0.00	Yes
Furnace, Aluminum	Metals	Beryllium	lbs/ton production	EF	Melting Pot	3	4.00E-07	0.00E+00	0.00	Reverb.	6	2.16E-05	9.26E-06	0.00	Yes
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	Dross	3	4.37E-04	3.71E-04	1.00	Melting Pot	3	1.73E-06	4.62E-07	1.00	No
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	Dross	3	4.37E-04	3.71E-04	1.00	Reverb.	6	9.36E-05	1.13E-04	0.95	No
Furnace, Aluminum	Metals	Cadmium	lbs/ton production	EF	Melting Pot	3	1.73E-06	4.62E-07	1.00	Reverb.	6	9.36E-05	1.13E-04	0.95	No
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	Dross	3	[illegible]	[illegible]	1.00	Melting Pot	3	2.53E-06	1.01E-06	1.00	Yes
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	Dross	3	[illegible]	[illegible]	1.00	Reverb.	6	2.80E-04	3.00E-04	1.00	Yes
Furnace, Aluminum	Metals	Copper	lbs/ton production	EF	Melting Pot	3	2.53E-06	1.01E-06	1.00	Reverb.	6	2.80E-04	3.00E-04	1.00	No
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	Dross	3	[illegible]	[illegible]	1.00	Melting Pot	3	1.33E-06	2.31E-07	1.00	Yes
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	Dross	3	4.48E-04	6.97E-05	1.00	Reverb.	6	5.42E-04	6.57E-04	1.00	No
Furnace, Aluminum	Metals	Lead	lbs/ton production	EF	Melting Pot	3	1.33E-06	2.31E-07	1.00	Reverb.	6	5.42E-04	6.57E-04	1.00	No
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	Dross	3	[illegible]	[illegible]	1.00	Melting Pot	3	6.95E-07	5.65E-07	1.00	Yes
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	Dross	3	1.87E-04	4.03E-05	1.00	Reverb.	6	6.38E-03	1.52E-02	1.00	No
Furnace, Aluminum	Metals	Manganese	lbs/ton production	EF	Melting Pot	3	6.95E-07	5.65E-07	1.00	Reverb.	6	6.38E-03	1.52E-02	1.00	No
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	Dross	3	[illegible]	[illegible]	1.00	Melting Pot	3	8.00E-07	4.00E-07	1.00	Yes
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	Dross	3	2.51E-04	8.81E-05	1.00	Reverb.	6	2.33E-04	2.75E-04	1.00	No
Furnace, Aluminum	Metals	Nickel	lbs/ton production	EF	Melting Pot	3	8.00E-07	4.00E-07	1.00	Reverb.	6	2.33E-04	2.75E-04	1.00	No
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	Dross	3	1.17E-02	1.27E-02	0.75	Melting Pot	3	8.00E-06	0.00E+00	0.00	No
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	Dross	3	1.17E-02	1.27E-02	0.75	Reverb.	3	5.84E-02	2.95E-02	1.00	No
Furnace, Aluminum	VOC	Benzene	lbs/ton production	EF	Melting Pot	3	8.00E-06	0.00E+00	0.00	Reverb.	3	5.84E-02	2.95E-02	1.00	Yes
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	Dross	3	1.34E-01	6.77E-03	1.00	Melting Pot	3	2.56E-04	9.06E-05	1.00	Yes
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	Dross	3	1.34E-01	6.77E-03	1.00	Reverb.	3	8.88E-02	1.58E-02	1.00	Yes
Furnace, Aluminum	VOC	Formaldehyde	lbs/ton production	EF	Melting Pot	3	2.56E-04	9.06E-05	1.00	Reverb.	3	8.88E-02	1.58E-02	1.00	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	Dross	3	2.90E-01	1.02E-02	1.00	Melting Pot	3	5.47E-04	2.31E-05	1.00	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	Dross	3	2.90E-01	1.02E-02	1.00	Reverb.	6	9.46E-02	7.82E-02	1.00	Yes
Furnace, Aluminum	VOC	Hydrogen Sulfide	lbs/ton production	EF	Melting Pot	3	5.47E-04	2.31E-05	1.00	Reverb.	6	9.46E-02	7.82E-02	1.00	No

TABLE A6-8a. SURFACE COATING APPLICATION COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Coating Spray	Size	Average	Standard Deviation	Detect Ratio	Description Coating Spray	Size	Average	Standard Deviation	Detect Ratio	
Coating, Green Primer	Metals	Chromium	lbs/gal paint	EF	Conventional	5	1.39E-03	7.64E-04	1.00	HVLP Spray Gun	15	6.63E-04	6.73E-04	0.93	No
Coating, Green Primer	Metals	Chromium (Hex)	lbs/gal paint	EF	Conventional	5	1.07E-03	4.90E-04	1.00	HVLP Spray Gun	15	4.58E-04	5.36E-04	1.00	Yes

TABLE A6-9a. INTERNAL COMBUSTION ENGINE OXYGEN LEVEL COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description Oxygen Level	Size	Average	Standard Deviation	Detect Ratio	Description Oxygen Level	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
ICE, Diesel	PAH	Acenaphthene	lbs/Mgal	EF	Oxygen < 13%	12	6.71E-04	9.39E-04	0.90	Oxygen > 13%	12	2.36E-03	5.82E-03	1.00	No
ICE, Diesel	PAH	Acenaphthylene	lbs/Mgal	EF	Oxygen < 13%	12	1.02E-03	5.28E-04	0.95	Oxygen > 13%	12	3.05E-03	5.05E-03	1.00	No
ICE, Diesel	PAH	Anthracene	lbs/Mgal	EF	Oxygen < 13%	12	2.23E-04	7.13E-05	0.69	Oxygen > 13%	12	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	PAH	Benzo(a)anthracene	lbs/Mgal	EF	Oxygen < 13%	12	9.60E-05	1.16E-04	0.27	Oxygen > 13%	12	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	PAH	Benzo(a)pyrene	lbs/Mgal	EF	Oxygen < 13%	12	7.92E-05	1.22E-04	0.05	Oxygen > 13%	12	1.43E-05	2.26E-05	0.03	No
ICE, Diesel	PAH	Benzo(b)fluoranthene	lbs/Mgal	EF	Oxygen < 13%	12	1.12E-04	1.20E-04	0.12	Oxygen > 13%	6	8.66E-05	6.76E-05	0.93	No
ICE, Diesel	PAH	Benzo(g,h,i)perylene	lbs/Mgal	EF	Oxygen < 13%	12	9.05E-05	1.19E-04	0.22	Oxygen > 13%	12	1.22E-04	1.40E-04	0.84	No
ICE, Diesel	PAH	Benzo(k)fluoranthene	lbs/Mgal	EF	Oxygen < 13%	12	7.81E-05	1.23E-04	0.08	Oxygen > 13%	6	3.28E-05	1.74E-05	0.68	No
ICE, Diesel	PAH	Chrysene	lbs/Mgal	EF	Oxygen < 13%	12	1.30E-04	1.24E-04	0.46	Oxygen > 13%	12	1.55E-04	1.86E-04	1.00	No
ICE, Diesel	PAH	dibenz(a,h)anthracene	lbs/Mgal	EF	Oxygen < 13%	12	8.23E-05	1.21E-04	0.00	Oxygen > 13%	12	1.12E-04	1.15E-04	0.77	No
ICE, Diesel	PAH	Fluoranthene	lbs/Mgal	EF	Oxygen < 13%	12	3.29E-04	1.45E-04	0.79	Oxygen > 13%	12	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	PAH	Fluorene	lbs/Mgal	EF	Oxygen < 13%	12	9.62E-04	5.67E-04	0.93	Oxygen > 13%	12	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/Mgal	EF	Oxygen < 13%	12	8.47E-05	1.20E-04	0.06	Oxygen > 13%	12	9.09E-05	9.20E-05	0.75	No
ICE, Diesel	PAH	Naphthalene	lbs/Mgal	EF	Oxygen < 13%	12	1.60E-02	9.64E-03	1.00	Oxygen > 13%	12	4.56E-02	5.77E-02	1.00	No
ICE, Diesel	PAH	Phenanthrene	lbs/Mgal	EF	Oxygen < 13%	12	3.53E-03	2.46E-03	1.00	Oxygen > 13%	12	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	PAH	Pyrene	lbs/Mgal	EF	Oxygen < 13%	12	2.63E-04	1.72E-04	0.73	Oxygen > 13%	12	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	VOC	Acetaldehyde	lbs/Mgal	EF	Oxygen < 13%	3	3.47E-03	2.61E-03	1.00	Oxygen > 13%	6	[illegible]	[illegible]	1.00	Yes
ICE, Diesel	VOC	Acrolein	lbs/Mgal	EF	Oxygen < 13%	3	1.07E-03	6.19E-04	0.56	Oxygen > 13%	6	1.30E-02	9.64E-03	0.82	No
ICE, Diesel	VOC	Benzene	lbs/Mgal	EF	Oxygen < 13%	6	1.93E-01	1.04E-01	1.00	Oxygen > 13%	9	9.23E-02	6.48E-02	1.00	Yes
ICE, Diesel	VOC	Formaldehyde	lbs/Mgal	EF	Oxygen < 13%	12	5.05E-02	6.07E-02	1.00	Oxygen > 13%	12	1.04E-01	9.37E-02	1.00	No
ICE, Diesel	VOC	Propylene	lbs/Mgal	EF	Oxygen < 13%	6	3.41E-01	5.93E-02	1.00	Oxygen > 13%	6	3.58E-01	2.03E-01	1.00	No
ICE, Diesel	VOC	Toluene	lbs/Mgal	EF	Oxygen < 13%	6	6.12E-02	3.01E-02	1.00	Oxygen > 13%	6	5.50E-02	2.10E-02	1.00	No
ICE, Diesel	VOC	Total Xylene	lbs/Mgal	EF	Oxygen < 13%	6	2.10E-02	7.79E-03	1.00	Oxygen > 13%	3	3.59E-02	1.48E-02	1.00	No
ICE, Field Gas	VOC	Benzene	lbs/MMcf	EF	Lean	11	4.51E+00	4.42E+00	1.00	Rich	2	1.10E+01	1.26E-01	1.00	No
ICE, Field Gas	VOC	Formaldehyde	lbs/MMcf	EF	Lean	15	4.52E+01	3.24E+01	1.00	Rich	3	5.05E+00	8.04E-01	1.00	No
ICE, Field Gas	VOC	m,p-xylene	lbs/MMcf	EF	Lean	11	4.39E-01	4.07E-01	1.00	Rich	2	5.37E-01	3.62E-02	1.00	No
ICE, Field Gas	VOC	o-xylene	lbs/MMcf	EF	Lean	11	1.80E-01	1.92E-01	1.00	Rich	2	2.68E-01	1.81E-02	1.00	No
ICE, Field Gas	VOC	Propylene	lbs/MMcf	EF	Lean	11	2.00E+01	1.07E+01	1.00	Rich	2	3.04E+00	0.00E+00	0.00	No
ICE, Field Gas	VOC	Toluene	lbs/MMcf	EF	Lean	11	1.72E+00	1.73E+00	1.00	Rich	2	3.44E+00	1.57E-01	1.00	No
ICE, Natural Gas	PAH	Acenaphthene	lbs/MMcf	EF	Lean	12	7.91E-04	8.62E-04	1.00	Rich	3	1.94E-03	1.26E-03	1.00	No
ICE, Natural Gas	PAH	Acenaphthylene	lbs/MMcf	EF	Lean	12	7.40E-03	8.82E-03	1.00	Rich	3	1.45E-02	1.74E-03	1.00	No
ICE, Natural Gas	PAH	Anthracene	lbs/MMcf	EF	Lean	12	2.91E-04	3.17E-04	1.00	Rich	3	1.84E-03	3.92E-04	1.00	Yes
ICE, Natural Gas	PAH	Benzo(a)anthracene	lbs/MMcf	EF	Lean	12	5.50E-04	9.08E-04	1.00	Rich	3	2.94E-04	4.08E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(a)pyrene	lbs/MMcf	EF	Lean	12	8.36E-05	1.38E-04	0.96	Rich	3	1.15E-04	3.18E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	Lean	12	6.76E-04	1.11E-03	0.99	Rich	3	2.37E-04	5.53E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	Lean	12	5.17E-04	8.71E-04	1.00	Rich	3	1.95E-04	4.46E-05	1.00	No
ICE, Natural Gas	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	Lean	12	2.42E-04	3.36E-04	0.99	Rich	3	1.03E-04	2.07E-05	1.00	No
ICE, Natural Gas	PAH	Chrysene	lbs/MMcf	EF	Lean	12	3.35E-04	6.99E-04	1.00	Rich	3	3.10E-04	7.71E-05	1.00	No
ICE, Natural Gas	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	Lean	12	2.87E-05	4.50E-05	0.95	Rich	3	1.25E-05	1.72E-06	1.00	No
ICE, Natural Gas	PAH	Fluoranthene	lbs/MMcf	EF	Lean	12	1.41E-03	2.06E-03	1.00	Rich	3	9.95E-04	1.94E-04	1.00	No
ICE, Natural Gas	PAH	Fluorene	lbs/MMcf	EF	Lean	12	2.68E-03	4.07E-03	0.96	Rich	3	6.91E-03	1.99E-03	1.00	No
ICE, Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	Lean	12	4.42E-04	7.23E-04	1.00	Rich	3	1.69E-04	3.43E-05	1.00	No
ICE, Natural Gas	PAH	Naphthalene	lbs/MMcf	EF	Lean	12	1.23E-01	1.31E-01	1.00	Rich	3	7.65E-02	1.58E-02	1.00	No
ICE, Natural Gas	PAH	Phenanthrene	lbs/MMcf	EF	Lean	12	7.19E-03	1.11E-02	1.00	Rich	3	7.07E-03	1.92E-03	1.00	No
ICE, Natural Gas	PAH	Pyrene	lbs/MMcf	EF	Lean	12	1.73E-03	2.84E-03	1.00	Rich	3	1.79E-03	7.53E-04	1.00	No
ICE, Natural Gas	SVOC	Ethylbenzene	lbs/MMcf	EF	Lean	9	[illegible]	[illegible]	[illegible]	Rich	3	1.16E-02	3.13E-03	1.00	Yes

TABLE A6-9a. INTERNAL COMBUSTION ENGINE OXYGEN LEVEL COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Oxygen Level	Size	Average	Standard Deviation	Detect Ratio	Description Oxygen Level	Size	Average	Standard Deviation	Detect Ratio	
ICE, Natural Gas	VOC	1,3-Butadiene	lbs/MMcf	EF	Lean	9	7.70E-01	6.07E-01	1.00	Rich	3	1.04E-01	3.92E-04	1.00	No
ICE, Natural Gas	VOC	Acetaldehyde	lbs/MMcf	EF	Lean	24	2.67E+00	2.72E+00	0.99	Rich	6	8.83E-01	9.05E-01	1.00	No
ICE, Natural Gas	VOC	Acrolein	lbs/MMcf	EF	Lean	23	1.02E+00	1.40E+00	0.99	Rich	6	7.94E-01	3.38E-01	1.00	No
ICE, Natural Gas	VOC	Benzene	lbs/MMcf	EF	Lean	23	1.05E+00	7.21E-01	1.00	Rich	11	1.91E+00	3.94E+00	1.00	No
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	Lean	[illegible]	[illegible]	[illegible]	[illegible]	Rich	12	2.80E+00	4.47E+00	1.00	Yes
ICE, Natural Gas	VOC	m,p-xylene	lbs/MMcf	EF	Lean	14	8.63E-02	3.99E-02	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
ICE, Natural Gas	VOC	o-xylene	lbs/MMcf	EF	Lean	14	4.94E-02	1.95E-02	0.95	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
ICE, Natural Gas	VOC	Propylene	lbs/MMcf	EF	Lean	23	1.40E+01	1.69E+01	0.97	Rich	5	1.60E+01	2.15E+01	1.00	No
ICE, Natural Gas	VOC	Toluene	lbs/MMcf	EF	Lean	23	4.36E-01	2.67E-01	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
ICE, Natural Gas	VOC	Total Xylene	lbs/MMcf	EF	Lean	[illegible]	[illegible]	[illegible]	[illegible]	Rich	3	6.02E-02	1.86E-02	1.00	Yes

TABLE A6-10a. INTERNAL COMBUSTION ENGINE CAPACITY COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Capacity	Size	Average	Standard Deviation	Detect Ratio	Description Capacity	Size	Average	Standard Deviation	Detect Ratio	
ICE, Field Gas	VOC	Benzene	lbs/MMcf	EF	<650 Hp	10	5.84E+00	5.39E+00	1.00	>650 Hp	3	4.39E+00	1.91E-01	1.00	No
ICE, Field Gas	VOC	Formaldehyde	lbs/MMcf	EF	<650 Hp	15	4.11E+01	3.36E+01	1.00	>650 Hp	3	2.58E+01	3.46E+01	1.00	No
ICE, Field Gas	VOC	m,p-xylene	lbs/MMcf	EF	<650 Hp	10	5.14E-01	4.09E-01	1.00	>650 Hp	3	2.54E-01	6.43E-02	1.00	No
ICE, Field Gas	VOC	o-xylene	lbs/MMcf	EF	<650 Hp	10	2.20E-01	1.97E-01	1.00	>650 Hp	3	1.03E-01	3.41E-02	1.00	No
ICE, Field Gas	VOC	Propylene	lbs/MMcf	EF	<650 Hp	10	1.82E+01	1.32E+01	0.97	>650 Hp	3	1.47E+01	3.16E+00	1.00	No
ICE, Field Gas	VOC	Toluene	lbs/MMcf	EF	<650 Hp	10	2.11E+00	1.87E+00	1.00	>650 Hp	3	1.54E+00	1.15E+00	1.00	No
ICE, Natural Gas	PAH	Acenaphthene	lbs/MMcf	EF	<650 Hp	6	1.33E-03	1.05E-03	1.00	>650 Hp	9	8.15E-04	1.00E-03	1.00	No
ICE, Natural Gas	PAH	Acenaphthylene	lbs/MMcf	EF	<650 Hp	6	1.10E-02	4.40E-03	1.00	>650 Hp	9	7.33E-03	1.02E-02	1.00	No
ICE, Natural Gas	PAH	Anthracene	lbs/MMcf	EF	<650 Hp	6	1.06E-02	1.03E-04	1.00	>650 Hp	9	3.02E-04	3.67E-04	1.00	Yes
ICE, Natural Gas	PAH	Benzo(a)anthracene	lbs/MMcf	EF	<650 Hp	6	1.86E-04	1.22E-04	1.00	>650 Hp	9	7.07E-04	1.01E-03	1.00	No
ICE, Natural Gas	PAH	Benzo(a)pyrene	lbs/MMcf	EF	<650 Hp	6	7.51E-05	4.87E-05	0.94	>650 Hp	9	9.96E-05	1.58E-04	0.98	No
ICE, Natural Gas	PAH	Benzo(b)fluoranthene	lbs/MMcf	EF	<650 Hp	6	2.82E-04	3.36E-04	0.97	>650 Hp	9	7.92E-04	1.25E-03	1.00	No
ICE, Natural Gas	PAH	Benzo(g,h,i)perylene	lbs/MMcf	EF	<650 Hp	6	1.49E-04	1.03E-04	1.00	>650 Hp	9	6.55E-04	9.76E-04	1.00	No
ICE, Natural Gas	PAH	Benzo(k)fluoranthene	lbs/MMcf	EF	<650 Hp	6	3.16E-04	4.04E-04	0.98	>650 Hp	9	1.46E-04	2.14E-04	1.00	No
ICE, Natural Gas	PAH	Chrysene	lbs/MMcf	EF	<650 Hp	6	2.03E-04	1.28E-04	1.00	>650 Hp	9	4.15E-04	8.02E-04	1.00	No
ICE, Natural Gas	PAH	dibenz(a,h)anthracene	lbs/MMcf	EF	<650 Hp	6	1.17E-05	2.82E-06	1.00	>650 Hp	9	3.47E-05	5.12E-05	0.95	No
ICE, Natural Gas	PAH	Fluoranthene	lbs/MMcf	EF	<650 Hp	6	6.23E-04	4.30E-04	1.00	>650 Hp	9	1.80E-03	2.27E-03	1.00	No
ICE, Natural Gas	PAH	Fluorene	lbs/MMcf	EF	<650 Hp	6	3.69E-03	3.75E-03	0.94	>650 Hp	9	3.43E-03	4.50E-03	1.00	No
ICE, Natural Gas	PAH	Indeno(1,2,3-cd)pyrene	lbs/MMcf	EF	<650 Hp	6	1.44E-04	1.02E-04	1.00	>650 Hp	9	5.49E-04	8.13E-04	1.00	No
ICE, Natural Gas	PAH	Naphthalene	lbs/MMcf	EF	<650 Hp	6	9.92E-02	6.25E-02	1.00	>650 Hp	9	1.23E-01	1.47E-01	1.00	No
ICE, Natural Gas	PAH	Phenanthrene	lbs/MMcf	EF	<650 Hp	6	3.98E-03	3.60E-03	1.00	>650 Hp	9	9.29E-03	1.23E-02	1.00	No
ICE, Natural Gas	PAH	Pyrene	lbs/MMcf	EF	<650 Hp	6	9.57E-04	1.03E-03	1.00	>650 Hp	9	2.27E-03	3.13E-03	1.00	No
ICE, Natural Gas	SVOC	Ethylbenzene	lbs/MMcf	EF	<650 Hp	3	1.16E-02	3.13E-03	1.00	>650 Hp	9	7.62E-02	3.34E-02	1.00	Yes
ICE, Natural Gas	VOC	1,3-Butadiene	lbs/MMcf	EF	<650 Hp	3	1.04E-01	3.92E-04	1.00	>650 Hp	9	7.70E-01	6.07E-01	1.00	No
ICE, Natural Gas	VOC	Acetaldehyde	lbs/MMcf	EF	<650 Hp	21	3.11E+00	2.64E+00	1.00	>650 Hp	9	4.72E-01	8.47E-01	0.90	Yes
ICE, Natural Gas	VOC	Acrolein	lbs/MMcf	EF	<650 Hp	20	1.38E+00	1.32E+00	1.00	>650 Hp	9	6.83E-02	6.76E-02	0.60	Yes
ICE, Natural Gas	VOC	Benzene	lbs/MMcf	EF	<650 Hp	25	1.51E+00	2.60E+00	1.00	>650 Hp	9	8.08E-01	8.91E-01	1.00	No
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	<650 Hp	42	1.61E+01	1.59E+01	1.00	>650 Hp	21	4.24E+00	6.90E+00	0.94	Yes
ICE, Natural Gas	VOC	Propylene	lbs/MMcf	EF	<650 Hp	19	1.80E+01	2.01E+01	0.98	>650 Hp	9	6.71E+00	3.32E+00	1.00	No
ICE, Natural Gas	VOC	Toluene	lbs/MMcf	EF	<650 Hp	19	5.85E-01	7.01E-01	1.00	>650 Hp	9	4.74E-01	4.02E-01	1.00	No
ICE, Natural Gas	VOC	Total Xylene	lbs/MMcf	EF	<650 Hp	3	6.02E-02	1.86E-02	1.00	>650 Hp	9	5.31E-01	3.04E-01	1.00	Yes

TABLE A6-11a. INTERNAL COMBUSTION ENGINE STROKES PER CYCLE COMPARISON (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description Strokes	Size	Average	Standard Deviation	Detect Ratio	Description Strokes	Size	Average	Standard Deviation	Detect Ratio	
ICE, Field Gas	VOC	Benzene	lbs/MMcf	EF	2S	5	7.85E+00	4.77E+00	1.00	4S	8	4.04E+00	4.32E+00	1.00	No
ICE, Field Gas	VOC	Formaldehyde	lbs/MMcf	EF	2S	6	5.09E+01	3.55E+01	1.00	4S	12	3.24E+01	3.18E+01	1.00	No
ICE, Field Gas	VOC	m,p-xylene	lbs/MMcf	EF	2S	5	6.04E-01	4.88E-01	1.00	4S	8	3.60E-01	2.77E-01	1.00	No
ICE, Field Gas	VOC	o-xylene	lbs/MMcf	EF	2S	5	2.88E-01	2.54E-01	1.00	4S	8	1.34E-01	8.52E-02	1.00	No
ICE, Field Gas	VOC	Propylene	lbs/MMcf	EF	2S	5	2.49E+01	1.41E+01	1.00	4S	8	1.27E+01	7.24E+00	0.94	No
ICE, Field Gas	VOC	Toluene	lbs/MMcf	EF	2S	5	2.86E+00	2.08E+00	1.00	4S	8	1.44E+00	1.28E+00	1.00	No
ICE, Natural Gas	VOC	Formaldehyde	lbs/MMcf	EF	2S	9	5.15E+00	7.50E+00	0.91	4S	54	1.26E+01	1.51E+01	1.00	No

TABLE A6-12a. SOURCE CLASSIFICATION CODE TYPE COMPARISON ASPHALT PRODUCTION: CONTRACTOR V REMOVED (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description SCC	Size	Average	Standard Deviation	Detect Ratio	Description SCC	Size	Average	Standard Deviation	Detect Ratio	
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	30500205	4	2.05E-06	3.97E-06	0.02	30500211	3	2.73E-07	3.93E-09	0.00	No
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	30500205	4	1.11E-06	1.93E-06	0.00	30500211	3	5.45E-07	7.85E-09	0.00	No
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	30500205	4	1.11E-05	2.20E-05	1.00	30500211	1	1.62E-06		1.00	No
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	30500205	4	2.14E-05	4.18E-05	1.00	30500211	3	1.96E-06	1.27E-06	1.00	No
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	30500205	3	8.56E-08	3.14E-08	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	30500205	4	3.39E-05	6.56E-05	1.00	30500211	2	1.50E-06	2.22E-07	1.00	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	30500205	4	5.49E-04	1.09E-03	1.00	30500211	3	2.01E-06	8.58E-07	1.00	No
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	30500205	4	4.09E-04	8.17E-04	1.00	30500211	3	1.24E-05	4.38E-06	1.00	No
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30500211	3	4.88E-08	2.84E-08	0.52	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	30500205	4	9.56E-05	1.90E-04	0.00	30500211	3	2.73E-06	3.93E-08	0.00	No
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	30500205	4	2.88E-06	3.45E-06	0.15	30500211	3	2.73E-07	3.93E-09	0.00	No
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	30500205	4	1.16E-03	2.31E-03	1.00	30500211	3	1.82E-05	5.62E-06	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	30500205	3	2.11E-08	1.08E-08	1.00	30500211	3	4.80E-07	4.21E-07	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	30500205	3	2.04E-08	1.89E-08	1.00	30500211	3	3.36E-07	2.72E-07	1.00	No
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	30500205	3	1.68E-08	7.54E-09	1.00	30500211	3	3.21E-08	7.68E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	30500205	3	6.41E-09	2.56E-09	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	30500205	3	3.13E-10	5.29E-11	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	30500205	3	4.39E-09	6.44E-09	1.00	30500211	3	1.39E-08	9.49E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	30500205	3	5.03E-10	3.10E-11	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	30500205	3	1.13E-09	1.31E-09	1.00	30500211	3	5.13E-09	2.90E-09	1.00	No
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	30500205	3	1.25E-09	3.67E-10	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	30500205	3	1.90E-10	1.08E-10	0.00	30500211	3	1.76E-09	8.74E-10	0.00	Yes
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	30500205	3	8.67E-08	3.88E-08	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	30500205	3	2.78E-07	1.92E-07	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	30500205	3	3.00E-10	6.03E-12	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	30500205	3	1.08E-05	4.70E-06	1.00	30500211	3	4.75E-05	2.78E-05	1.00	No
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	30500205	3	7.23E-07	3.10E-07	1.00	30500211	3	6.27E-07	2.36E-07	1.00	No
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	30500205	3	5.99E-08	2.56E-08	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	30500205	4	8.60E-04	3.72E-04	0.09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	30500205	3	2.43E-04	7.74E-05	1.00	30500211	3	1.32E-04	5.94E-05	1.00	No

TABLE A6-13a. AIR POLLUTION CONTROL SYSTEM COMPARISON ASPHALT PRODUCTION: CONTRACTOR V REMOVED (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	Difference at 95%Confidence
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	FF	3	6.60E-08	4.74E-08	1.00	Yes
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Arsenic	lbs/ton production	EF	FF	3	6.60E-08	4.74E-08	1.00	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/FF	3	5.45E-07	7.85E-09	0.00	FF	3	1.50E-07	1.42E-08	0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	C/FF	3	5.45E-07	7.85E-09	0.00	WS	1	4.01E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Beryllium	lbs/ton production	EF	FF	3	1.50E-07	1.42E-08	0.00	WS	1	4.01E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/FF	1	1.42E-06		1.00	FF	3	1.38E-07	3.92E-08	0.78	Yes
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	C/FF	1	1.62E-06		1.00	WS	1	4.41E-05		1.00	NA
Asphalt Prod., Diesel	Metals	Cadmium	lbs/ton production	EF	FF	3	1.38E-07	3.92E-08	0.78	WS	1	4.41E-05		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/FF	3	1.96E-06	1.27E-06	1.00	FF	3	5.23E-07	3.40E-07	1.00	No
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	C/FF	3	1.96E-06	1.27E-06	1.00	WS	1	8.42E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium	lbs/ton production	EF	FF	3	5.23E-07	3.40E-07	1.00	WS	1	8.42E-06		1.00	Yes
Asphalt Prod., Diesel	Metals	Chromium (Hex)	lbs/ton production	EF	C/FF	1	1.01E-07	1.40E-07	1.00	FF	3	8.56E-08	3.14E-08	1.00	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/FF	2	1.50E-06	2.22E-07	1.00	FF	3	1.12E-06	3.15E-07	1.00	No
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	C/FF	2	1.50E-06	2.22E-07	1.00	WS	1	[illegible]		1.00	Yes
Asphalt Prod., Diesel	Metals	Copper	lbs/ton production	EF	FF	3	1.12E-06	3.15E-07	1.00	WS	1	[illegible]		1.00	Yes
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/FF	3	2.01E-06	8.58E-07	1.00	FF	3	2.27E-06	1.54E-06	1.00	No
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	C/FF	3	2.01E-06	8.58E-07	1.00	WS	1	[illegible]		1.00	Yes
Asphalt Prod., Diesel	Metals	Lead	lbs/ton production	EF	FF	3	2.27E-06	1.54E-06	1.00	WS	1	[illegible]		1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/FF	3	1.24E-05	4.38E-06	1.00	FF	3	9.11E-07	1.82E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	C/FF	3	1.24E-05	4.38E-06	1.00	WS	1	[illegible]		1.00	Yes
Asphalt Prod., Diesel	Metals	Manganese	lbs/ton production	EF	FF	3	9.11E-07	1.82E-07	1.00	WS	1	[illegible]		1.00	Yes
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/FF	3	4.88E-08	2.84E-08	0.52	FF	3	7.06E-07	7.92E-08	0.00	Yes
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	C/FF	3	4.88E-08	2.84E-08	0.52	WS	1	8.02E-07		1.00	Yes
Asphalt Prod., Diesel	Metals	Mercury	lbs/ton production	EF	FF	3	7.06E-07	7.92E-08	0.00	WS	1	8.02E-07		1.00	No
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/FF	3	2.73E-06	3.93E-08	0.00	FF	3	5.35E-07	2.00E-07	1.00	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	C/FF	3	2.73E-06	3.93E-08	0.00	WS	1	3.81E-04		0.00	Yes
Asphalt Prod., Diesel	Metals	Nickel	lbs/ton production	EF	FF	3	5.35E-07	2.00E-07	1.00	WS	1	3.81E-04		0.00	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	FF	3	1.16E-06	5.08E-07	0.50	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	C/FF	3	2.73E-07	3.93E-09	0.00	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Selenium	lbs/ton production	EF	FF	3	1.16E-06	5.08E-07	0.50	WS	1	8.02E-06		0.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/FF	3	1.82E-05	5.62E-06	1.00	FF	3	6.71E-06	6.28E-06	1.00	No
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	C/FF	3	1.82E-05	5.62E-06	1.00	WS	1	4.02E-03		1.00	Yes
Asphalt Prod., Diesel	Metals	Zinc	lbs/ton production	EF	FF	3	6.71E-06	6.28E-06	1.00	WS	1	4.02E-03		1.00	Yes
Asphalt Prod., Diesel	PAH	Acenaphthene	lbs/ton production	EF	C/FF	3	4.80E-07	4.21E-07	1.00	FF	3	2.11E-08	1.08E-08	1.00	No
Asphalt Prod., Diesel	PAH	Acenaphthylene	lbs/ton production	EF	C/FF	3	3.36E-07	2.72E-07	1.00	FF	3	2.04E-08	1.89E-08	1.00	No
Asphalt Prod., Diesel	PAH	Anthracene	lbs/ton production	EF	C/FF	3	3.21E-08	7.68E-09	1.00	FF	3	1.68E-08	7.54E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(a)anthracene	lbs/ton production	EF	C/FF	3	[illegible]	[illegible]	1.00	FF	3	6.41E-09	2.56E-09	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(a)pyrene	lbs/ton production	EF	C/FF	3	[illegible]	[illegible]	1.00	FF	3	3.13E-10	5.29E-11	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(b)fluoranthene	lbs/ton production	EF	C/FF	3	1.39E-08	9.49E-09	1.00	FF	3	4.39E-09	6.44E-09	1.00	No
Asphalt Prod., Diesel	PAH	Benzo(g,h,i)perylene	lbs/ton production	EF	C/FF	3	[illegible]	[illegible]	0.33	FF	3	5.03E-10	3.10E-11	1.00	Yes
Asphalt Prod., Diesel	PAH	Benzo(k)fluoranthene	lbs/ton production	EF	C/FF	3	5.13E-09	2.90E-09	1.00	FF	3	1.13E-09	1.31E-09	1.00	No
Asphalt Prod., Diesel	PAH	Chrysene	lbs/ton production	EF	C/FF	3	[illegible]	[illegible]	1.00	FF	3	1.25E-09	3.67E-10	1.00	Yes
Asphalt Prod., Diesel	PAH	dibenz(a,h)anthracene	lbs/ton production	EF	C/FF	3	1.76E-09	8.74E-10	0.00	FF	3	1.90E-10	1.08E-10	0.00	Yes
Asphalt Prod., Diesel	PAH	Fluoranthene	lbs/ton production	EF	C/FF	1	[illegible]	[illegible]	1.00	FF	3	8.67E-08	3.88E-08	1.00	Yes
Asphalt Prod., Diesel	PAH	Fluorene	lbs/ton production	EF	C/FF	3	[illegible]	[illegible]	1.00	FF	3	2.78E-07	1.92E-07	1.00	Yes
Asphalt Prod., Diesel	PAH	Indeno(1,2,3-cd)pyrene	lbs/ton production	EF	C/FF	3	[illegible]	[illegible]	0.00	FF	3	3.00E-10	6.03E-12	1.00	Yes
Asphalt Prod., Diesel	PAH	Naphthalene	lbs/ton production	EF	C/FF	3	4.75E-05	2.78E-05	1.00	FF	3	1.08E-05	4.70E-06	1.00	No

TABLE A6-13a. AIR POLLUTION CONTROL SYSTEM COMPARISON ASPHALT PRODUCTION: CONTRACTOR V REMOVED (t-statistics).

Group	Category	Substance	EF Unit	Value Type	First Sample Statistics					Second Sample Statistics					Significant Difference at 95%Confidence
					Description APC System	Size	Average	Standard Deviation	Detect Ratio	Description APC System	Size	Average	Standard Deviation	Detect Ratio	
Asphalt Prod., Diesel	PAH	Phenanthrene	lbs/ton production	EF	C/FF	3	6.27E-07	2.36E-07	1.00	FF	3	7.23E-07	3.10E-07	1.00	No
Asphalt Prod., Diesel	PAH	Pyrene	lbs/ton production	EF	C/FF	[illegible]	[illegible]	[illegible]	[illegible]	FF	3	5.99E-08	2.56E-08	1.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/FF	[illegible]	[illegible]	[illegible]	[illegible]	FF	3	1.04E-03	4.65E-05	0.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	C/FF	[illegible]	[illegible]	[illegible]	[illegible]	WS	1	3.05E-04		1.00	Yes
Asphalt Prod., Diesel	VOC	Benzene	lbs/ton production	EF	FF	3	1.04E-03	4.65E-05	0.00	WS	1	3.05E-04		1.00	Yes
Asphalt Prod., Diesel	VOC	Formaldehyde	lbs/ton production	EF	C/FF	3	1.32E-04	5.94E-05	1.00	FF	3	2.43E-04	7.74E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Arsenic	lbs/ton production	EF	C/FF	6	9.48E-07	5.49E-07	0.00	C/WS	3	1.11E-07	6.20E-09	0.00	Yes
Asphalt Prod., Natural Gas	Metals	Beryllium	lbs/ton production	EF	C/FF	6	1.14E-06	5.31E-07	0.00	C/WS	3	2.23E-07	1.24E-08	0.00	Yes
Asphalt Prod., Natural Gas	Metals	Cadmium	lbs/ton production	EF	C/FF	6	2.30E-06	2.83E-06	0.75	C/WS	3	7.30E-07	2.74E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Chromium	lbs/ton production	EF	C/FF	[illegible]	[illegible]	[illegible]	[illegible]	C/WS	3	6.34E-07	2.78E-07	1.00	Yes
Asphalt Prod., Natural Gas	Metals	Chromium (Hex)	lbs/ton production	EF	C/FF	[illegible]	[illegible]	[illegible]	[illegible]	C/WS	3	3.94E-08	5.85E-09	1.00	Yes
Asphalt Prod., Natural Gas	Metals	Copper	lbs/ton production	EF	C/FF	6	3.49E-06	1.51E-06	0.61	C/WS	3	2.85E-06	8.71E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Lead	lbs/ton production	EF	C/FF	6	6.03E-06	7.80E-06	1.00	C/WS	3	1.03E-06	3.00E-07	1.00	No
Asphalt Prod., Natural Gas	Metals	Manganese	lbs/ton production	EF	C/FF	6	1.41E-05	1.10E-05	1.00	C/WS	3	3.19E-05	1.17E-05	1.00	No
Asphalt Prod., Natural Gas	Metals	Mercury	lbs/ton production	EF	C/FF	6	1.53E-05	1.31E-05	1.00	C/WS	3	1.63E-06	1.52E-06	1.00	No
Asphalt Prod., Natural Gas	Metals	Nickel	lbs/ton production	EF	C/FF	6	4.86E-06	3.40E-06	0.00	C/WS	3	1.19E-06	4.24E-08	0.00	No
Asphalt Prod., Natural Gas	Metals	Selenium	lbs/ton production	EF	C/FF	6	9.47E-07	5.47E-07	0.00	C/WS	3	1.11E-07	6.20E-09	0.00	Yes
Asphalt Prod., Natural Gas	Metals	Zinc	lbs/ton production	EF	C/FF	6	1.48E-05	6.66E-06	1.00	C/WS	3	9.52E-06	2.70E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Acenaphthene	lbs/ton production	EF	C/FF	[illegible]	[illegible]	[illegible]	[illegible]	C/WS	3	2.62E-07	2.59E-07	1.00	Yes
Asphalt Prod., Natural Gas	PAH	Acenaphthylene	lbs/ton production	EF	C/FF	6	2.24E-06	4.12E-06	1.00	C/WS	2	1.86E-07	3.97E-08	1.00	No
Asphalt Prod., Natural Gas	PAH	Anthracene	lbs/ton production	EF	C/FF	6	2.50E-07	3.63E-07	1.00	C/WS	3	6.45E-08	5.56E-08	1.00	No
Asphalt Prod., Natural Gas	PAH	Fluoranthene	lbs/ton production	EF	C/FF	6	6.78E-07	1.43E-06	1.00	C/WS	3	1.04E-08	8.57E-09	1.00	No
Asphalt Prod., Natural Gas	PAH	Fluorene	lbs/ton production	EF	C/FF	6	1.82E-06	7.23E-07	1.00	C/WS	3	1.53E-06	1.34E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Naphthalene	lbs/ton production	EF	C/FF	6	3.30E-05	2.54E-05	1.00	C/WS	3	8.28E-06	7.54E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Phenanthrene	lbs/ton production	EF	C/FF	6	2.88E-06	2.44E-06	1.00	C/WS	3	1.59E-06	1.38E-06	1.00	No
Asphalt Prod., Natural Gas	PAH	Pyrene	lbs/ton production	EF	C/FF	6	1.25E-06	2.83E-06	1.00	C/WS	3	1.75E-08	1.46E-08	1.00	No
Asphalt Prod., Natural Gas	VOC	Benzene	lbs/ton production	EF	C/FF	6	1.27E-04	1.37E-04	1.00	C/WS	3	1.63E-05	2.96E-06	1.00	No
Asphalt Prod., Natural Gas	VOC	Formaldehyde	lbs/ton production	EF	C/FF	6	3.79E-04	3.79E-04	1.00	C/WS	3	1.33E-05	3.43E-06	1.00	No