Docket A-92-55
Entry II-B-8

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MEMORANDUM

From: William H. Maxwell WHM
CG/ESD (C439-01)

To: Utility MACT Project Files

Subject: Analysis of variability in determining MACT floor for coal-fired electric utility steam generating units

Although EPA is confident that the data available are representative of the industry, it is evident that the test report data exhibit a significant degree of variability, even within a given subcategory. The EPA decided it was necessary to develop a methodology to address the multiple sources of the observed variability in order to assure that an emission limitation value could be derived that would be achievable. The origins of variability and approaches available for addressing the apparent variability found in the test data are described below.

Variability is inherent whenever measurements are made or whenever mechanical processes operate. The variability in the emission test data may arise from one or more of the following areas: (1) the emission test method(s); (2) the analytical method(s); (3) the design of the unit and control device(s); (4) the operation of the unit and control device(s); and (5) the amount of the constituent being tested in the fuel.

Test and analytical method variability can be quantified by statistical analysis of the results of a series of tests. The results can be analyzed to establish confidence intervals within which the true value of a test result is presumed to lie. Confidence intervals can be estimated for multiple-run series of tests based on the differences found from one test run to the next, with only the upper confidence interval having meaning (signifying the chance of the standard being exceeded).

When testing is done at more than one unit, similar confidence intervals can be established to account for the variability from unit-to-unit. One can combine the test-to-test and unit-to-unit variability into a single factor that can be applied to reported test values to give an upper limit for the likely true value. One can also estimate the combined factor for any desired confidence level.

Testing for a short time may not reveal the range of emissions that would be found over extended time periods. Normal changes in operating conditions or in fuel characteristics may affect emission levels. For example, an increase in the mercury (Hg) content of the fuel being fired in a unit may tend to increase the Hg emission rate from the associated stack. Mercury emission rates may also change with unit loads. As load changes, so does gas flow rate through the air pollution control device (APCD) downstream from the unit. Changes in gas flow rate may affect APCD effectiveness.

Variability may be addressed in a number of ways, depending on the circumstances existing within the source category. For example, different test run results can be analyzed statistically to arrive at an upper limit that represents the highest likely value for each test planned for use in setting emission limits. The poorest-performing (worst-case) unit in the top 12 percent of each subcategory can be reviewed to determine the causes of poor performance with a factor then assigned that can be applied to each of the test runs. These offsets would give emission values that would not likely be exceeded over long time periods. Looking only at control devices used by sources in the top 12 percent, control device performance can also be examined to determine likely emission reductions for different devices operating on different units firing different fuels. The range in emission reductions could be used to set upper limits of expected control performance; then, these limits could be used, as above, to set emission limitations for each subcategory. Correlations between constituents of concern and other, perhaps more easily measured, constituents can be used to develop algorithms that incorporate variability.

The EPA found that there are two fundamentally different approaches to incorporating variability into the proposed rule: (1) including variability in the MACT floor calculation, or (2) including variability in the compliance method. Addressing variability in the MACT floor calculation requires that all of the origins of variability be assessed and quantified into factors that can be applied into the emission limitation calculations for each subcategory's floor. Each unit used for floor calculations is assumed to operate such that its measured emission rate is increased by the amount of variability found from statistical analysis, worst-case analysis, or control device performance analysis. Each unit in the top 12 percent of its subcategory would be adjusted to reflect the uncertainty associated with the various origins of variability, and the average emission rate for these units would be used as the floor emission limitation.

Addressing variability in the compliance method would involve allowing an averaging time for compliance that would accommodate variations in pollutant emissions over time. For example, averaging over a month or a year of data will provide opportunity for variations in the amount of a constituent in the fuel to be accommodated without exceeding the emission limitation. This method of addressing variability is not covered in this memorandum.

In trying to address the apparent sources of variability in the emissions test data, EPA tried to obtain data that reflected as many different plant configurations as would be found in the entire industry profile and conducted tests at units believed to be representative of those within the source category. The tests and measurements, typically a three-run series of manual samples taken over one or two days of testing, are limited by the emission test method's accuracy and precision, by the short duration of the test, and by differences from one run to the next and one unit to the next. EPA has evaluated the total population of test results to determine a valid test method variability factor as well as a fuel variability factor. These factors were then applied in MACT floor emission limitation calculations, as appropriate.

In order to determine the MACT floor emission limits for existing units, EPA examined the population database of existing sources. Available Hg emissions test data were divided according to the following subcategories:

bituminous coal
subbituminous coal
lignite coal
waste coal
IGCC units

The EPA examined the existing emission test data to determine the individual numerical average of the test results from the best-performing 12 percent (or equivalent) of each subcategory for each regulated HAP (or surrogate). The EPA then applied the potential uncertainty and variability in the emission test reports and Hg in fuel variability (as appropriate) to derive the MACT floor limits. The discussion below describes the development of the emission limitation for each regulated pollutant for coal-fired units for the bituminous, subbituminous, and lignite subcategories (there being insufficient data available for the waste coal and IGGC subcategories to conduct full statistical analyses).

The emission limit for Hg emissions from coal-fired units was determined by analyzing the available Hg emissions data in each of the three subcategories. The data were obtained from the ICR and included data for Hg emissions and Hg-in-coal data for calendar year 1999. The MACT floor calculations were based on the average performance of the top 12 percent of units in the individual subcategories.

The variability of Hg emissions from coal-fired units is significantly influenced by the variability over time in the composition of coal burned as fuel (i.e., differences in Hg content, chlorine (Cl) content, and heat content of coal). In particular, the Cl content of coal can be used as a key indicator of the type of Hg compound in flue gas. The effectiveness of control devices at removing Hg depends to a large extent on the type of Hg compound in the flue gas. Thus, which Hg compounds are present in the flue gas impacts the amount of Hg that will be captured by control devices and how much Hg will be released in stack emissions. Importantly, Cl content has a significant impact on which Hg compounds are contained in the flue gas. When combined with other relevant data, such as coal Hg content, the Cl content of coal can be used to predict Hg emissions.

The EPA examined a number of approaches to incorporating variability in the MACT floor determination, from a statistical analysis of the test data combined with an algebraic analysis of the coal data to full statistical analyses of both the test and coal data. A multi-variable analysis provided by WEST Associates (attached) appeared to provide the most comprehensive approach and has been adopted, with modifications as noted below, by the EPA in determining the MACT floor.

The data results from the multi-variable study performed lend support to the significance of coal Cl content to Hg controllability. The higher the Cl:Hg ratio, the more likely the formation of mercuric chloride (ionic or oxidized Hg) that is more readily captured by existing controls. This Cl:Hg ratio is independent of the coal rank as an indicator of Hg controllability. Figure 1 provides information on the range of Cl values for the various coal ranks, and subranks, used by the utility industry in the United States. As can be seen from the figure, the Cl contents overlap considerably and a bituminous coal is as likely to have low chlorine content as is a subbituminous or lignite coal.

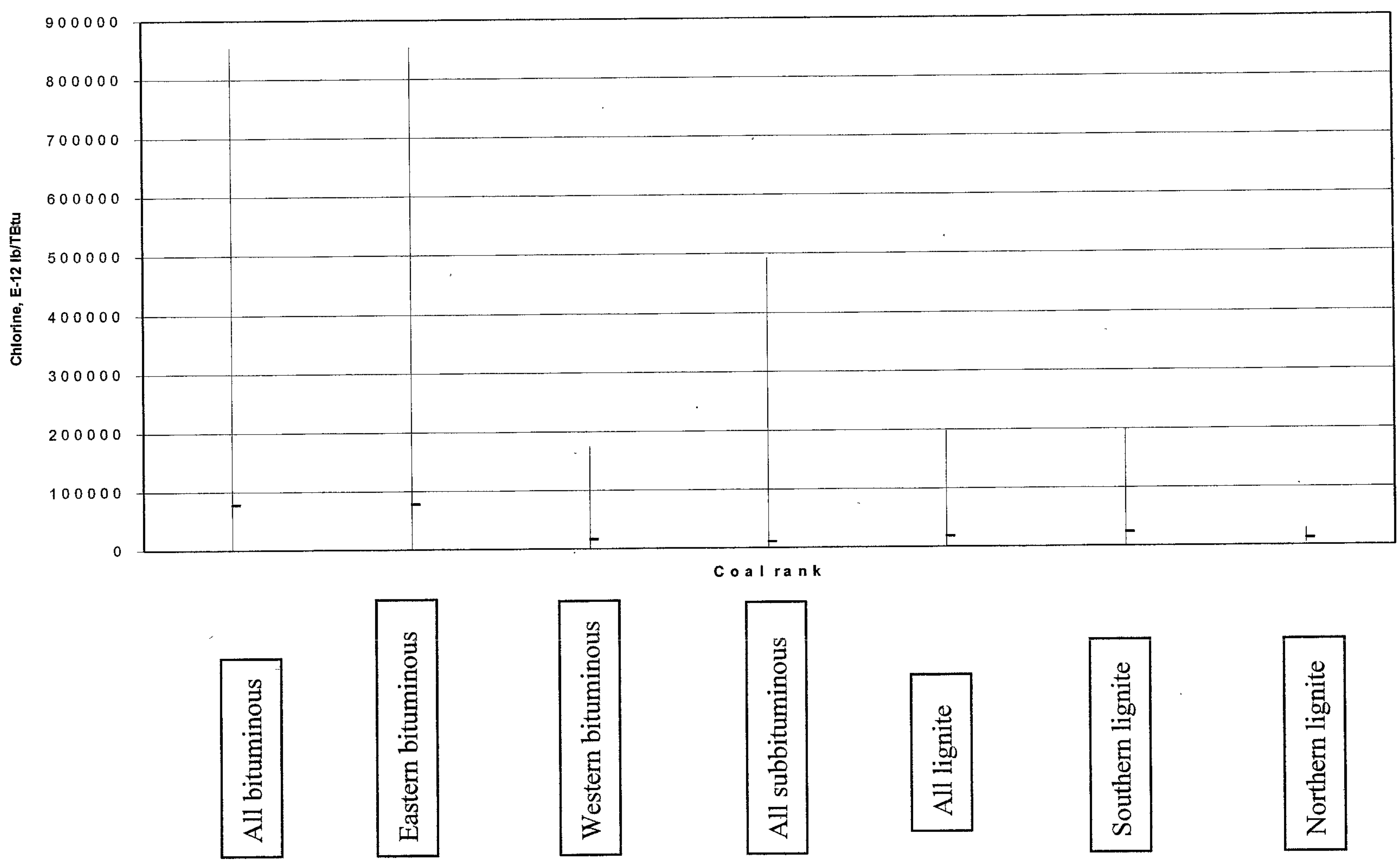
In sum, the coal Cl content is one of the primary determinants of which Hg-containing compounds will be present, and in what amounts, in the flue gas of an individual utility unit. The differing physical and chemical properties of Hg-containing compounds in the flue gas result in significant differences in the feasibility and effectiveness of controls for removing the compounds from flue gas. Accordingly, when combined with other relevant data, such as coal Hg content, the Cl content of coal can be used as a key indicator of Hg emissions.

The units in each of the three subcategories were sorted in ascending order of stack-tested Hg emission factor (measured in units of lb/TBtu, as adjusted by a method that normalizes Hg emissions to coal heat content [F-factor adjustment]). Accordingly, the top performing units of each subcategory were selected for further analysis.

The stack tests in the ICR database are insufficient to estimate the effect of fuel variability over time on the emissions of the best performing facilities. The ICR database contains extensive data on variation in coal composition recorded over the course of a year. To link fuel composition data to Hg emissions data, correlation equations were developed to represent the relationship between Hg removal fraction and Cl concentration for each of the control configurations used by the best performing units. The steps used to develop these correlation equations are set forth below.

The control configuration of each of the best performing units identified was identified. The Hg removal fraction and test coal Cl concentrations were obtained from the ICR database for each of the units in the database that have one of the identified control configurations. Finally, a correlation equation was derived for each identified control configuration by fitting the following mathematical expression to the Hg removal fractions and corresponding Cl concentrations obtained from the ICR stack test database.

Figure 1. Coal chlorine content



In the selection of the format of the correlation equation, care was taken that the mathematical expression accurately reflected the physical and chemical process by which Cl contributes to the controllability of stack Hg emissions. The correlation equation is based on the assumption that the rate of conversion of Hg to mercury chloride is proportional to the Cl concentration in the coal, irrespective of coal rank. With this expression, the maximum removal fraction is limited to 1, because the exponent term is always nonnegative, regardless of the Cl concentration. This corresponds to the real-world limitation that no more than 100 percent of the Hg in flue gas can be removed (i.e., there cannot be negative Hg emissions). As the coal Cl concentration drops to zero, the Hg removal fraction does not of necessity approach zero because some Hg removal may be achieved without reaction with Cl. The purpose of deriving a correlation equation for each control configuration used by the top performing units was to provide a numerical means of predicting the fraction of Hg removed for the best performing sources over the entire range of fuel variability experienced over the course of a year. Correlation equations were derived for each control configuration, but were only used to predict Hg removal if they were found to have acceptable explanatory power.

To determine whether the explanatory power of each correlation equation warranted its use on a larger range of ICR coal composition data, each correlation equation was validated against the ICR stack test data. For each of the test Cl concentrations in the ICR stack test database, the Hg removal fraction was calculated by use of the correlation equation with parameters selected to give the best fit to the data. A correlation coefficient was then calculated to evaluate the accuracy of the fit.

For each of the best performing units, unit-specific coal composition data for a one-year period were extracted from the ICR database to find the coal heat content, Hg content, and Cl content. For each set of coal composition data from the ICR database, the controlled Hg emissions were calculated by multiplying uncontrolled Hg emissions by (1 – Hg removal fraction). For each of the best-performing sources, this process was repeated for each set of measured coal composition values, yielding a range of Hg emission levels for that unit over time.

The test coal composition data from the ICR database (heat and Hg content) was used to calculate the uncontrolled Hg emission level. The Hg removal fraction was calculated in one of the following two ways:

(1) Where the correlation equation was found to have sufficient explanatory power, it was used to estimate the Hg removal fraction based on coal Cl composition data from the ICR data base. This approach accounted for variations in the Hg, Cl, and heat content of fuel.

(2) Where the correlation equation was a poor fit, the Hg removal fraction was based on the average Hg removal fraction observed in the ICR stack tests of that unit. This latter approach yielded a constant removal fraction based upon the source test, and had the effect of reducing the variability of predicted Hg emissions. Under this approach, the measured impact of fuel

variability was limited to the effect of variations in Hg and heat content, while variations in Cl concentration were not explicitly considered.

For each of the best performing units, the calculated Hg emissions, calculated in accordance with the procedures outlined above, were then sorted from smallest to largest to obtain a cumulative frequency distribution. The EPA chose to use the 97.5^{th} percentile (as opposed to the 95the percentile used in the WEST analysis) value of this distribution (i.e., an emission rate that is expected to be exceeded only 2.5 percent of the time) to represent the operation of the unit under "worst conditions."

Because the ICR stack test facilities represent only a small portion of the true population of coal-fired utility units, it is necessary also to account for inter-unit variability between the top performers. The ICR database indicates that the population of coal-fired units exceeds 1,000. Yet, due to the size of the ICR database, the analysis of within-unit variability considered only the top units in each subcategory. (The EPA used the top four bituminous units, the top four subbituminous units, and the top five lignite units in its analysis. The EPA's interpretation of section 112 is that the statute is clear with regard to how many units should be used based on the number of units in the subcategory, regardless of the apparent inconsistencies as that number approaches 30. The WEST analysis used no fewer than five units per subcategory, regardless of the number of units in the subcategory.) Therefore, the actual number of the top 12 percent of coal-fired units in each subcategory is significantly larger than the number of units used in this analysis, particularly with respect to units burning bituminous and subbituminous coal. Under these circumstances, a focus on within-unit variability alone is not expected to capture the full range of emissions variability among the best performing sources. The EPA accounted for this variability by calculating a 97.5 percent upper confidence level (as opposed to the 95^{th} percent upper confidence level used in the WEST analysis) for the mean by use of the t-statistic. This adjustment reflects the fact that the top performing sources in the data base do not represent the full population of the best performing 12 percent of coal-fired utility units.

Although fuel variability is a principal cause of emission variability, other factors also play a role in contributing to variability in Hg emissions. Analysis of fuel variability accounts for some, but not all of the variability in the stack testing of each unit that comprises the ICR database. Other drivers of variability in the test results, such as measurement error, are not included in the analysis. Intermittent maintenance events, which themselves can contribute to short-term increases in Hg emissions, also are not considered. In addition, the stack testing on which this assessment is based places artificial limitations on the variability of its results. Testing was performed with plants operating at full and constant load, and without on-going maintenance activities. Actual operation requires load-following in addition to intermittent maintenance activities. Insofar as the methodology discussed herein does not incorporate these effects, its results are likely to underestimate the reasonable worst-case emissions of the best performing facilities.

Conclusion

The MACT floor for existing units, based on the above analyses, is as follows:

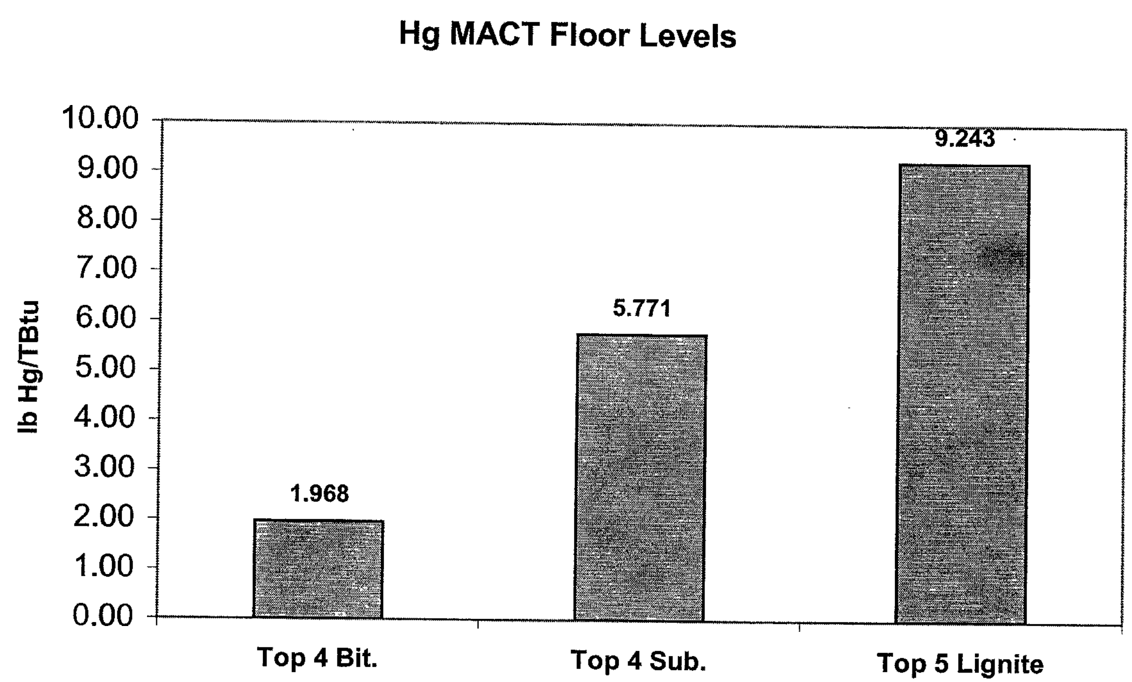
Bituminous:	2.0 lb/TBtu
Subbitumnous:	5.8 lb/TBtu
Lignite:	9.2 lb/TBtu

The MACT floor for new units is as follows:

Bituminous:	0.61 lb/TBtu
Subbituminous:	2.0 lb/TBtu
Lignite:	6.3 lb/TBtu

Top 4 Bituminous		Top 4 Subbituminous		Top 5 Lignite		Top Waste		Top IGCC	
Mecklenburg Cogeneration	GEN 1	AES Hawaii, Inc.	A	R.M. Heskett Station	B2	Kline Township Cogen Facility	GEN1	Wabash River Generating Station	1 + 1A
Dwayne Collier Battle Cogen	2B	Clay Boswell	2	Antelope Valley Station	B1	Scrubgrass Generating	GEN1	Polk Power	1
Valmont	5	Craig	C3	Leland Olds Station	2				
Stockton	1	Cholla	3	Stanton Station	10				
				Stanton Station	1				

Scenario	MACT Floor (lb/TBtu)
Top 4 Bit.	1.9679
Top 4 Sub.	5.7707
Top 5 Lignite	9.2432



MACT Analysis for Top 5 Lignite Units - 97.5th Percentile Values

Plant	Unit	Particulate Control	SO2 Control	Measured Fraction Hg Removal	Correlation Used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
R.M. Heskett Station	B2	ESP- CS	FBC	0.4036	N	0.0000	0.5964	3.97680	7.798467
Antelope Valley Station	B1	BAGHOUSE	SDA	0.3333	Y	0.0022	0.8188	4.00420	7.087007
Leland Olds Station	2	ESP- CS	NONE	0.0487	N	0.0000	0.9513	4.02330	9.532343
Stanton Station	10	BAGHOUSE	SDA	0.0147	Y	0.0022	0.8188	6.25170	8.028945
Stanton Station	1	ESP- CS	NONE	0.4409	N	0.0000	0.5591	6.90240	6.305639
Mean								5.031680	7.750480
Standard Deviation								1.429454	1.202356
UCL97.5 of the Mean								6.806297	**9.243163**

MACT Analysis for Top 4 Subbituminous Units - 97.5th Percentile Values

Plant	Unit	Particulate Control	SO2 Control	Measured Fraction Hg Removal	Correlation Used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
AES Hawaii, Inc.	A	BAGHOUSE	FBC	0.5252	N	0.0000	0.4748	0.46060	2.134924
Clay Boswell	2	BAGHOUSE	COMP COAL	0.8257	N	0.0000	0.1743	0.66330	1.991214
Craig	C3	BAGHOUSE	SDA	0.336	N	0.0000	0.6640	0.72480	2.635140
Cholla	3	ESP- HS	NONE	0.642	N	0.0000	0.3580	1.20660	5.583025
Mean								0.763825	3.086076
Standard Deviation								0.316029	1.687356
UCL97.5 of the Mean								1.266627	**5.770659**

MACT Analysis for Top 4 Bituminous Units - 97.5th Percentile Values

Plant	Unit	Particulate Control	SO2 Control	Measured Fraction Hg Removal	Correlation Used? (Y/N)	"Alpha"	"Beta"	Measured lb/Tbtu	97.5th Percentile, lb/TBtu
Mecklenburg Cogeneration Facility	GEN 1	BAGHOUSE	SDA	0.9881	Y	0.0022	0.8188	0.10620	1.805065
Dwayne Collier Battle Cogeneration Facility	2B	BAGHOUSE	SDA	0.9366	Y	0.0022	0.8188	0.10740	1.237554
Valmont	5	BAGHOUSE	COMP COAL	0.8652	N	0.0000	0.1348	0.12680	0.694385
Stockton	1	BAGHOUSE	FBC/SNCR	0.9182	Y	0.0069	0.3186	0.13160	0.609453
Mean								0.118000	1.086614
Standard Deviation								0.013089	0.553919
UCL97.5 of the Mean								0.138825	**1.967900**

MACT Analysis for Top Waste Coal Units - 97.5th Percentile

Plant	Unit	Particulate Control	SO2 Control	Measured Fraction Hg Removal	Correlation Used? (Y/N)	"Alpha"	"Beta"	Measured lb Hg/Tbtu	97.5th Percentile lb Hg/TBtu
Kline Township Cogen Facility	GEN1	BAGHOUSE	FBC	0.9975	N	0.0000	0.0025	0.08160	0.118229
Scrubgrass Generating Company L. P.	GEN1	BAGHOUSE	FBC	0.9989	N	0.0000	0.0110	0.09360	0.157153
Mean								0.087600	0.137691
Standard Deviation								0.008485	0.027524
UCL97.5 of the Mean								0.163836	**0.384979**

MACT Analysis for Top IGCC Units - 97.5th Percentile

Plant	Unit	Particulate Control	SO_2 Control	Measured Fraction Hg Removal	Correlation Used? (Y/N)	"Alpha"	"Beta"	Measured lb/Tbtu	97.5th Percentile lb/TBtu
Wabash River Generating Station	1 + 1A	COAL GAS	COAL GAS	0.3253	N	0	0.6747	5.3343	7.3350
Polk Power	1	COAL GAS	COAL GAS	0.3399	N	0	0.6601	5.4713	5.3920
Mean								5.402800	6.363500
Standard Deviation								0.096874	1.373972
UCL97.5 of the Mean								6.273161	**18.707950**

Summary

MACT Analysis for Top 4 Bituminous Units - 97.5th Percentile Values

Plant	Unit	Particulate control	SO_2 Control	Measured fraction Hg removal	Correlation used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
Mecklenburg Cogeneration Facility	GEN 1	BAGHOUSE	SDA	0.9881	Y	0.0022	0.8188	0.10620	1.805065
Dwayne Collier Battle Cogeneration Facility	2B	BAGHOUSE	SDA	0.9366	Y	0.0022	0.8188	0.10740	1.237554
Valmont	5	BAGHOUSE	COMP COAL	0.8652	N	0.0000	0.1348	0.12680	0.694385
Stockton	1	BAGHOUSE	FBC/SNCR	0.9182	Y	0.0069	0.3186	0.13160	0.609453
Mean								0.118000	1.086614
Standard Deviation								0.013089	0.553919
UCL97.5 of the Mean								0.138825	**1.967900**

MACT Analysis for Top 4 Subbituminous Units - 97.5th Percentile Values

Plant	Unit	Particulate control	SO_2 Control	Measured fraction Hg removal	Correlation used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
AES Hawaii, Inc.	A	BAGHOUSE	FBC	0.5252	N	0	0.4748	0.46060	2.134924
Clay Boswell	2	BAGHOUSE	COMP COAL	0.8257	N	0	0.1743	0.66330	1.991214
Craig	C3	BAGHOUSE	SDA	0.336	N	0	0.6640	0.72480	2.635140
Cholla	3	ESP- HS	NONE	0.642	N	0	0.3580	1.20660	5.583025
Mean								0.763825	3.086076
Standard Deviation								0.316029	1.687356
UCL97.5 of the Mean								1.266627	**5.770659**

MACT Analysis for Top 5 Lignite Units - 97.5th Percentile Values

Plant	Unit	Particulate control	SO_2 Control	Measured fraction Hg removal	Correlation used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
R.M. Heskett Station	B2	ESP- CS	FBC	0.4036	N	0	0.5964	3.97680	7.798467
Antelope Valley Station	B1	BAGHOUSE	SDA	0.3333	Y	0.0022	0.8188	4.00420	7.087007
Leland Olds Station	2	ESP- CS	NONE	0.0487	N	0	0.9513	4.02330	9.532343
Stanton Station	10	BAGHOUSE	SDA	0.0147	Y	0.0022	0.8188	6.25170	8.028945
Stanton Station	1	ESP- CS	NONE	0.4409	N	0	0.5591	6.90240	6.305639
Mean								5.031680	7.750480
Standard Deviation								1.429454	1.202356
UCL97.5 of the Mean								6.806297	**9.243163**

MACT Analysis for Top Waste Coal Units - 97.5th Percentile

Plant	Unit	Particulate control	SO_2 Control	Measured fraction Hg removal	Correlation used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
Kline Township Cogen Facility	GEN1	BAGHOUSE	FBC	0.9975	N	0	0.0025	0.08160	0.118229
Scrubgrass Generating Company L. P.	GEN1	BAGHOUSE	FBC	0.9989	N	0	0.0110	0.09360	0.157153
Mean								0.087600	0.137691
Standard Deviation								0.008485	0.027524
UCL97.5 of the Mean								0.163836	**0.384979**

MACT Analysis for Top IGCC Units - 97.5th Percentile

Plant	Unit	Particulate control	SO_2 Control	Measured fraction Hg removal	Correlation used? (Y/N)	"Alpha"	"Beta"	Measured lb/TBtu	97.5th Percentile, lb/TBtu
Wabash River Generating Station	1 + 1A	COAL GAS	COAL GAS	0.3253	N	0	0.6747	5.3343	7.3350
Polk Power	1	COAL GAS	COAL GAS	0.3399	N	0	0.6601	5.4713	5.3920
Mean								5.402800	6.363500
Standard Deviation								0.096874	1.373972
UCL97.5 of the Mean								6.273161	**18.707950**

Mecklenburg 1

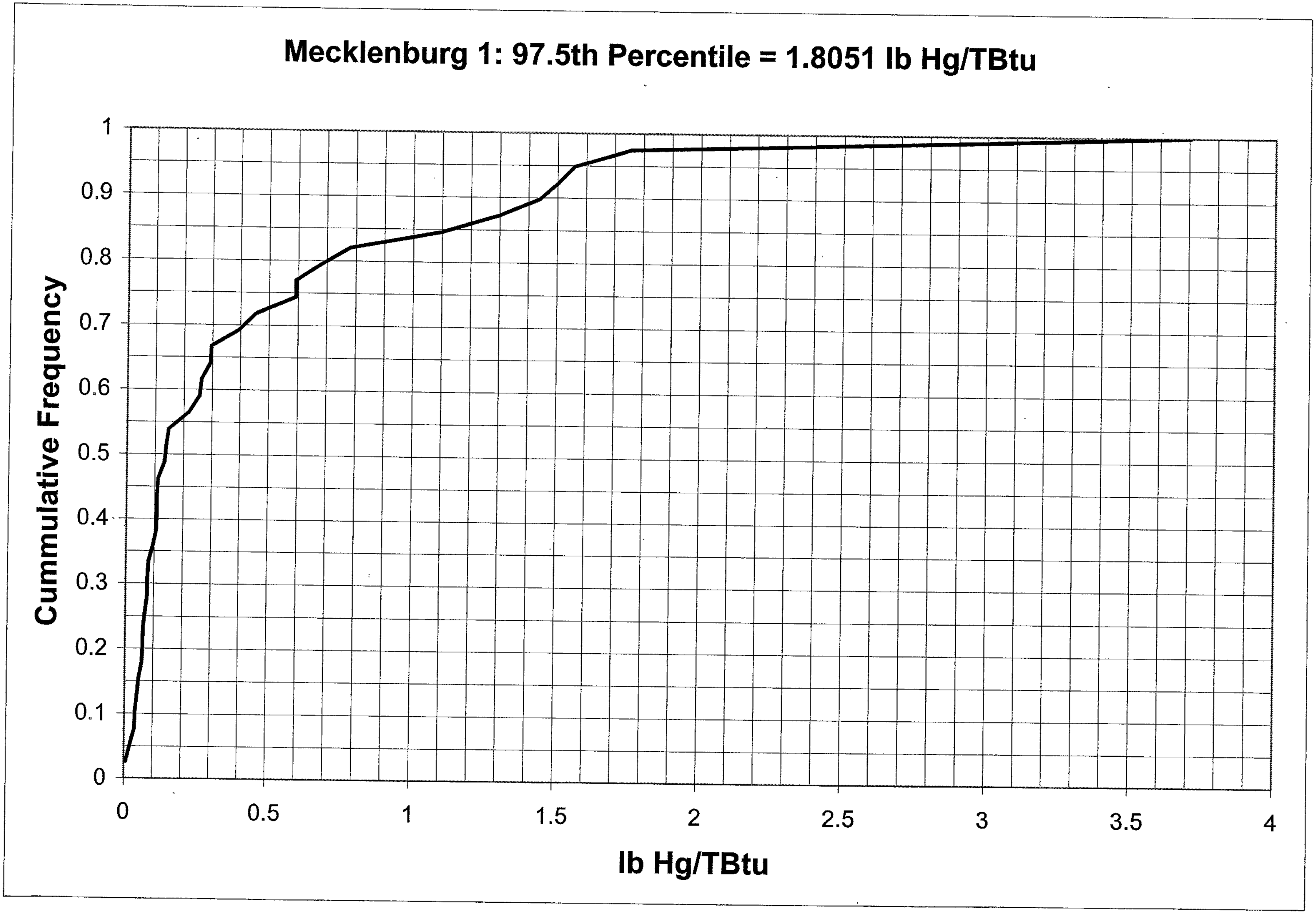
ALPHA	BETA
0.002164007	0.818815299

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
13075	0.2	1000	1.438659268	0.025641026	1	0.006793718
13081	0.18	1000	1.294199445	0.051282051	2	0.021009003
13480	0.07	1300	0.255171936	0.076923077	3	0.036453554
13480	0.05	1400	0.146799049	0.102564103	4	0.03733263
13489	0.1	1400	0.293402206	0.128205128	5	0.044094229
13489	0.07	1700	0.107304152	0.153846154	6	0.049796851
13433	0.1	2000	0.080423012	0.179487179	7	0.059756221
13433	0.05	2300	0.021009003	0.205128205	8	0.062485107
13432	0.09	1700	0.138547938	0.230769231	9	0.062991755
13607	0.09	2300	0.03733263	0.256410256	10	0.069558599
13607	0.06	2900	0.006793718	0.282051282	11	0.076765333
13457	0.07	1700	0.107559315	0.307692308	12	0.076872439
13457	0.07	2200	0.036453554	0.333333333	13	0.080423012
12896	0.09	600	1.559852934	0.358974359	14	0.095677847
12898	0.09	200	3.706319253	0.384615385	15	0.107304152
13098	0.08	700	1.099510903	0.41025641	16	0.107559315
13098	0.09	538	1.756314566	0.435897436	17	0.107893267
13570	0.14	1100	0.781513002	0.461538462	18	0.110883352
13892	0.06	1600	0.110883352	0.487179487	19	0.132570334
13892	0.09	1800	0.107893267	0.512820513	20	0.138547938
13866	0.09	1200	0.396002296	0.538461538	21	0.146799049
13925	0.1	2100	0.062485107	0.564102564	22	0.216868661
13925	0.08	1800	0.095677847	0.58974359	23	0.255171936
13813	0.1	2100	0.062991755	0.615384615	24	0.261695109
13813	0.07	2100	0.044094229	0.641025641	25	0.293402206
13978	0.09	2000	0.069558599	0.666666667	26	0.295836624
13959	0.08	1900	0.076872439	0.692307692	27	0.396002296
13373	0.09	600	1.504214719	0.717948718	28	0.454924335
13611	0.09	1400	0.261695109	0.743589744	29	0.592027915
13711	0.08	900	0.681352942	0.769230769	30	0.59216015
13556	0.07	1600	0.132570334	0.794871795	31	0.681352942
13595	0.06	1300	0.216868661	0.820512821	32	0.781513002
13313	0.19	1500	0.454924335	0.846153846	33	1.099510903
13397	0.13	1200	0.592027915	0.871794872	34	1.294199445
13468	0.06	1900	0.059756221	0.897435897	35	1.438659268
13468	0.05	1700	0.076765333	0.923076923	36	1.504214719
13468	0.05	1900	0.049796851	0.948717949	37	1.559852934
13367	0.2	1400	0.59216015	0.974358974	38	1.756314566
13378	0.1	1400	0.295836624	1	39	3.706319253

1.756314566	38	0.974359
3.706319253	39	1

97.5th Percentile 1.8050647

Graph Title Mecklenburg 1: 97.5th Percentile = 1.8051 lb Hg/TBtu


Mecklenburg 1: 97.5th Percentile = 1.8051 lb Hg/TBtu
Cummulative Frequency
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
0.5
1
1.5
2
2.5
3
3.5
4
lb Hg/TBtu

Dwayne Collier 2B

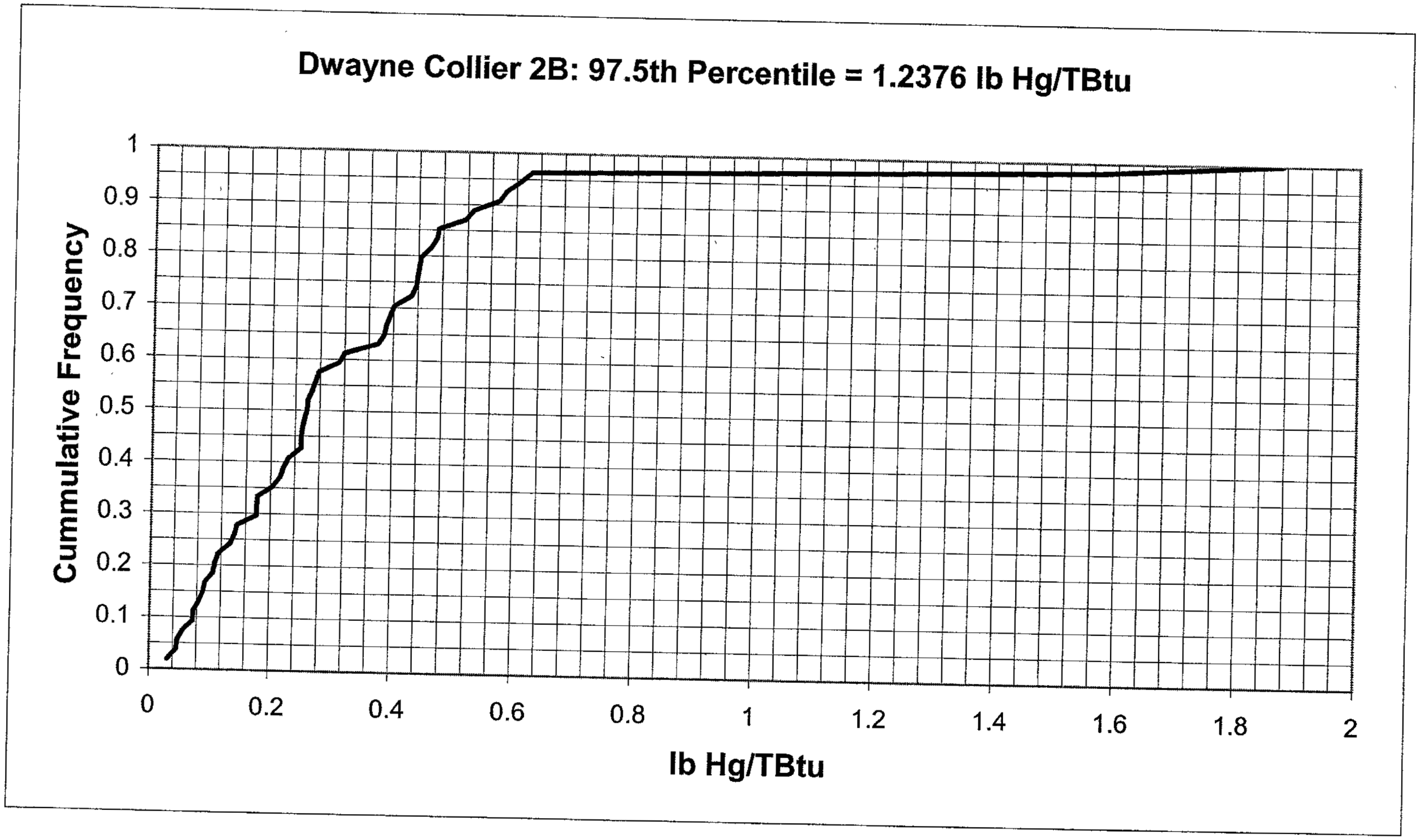
ALPHA	BETA
0.002164007	0.818815299

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
13792	0.03	1300	0.106885493	0.018518519	1	0.03106187
14072	0.04	1600	0.072976669	0.037037037	2	0.046056089
13710	0.06	1200	0.267005487	0.055555556	3	0.047568195
13738	0.07	1200	0.310871507	0.074074074	4	0.056135351
13699	0.04	1100	0.221186769	0.092592593	5	0.072976669
13946	0.07	1000	0.472082638	0.111111111	6	0.073832429
13767	0.17	2400	0.056135351	0.12962963	7	0.082890697
14099	0.05	1900	0.047568195	0.148148148	8	0.090479222
13786	0.12	700	1.56695856	0.166666667	9	0.093745681
13736	0.16	1300	0.572380013	0.185185185	10	0.106885493
13731	0.08	1100	0.44134259	0.203703704	11	0.110023354
13780	0.11	1500	0.254451472	0.222222222	12	0.115617809
14074	0.06	2000	0.046056089	0.240740741	13	0.13393001
13815	0.08	1100	0.438659074	0.259259259	14	0.141883644
13785	0.05	1500	0.115617809	0.277777778	15	0.145866639
13693	0.05	1600	0.093745681	0.296296296	16	0.177237007
13398	0.06	1400	0.177237007	0.314814815	17	0.177550311
13770	0.07	1300	0.249797944	0.333333333	18	0.179140596
13838	0.05	1300	0.177550311	0.351851852	19	0.203361349
13819	0.08	1400	0.229116571	0.37037037	20	0.215492323
13687	0.11	1300	0.394920045	0.388888889	21	0.221186769
14235	0.08	1500	0.179140596	0.407407407	22	0.229116571
13726	0.11	1100	0.607067119	0.425925926	23	0.249489932
13475	0.04	1300	0.145866639	0.444444444	24	0.249797944
13767	0.1	1200	0.443166657	0.462962963	25	0.250982684
13886	0.13	1300	0.460035081	0.481481481	26	0.254451472
13734	0.13	1400	0.374618689	0.5	27	0.258729725
14202	0.08	1000	0.529797773	0.518518519	28	0.259957096
13724	0.22	900	1.871945718	0.537037037	29	0.267005487
14033	0.05	800	0.516597605	0.555555556	30	0.272113438
13702	0.09	1400	0.259957096	0.574074074	31	0.277944298
13787	0.07	1300	0.249489932	0.592592593	32	0.310871507
14063	0.1	1834	0.110023354	0.611111111	33	0.320261726
13762	0.07	1100	0.385304877	0.62962963	34	0.374618689
14092	0.04	1500	0.090479222	0.648148148	35	0.385304877
14022	0.07	1000	0.469523925	0.666666667	36	0.388588832
14006	0.05	2100	0.03106187	0.685185185	37	0.394920045
13969	0.1	1200	0.436758205	0.703703704	38	0.401647045
14061	0.04	1100	0.215492323	0.722222222	39	0.429226558
13627	0.05	1100	0.277944298	0.740740741	40	0.436758205
14003	0.05	1700	0.073832429	0.759259259	41	0.438659074
14007	0.07	900	0.583585094	0.777777778	42	0.44134259
13623	0.07	1400	0.203361349	0.796296296	43	0.443166657
13901	0.06	800	0.625803686	0.814814815	44	0.460035081
14064	0.07	1800	0.082890697	0.833333333	45	0.469523925
13705	0.07	1300	0.250982684	0.851851852	46	0.472082638
13910	0.11	1300	0.388588832	0.87037037	47	0.516597605
14050	0.06	1000	0.401647045	0.888888889	48	0.529797773
13947	0.05	1400	0.141883644	0.907407407	49	0.572380013
13809	0.09	1300	0.320261726	0.925925926	50	0.583585094
13919	0.05	1100	0.272113438	0.944444444	51	0.607067119
13603	0.05	900	0.429226558	0.962962963	52	0.625803686
13767	0.09	1400	0.258729725	0.981481481	53	1.56695856
14045	0.02	1000	0.13393001	1	54	1.871945718

0.625803686	52	0.962963
1.56695856	53	0.981481

97.5th Percentile 1.2375544

Graph Title Dwayne Collier 2B: 97.5th Percentile = 1.2376 lb Hg/TBtu


Dwayne Collier 2B: 97.5th Percentile = 1.2376 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
lb Hg/TBtu

Valmont 5

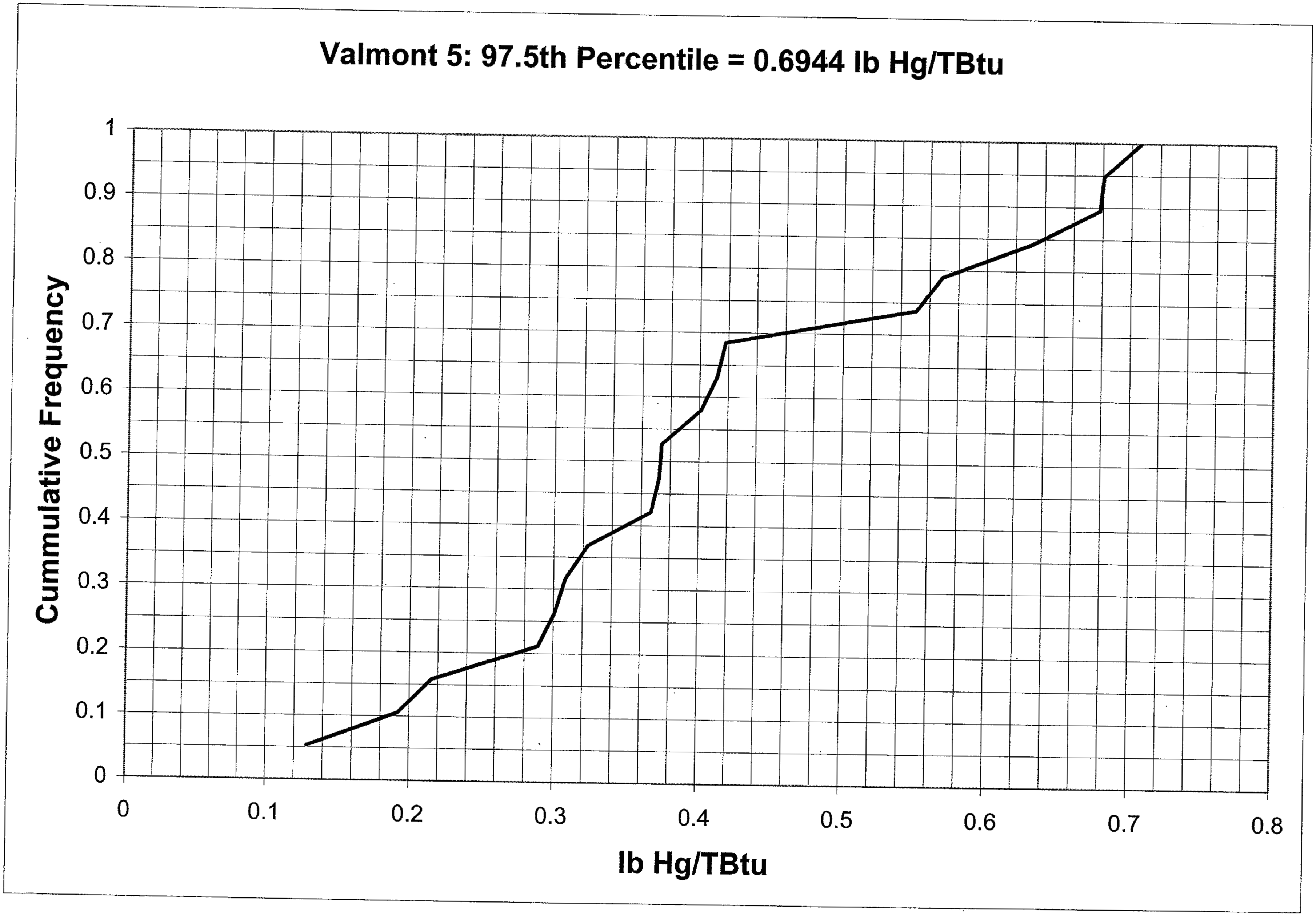
ALPHA	BETA
0	0.1348

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
12376	0.058	447	0.631738849	0.052631579	1	0.129005503
12539	0.012	491	0.129005503	0.105263158	2	0.191962025
12484	0.051	449	0.550688882	0.157894737	3	0.215559287
12555	0.053	476	0.569048188	0.210526316	4	0.289500477
12572	0.027	712	0.289500477	0.263157895	5	0.300892857
12502	0.03	501	0.323468245	0.315789474	6	0.308077863
12544	0.028	565	0.300892857	0.368421053	7	0.323468245
12526	0.063	423	0.677981798	0.421052632	8	0.36694956
12423	0.038	516	0.412331965	0.473684211	9	0.372405083
12669	0.035	435	0.372405083	0.526315789	10	0.3738641
12676	0.064	662	0.680593247	0.578947368	11	0.401159057
12777	0.067	610	0.706863896	0.631578947	12	0.412331965
12689	0.029	1008	0.308077863	0.684210526	13	0.417901431
12640	0.018	821	0.191962025	0.736842105	14	0.550688882
12259	0.034	812	0.3738641	0.789473684	15	0.569048188
12490	0.034	696	0.36694956	0.842105263	16	0.631738849
12507	0.02	545	0.215559287	0.894736842	17	0.677981798
12580	0.039	560	0.417901431	0.947368421	18	0.680593247
12769	0.038	613	0.401159057	1	19	0.706863896

0.680593247	18	0.947368
0.706863896	19	1

97.5th Percentile 0.6943853

Graph Title Valmont 5: 97.5th Percentile = 0.6944 lb Hg/TBtu


Valmont 5: 97.5th Percentile = 0.6944 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
lb Hg/TBtu

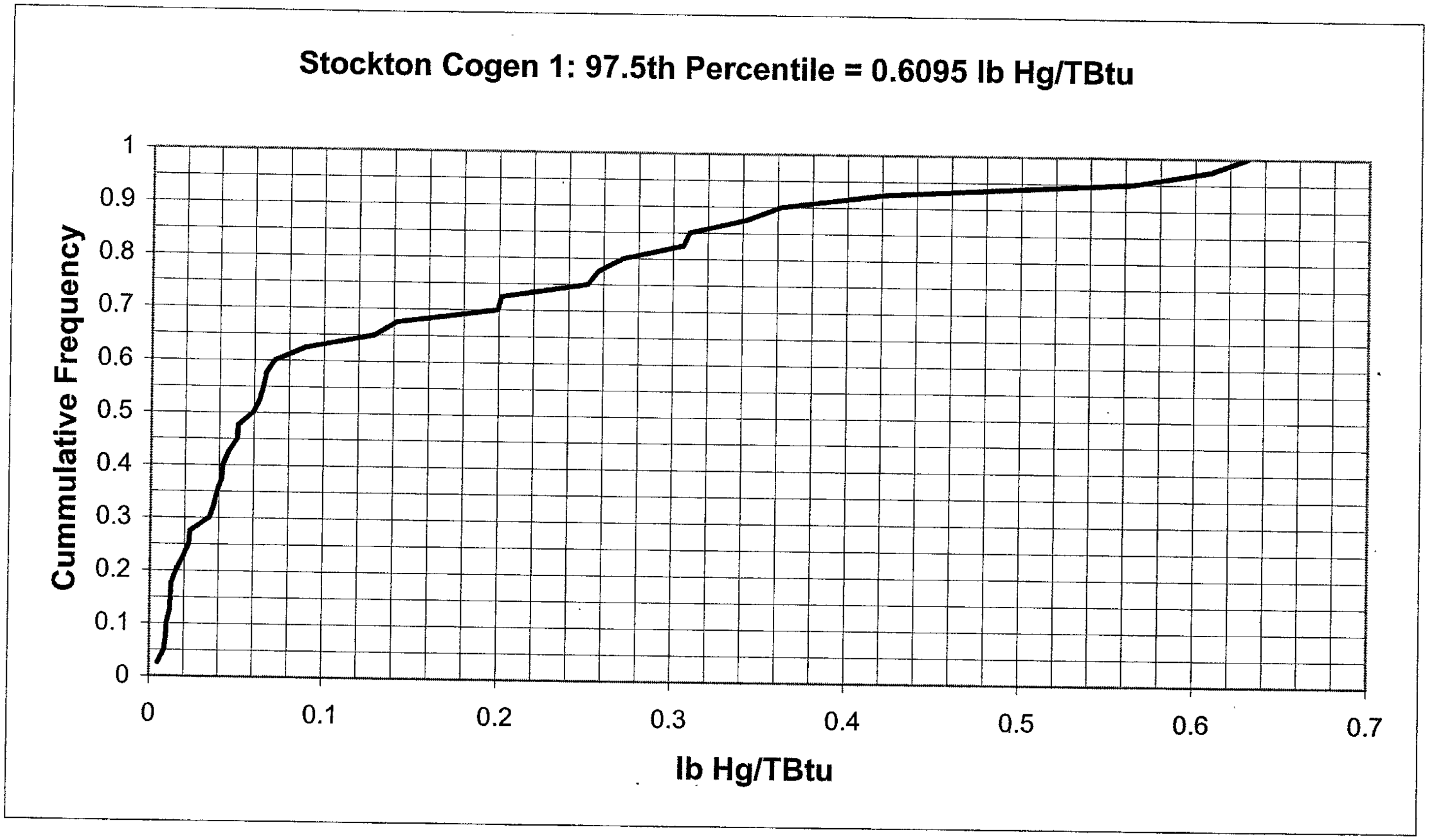
Stockton Cogen 1

ALPHA	BETA
0.006860787	0.318572089

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
12323	0.046	460	0.050656154	0.025	1	0.005123539
12323	0.014	462	0.015206988	0.05	2	0.008590202
11678	0.052	222	0.309293623	0.075	3	0.00961387
11678	0.007	222	0.04163568	0.1	4	0.00996762
12408	0.04	152	0.361964881	0.125	5	0.01165474
12408	0.008	538	0.005123539	0.15	6	0.012109333
12408	0.008	441	0.00996762	0.175	7	0.012450574
12403	0.012	240	0.059396077	0.2	8	0.015206988
12403	0.014	400	0.023118957	0.225	9	0.019066297
12632	0.039	199	0.251107352	0.25	10	0.02235476
12632	0.029	188	0.201357792	0.275	11	0.023118957
11741	0.095	373	0.199450311	0.3	12	0.034723562
12847	0.052	510	0.038977354	0.325	13	0.037161161
11677	0.046	484	0.045342654	0.35	14	0.038977354
12161	0.026	498	0.02235476	0.375	15	0.04163568
12219	0.02	554	0.01165474	0.4	16	0.041998519
12534	0.026	633	0.008590202	0.425	17	0.045342654
12562	0.065	263	0.27128575	0.45	18	0.050358918
12074	0.052	526	0.037161161	0.475	19	0.050656154
11751	0.043	425	0.06313505	0.5	20	0.059396077
11573	0.076	175	0.629716429	0.525	21	0.06313505
11546	0.063	164	0.564237572	0.55	22	0.065118084
12768	0.066	229	0.342215709	0.575	23	0.06654472
13063	0.117	225	0.609453005	0.6	24	0.071412124
12736	0.053	167	0.421557693	0.625	25	0.089679938
12970	0.03	240	0.141998755	0.65	26	0.129191364
12407	0.056	515	0.041998519	0.675	27	0.141998755
12988	0.019	187	0.129191364	0.7	28	0.199450311
11566	0.042	194	0.30565468	0.725	29	0.201357792
11327	0.023	288	0.089679938	0.75	30	0.251107352
12257	0.039	200	0.257020496	0.775	31	0.257020496
12481	0.017	263	0.071412124	0.8	32	0.27128575
12382	0.011	211	0.06654472	0.825	33	0.30565468
12935	0.026	612	0.00961387	0.85	34	0.309293623
12429	0.021	549	0.012450574	0.875	35	0.342215709
11790	0.03	405	0.050358918	0.9	36	0.361964881
11997	0.03	365	0.065118084	0.925	37	0.421557693
10568	0.076	698	0.019066297	0.95	38	0.564237572
11339	0.09	625	0.034723562	0.975	39	0.609453005
12396	0.036	632	0.012109333	1	40	0.629716429

0.609453005	39	0.975
0.629716429	40	1
97.5th Percentile	**0.609453**	

Graph Title Stockton Cogen 1: 97.5th Percentile = 0.6095 lb Hg/TBtu


Stockton Cogen 1: 97.5th Percentile = 0.6095 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
lb Hg/TBtu

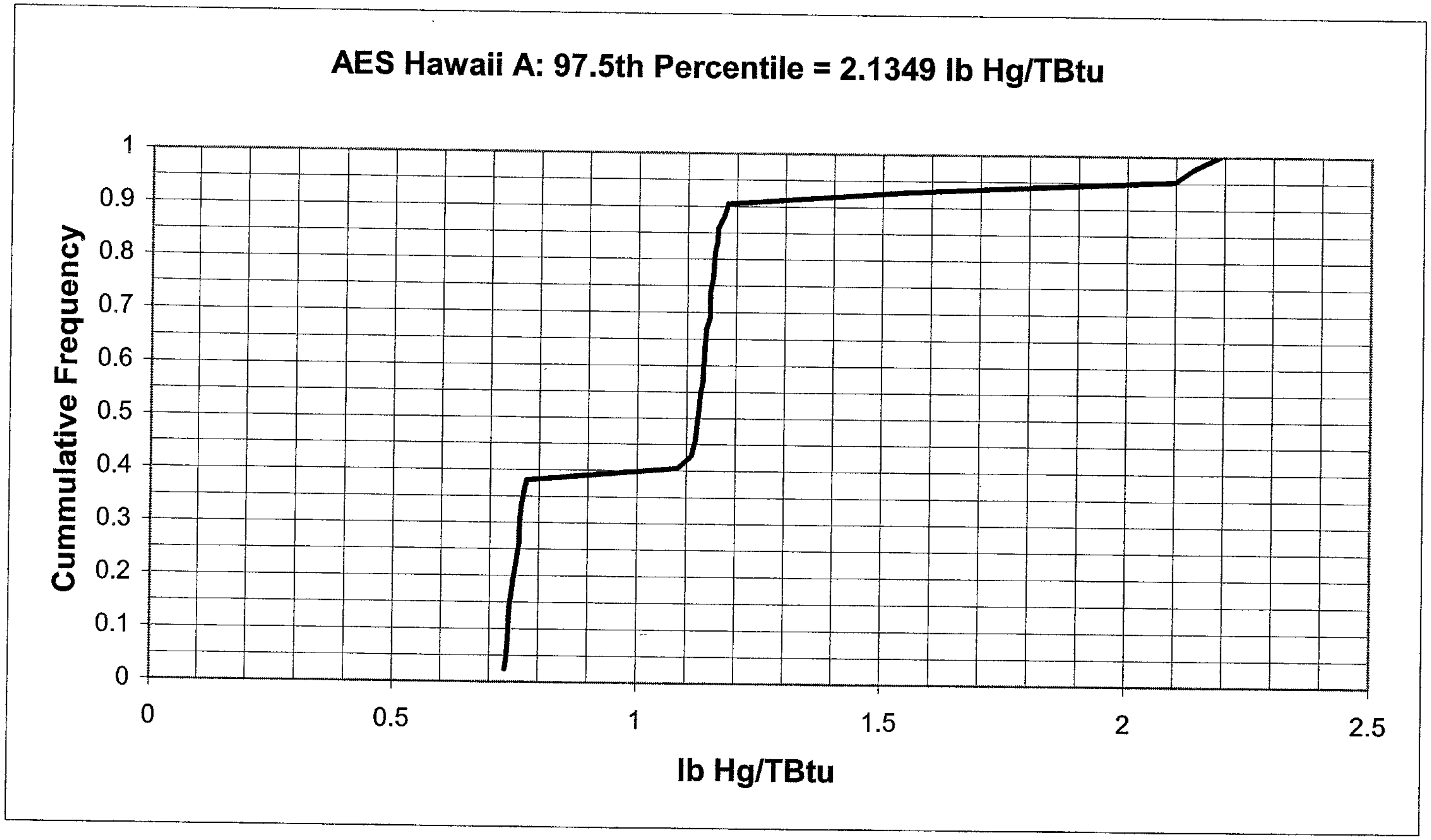
AES Hawaii A

ALPHA	BETA
0	0.4748

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
11110	0.05	100	2.136813681	0.023809524	1	0.732433475
11310	0.05	100	2.099027409	0.047619048	2	0.735155222
10840	0.05	100	2.1900369	0.071428571	3	0.737209844
12431	0.02	0	0.76389671	0.095238095	4	0.73847111
12133	0.03	0	1.173988296	0.119047619	5	0.73904584
12859	0.02	0	0.73847111	0.142857143	6	0.740371121
12511	0.03	0	1.138518104	0.166666667	7	0.744375637
12566	0.02	0	0.755689957	0.19047619	8	0.747893203
12345	0.03	50	1.153827461	0.214285714	9	0.752039281
12425	0.03	50	1.14639839	0.238095238	10	0.755689957
12362	0.02	60	0.768160492	0.261904762	11	0.759558471
12471	0.02	50	0.761446556	0.285714286	12	0.759923175
12263	0.03	50	1.161542852	0.30952381	13	0.761446556
12527	0.03	50	1.137063942	0.333333333	14	0.76389671
12051	0.03	50	1.181976599	0.357142857	15	0.768160492
12965	0.02	50	0.732433475	0.380952381	16	0.774740964
12825	0.03	50	1.110643275	0.404761905	17	1.082617618
13157	0.03	50	1.082617618	0.428571429	18	1.110643275
12697	0.02	101	0.747893203	0.452380952	19	1.117088856
12751	0.03	68	1.117088856	0.476190476	20	1.120251671
12684	0.03	57	1.122989593	0.5	21	1.122989593
12826	0.02	111	0.740371121	0.523809524	22	1.1259189
12269	0.03	61	1.160974815	0.547619048	23	1.128058921
12849	0.02	50	0.73904584	0.571428571	24	1.132723658
12257	0.02	62	0.774740964	0.595238095	25	1.133534936
12715	0.03	50	1.120251671	0.619047619	26	1.135704034
12575	0.03	70	1.132723658	0.642857143	27	1.137063942
12422	0.03	97	1.146675254	0.666666667	28	1.138518104
12292	0.04	159	1.545069964	0.69047619	29	1.14639839
12627	0.03	53	1.128058921	0.714285714	30	1.146490663
12917	0.02	50	0.735155222	0.738095238	31	1.146675254
12330	0.03	58	1.155231144	0.761904762	32	1.151681759
12651	0.03	50	1.1259189	0.785714286	33	1.153827461
12566	0.03	67	1.133534936	0.80952381	34	1.155231144
12881	0.02	52	0.737209844	0.833333333	35	1.160974815
12757	0.02	50	0.744375637	0.857142857	36	1.161542852
12496	0.02	103	0.759923175	0.880952381	37	1.173988296
12627	0.02	75	0.752039281	0.904761905	38	1.181976599
12542	0.03	81	1.135704034	0.928571429	39	1.545069964
12502	0.02	71	0.759558471	0.952380952	40	2.099027409
12368	0.03	57	1.151681759	0.976190476	41	2.136813681
12424	0.03	65	1.146490663	1	42	2.1900369

2.099027409	40	0.952381
2.136813681	41	0.97619
97.5th Percentile	**2.1349244**	

Graph Title AES Hawaii A: 97.5th Percentile = 2.1349 lb Hg/TBtu


AES Hawaii A: 97.5th Percentile = 2.1349 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.5
1
1.5
2
2.5
lb Hg/TBtu

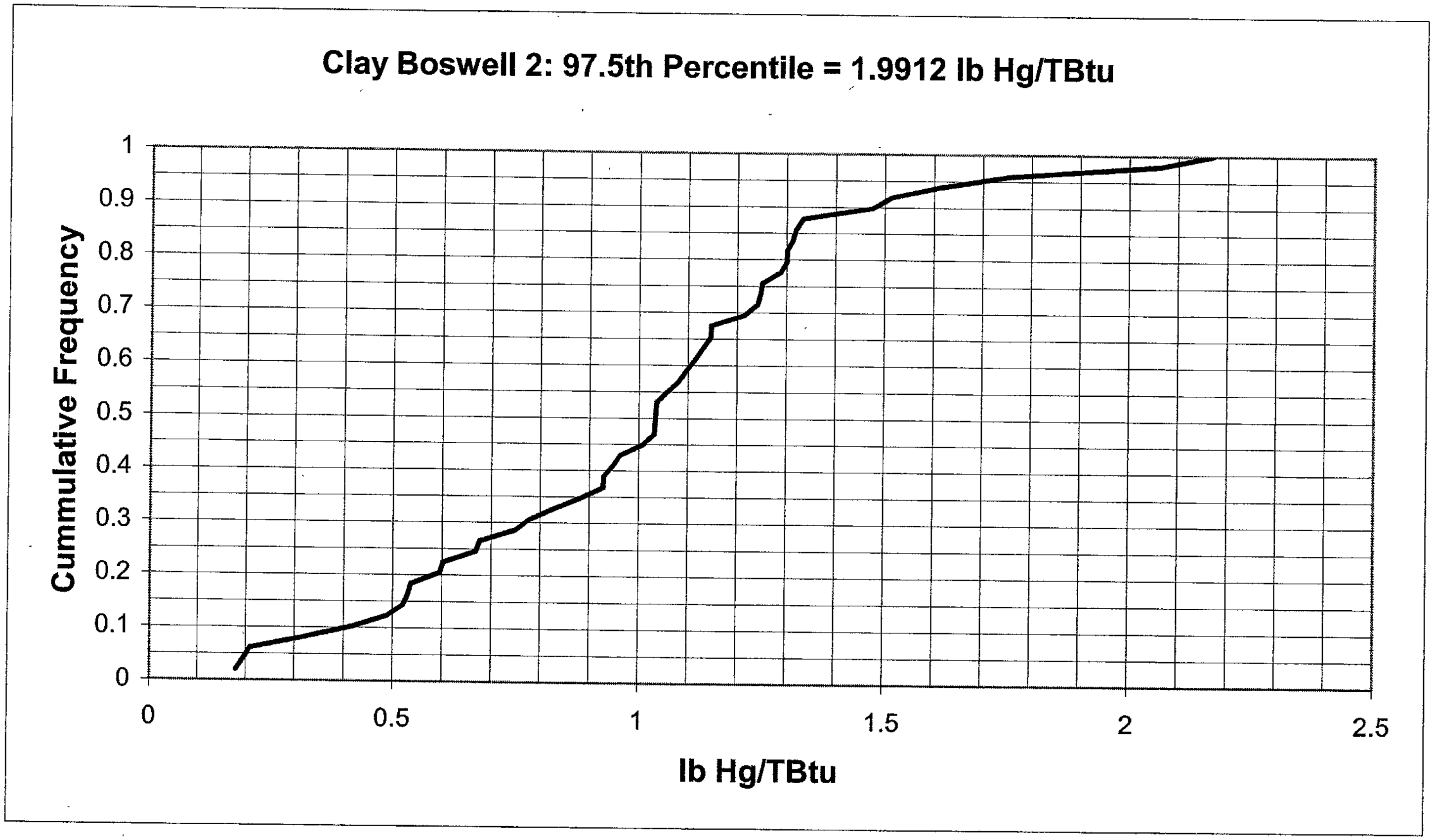
Clay Boswell 2

ALPHA	BETA
0	0.1743

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
12464	0.035	50	0.489449615	0.020408163	1	0.180492273
12371	0.154	50	2.169768006	0.040816327	2	0.195984258
12416	0.095	50	1.333642075	0.06122449	3	0.208575987
11811	0.07	50	1.033020066	0.081632653	4	0.320327607
12005	0.078	50	1.132478134	0.102040816	5	0.418386942
12466	0.038	50	0.531317183	0.12244898	6	0.489449615
11820	0.063	50	0.929010152	0.142857143	7	0.520970999
11760	0.073	100	1.081964286	0.163265306	8	0.531317183
12539	0.056	100	0.778435282	0.183673469	9	0.536872822
11643	0.062	100	0.928162845	0.204081633	10	0.595219124
12554	0.013	100	0.180492273	0.224489796	11	0.601903309
11929	0.069	100	1.008190125	0.244897959	12	0.668033923
12479	0.094	100	1.312941742	0.265306122	13	0.676783692
11939	0.071	100	1.036544099	0.285714286	14	0.749403748
12342	0.086	100	1.214535732	0.306122449	15	0.778435282
11932	0.101	100	1.475385518	0.326530612	16	0.826796913
12515	0.068	100	0.947055533	0.346938776	17	0.880805282
12504	0.074	100	1.031525912	0.367346939	18	0.928162845
11838	0.072	100	1.060111505	0.387755102	19	0.929010152
11879	0.085	50	1.247200943	0.408163265	20	0.947055533
12263	0.047	50	0.668033923	0.428571429	21	0.962656131
11864	0.076	50	1.116554282	0.448979592	22	1.008190125
12270	0.088	50	1.25007335	0.469387755	23	1.031525912
11769	0.065	50	0.962656131	0.489795918	24	1.033020066
12438	0.059	50	0.826796913	0.510204082	25	1.034379319
12451	0.014	50	0.195984258	0.530612245	26	1.036544099
11936	0.085	50	1.241244973	0.551020408	27	1.060111505
12337	0.038	50	0.536872822	0.571428571	28	1.081964286
12301	0.073	50	1.034379319	0.591836735	29	1.099823322
12362	0.048	50	0.676783692	0.612244898	30	1.116554282
11940	0.12	50	1.751758794	0.632653061	31	1.132478134
12299	0.042	50	0.595219124	0.653061224	32	1.146239211
12515	0.023	50	0.320327607	0.673469388	33	1.147078652
12165	0.08	50	1.146239211	0.693877551	34	1.214535732
11926	0.089	50	1.300746269	0.714285714	35	1.241244973
11924	0.089	50	1.300964441	0.734693878	36	1.247200943
12327	0.053	50	0.749403748	0.755102041	37	1.25007335
11768	0.109	50	1.614437458	0.775510204	38	1.287652216
12379	0.037	50	0.520970999	0.795918367	39	1.300746269
12460	0.082	50	1.147078652	0.816326531	40	1.300964441
12436	0.108	50	1.513702155	0.836734694	41	1.312941742
11886	0.075	50	1.099823322	0.857142857	42	1.319391206
12418	0.094	50	1.319391206	0.87755102	43	1.333642075
12535	0.015	50	0.208575987	0.897959184	44	1.475385518
11926	0.141	50	2.060732853	0.918367347	45	1.513702155
12318	0.091	50	1.287652216	0.93877551	46	1.614437458
12269	0.062	50	0.880805282	0.959183673	47	1.751758794
12452	0.043	50	0.601903309	0.979591837	48	2.060732853
12498	0.03	50	0.418386942	1	49	2.169768006

1.751758794	47	0.959184
2.060732853	48	0.979592
97.5th Percentile	**1.9912137**	

Graph Title Clay Boswell 2: 97.5th Percentile = 1.9912 lb Hg/TBtu


Clay Boswell 2: 97.5th Percentile = 1.9912 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.5
1
1.5
2
2.5
lb Hg/TBtu

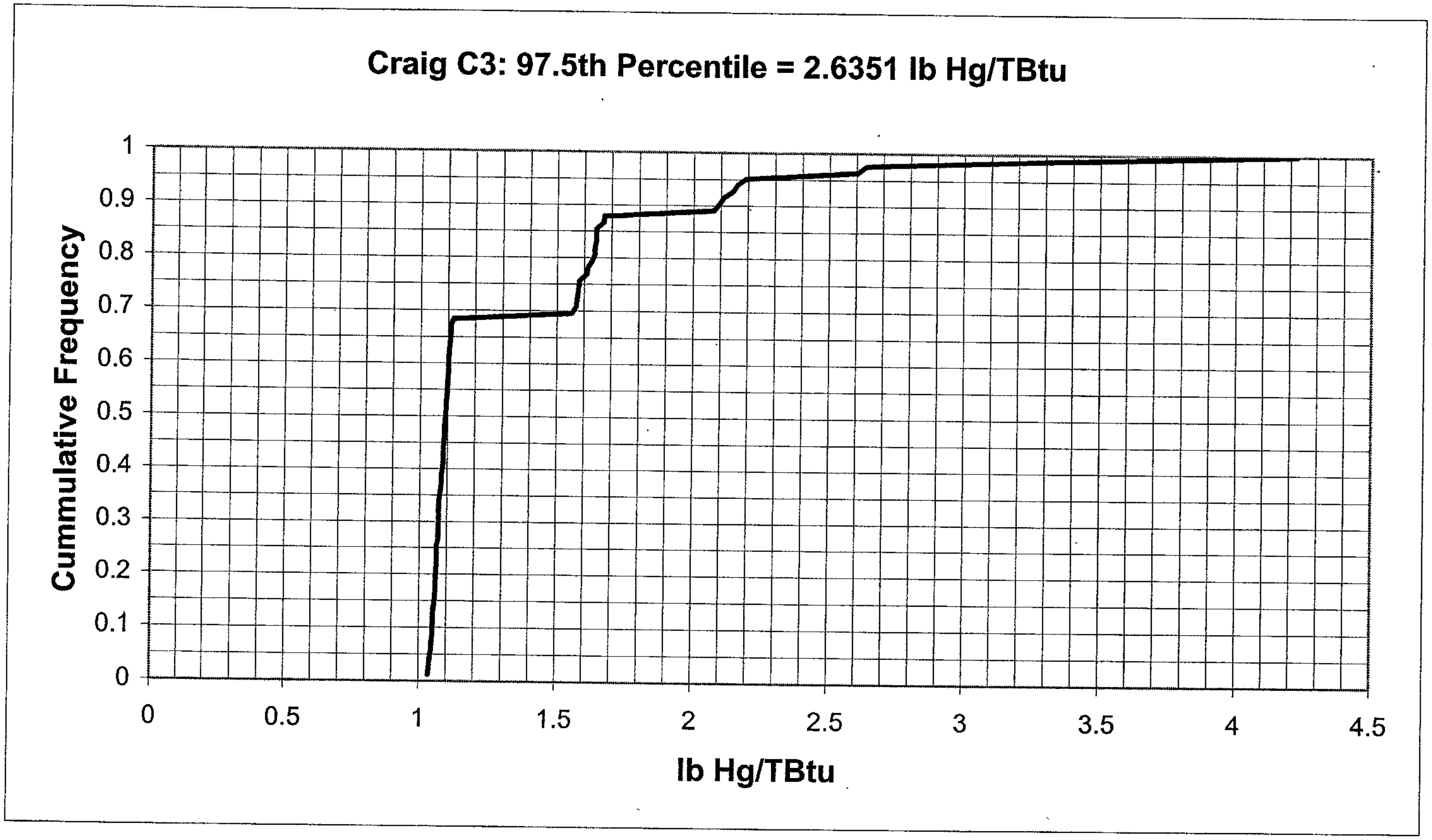
Craig C3

ALPHA	BETA
0	0.664

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
12165	0.03	50	1.637484587	0.012195122	1	1.03531613
12659	0.03	50	1.573584011	0.024390244	2	1.037175883
12120	0.03	50	1.643564356	0.036585366	3	1.038879762
12799	0.04	50	2.075162122	0.048780488	4	1.041650326
12810	0.03	50	1.555035129	0.06097561	5	1.045916358
12685	0.03	50	1.570358691	0.073170732	6	1.04682327
11918	0.03	60	1.671421379	0.085365854	7	1.049553466
12236	0.02	50	1.085322001	0.097560976	8	1.049802372
12319	0.02	50	1.078009579	0.109756098	9	1.050716038
12541	0.02	50	1.05892672	0.12195122	10	1.050799177
12137	0.02	50	1.094174837	0.134146341	11	1.052464733
12532	0.02	50	1.059687201	0.146341463	12	1.055476077
12382	0.03	50	1.608786949	0.158536585	13	1.058251654
12653	0.02	50	1.049553466	0.170731707	14	1.05892672
12123	0.03	50	1.643157634	0.182926829	15	1.059687201
11912	0.06	50	3.344526528	0.195121951	16	1.060872344
12632	0.03	50	1.576947435	0.207317073	17	1.060957098
12431	0.02	50	1.068296999	0.219512195	18	1.0624
12418	0.02	50	1.069415365	0.231707317	19	1.062995277
12350	0.03	50	1.612955466	0.243902439	20	1.064017306
12432	0.02	50	1.068211068	0.256097561	21	1.064187836
12518	0.02	50	1.060872344	0.268292683	22	1.068125151
12247	0.02	50	1.084347187	0.280487805	23	1.068211068
12749	0.02	50	1.041650326	0.292682927	24	1.068296999
11928	0.03	50	1.670020121	0.304878049	25	1.069157073
12261	0.02	50	1.083109045	0.317073171	26	1.069415365
12618	0.02	50	1.052464733	0.329268293	27	1.070018532
11867	0.02	50	1.119069689	0.341463415	28	1.0707087
12783	0.02	50	1.038879762	0.353658537	29	1.074259829
12308	0.02	50	1.078973026	0.365853659	30	1.078009579
12752	0.05	50	2.603513174	0.37804878	31	1.078447296
12500	0.02	50	1.0624	0.390243902	32	1.078973026
12142	0.02	50	1.093724263	0.402439024	33	1.083109045
12116	0.02	50	1.096071311	0.414634146	34	1.084347187
12124	0.03	50	1.643022105	0.426829268	35	1.084347187
12614	0.03	50	1.579197717	0.43902439	36	1.085322001
12081	0.02	50	1.099246751	0.451219512	37	1.087365922
12650	0.02	50	1.049802372	0.463414634	38	1.087722172
12687	0.04	50	2.093481517	0.475609756	39	1.08852459
12580	0.08	50	4.222575517	0.487804878	40	1.090491049
12589	0.03	81	1.582333783	0.5	41	1.091387245
11976	0.02	50	1.108884436	0.512195122	42	1.093724263
12123	0.04	50	2.190876846	0.524390244	43	1.094174837
12582	0.02	50	1.055476077	0.536585366	44	1.096071311
12387	0.04	50	2.144183418	0.548780488	45	1.097792841
12097	0.02	50	1.097792841	0.56097561	46	1.098610192
12590	0.04	50	2.109610802	0.573170732	47	1.099246751
12033	0.02	50	1.10363168	0.585365854	48	1.100978279
12168	0.02	50	1.091387245	0.597560976	49	1.101069563
12697	0.02	50	1.045916358	0.609756098	50	1.101891802
12062	0.02	50	1.100978279	0.62195122	51	1.10363168
12517	0.02	50	1.060957098	0.634146341	52	1.105561106
12433	0.02	50	1.068125151	0.646341463	53	1.108421668
12247	0.02	50	1.084347187	0.658536585	54	1.108884436
12591	0.05	50	2.636804066	0.670731707	55	1.108884436
12638	0.02	50	1.050799177	0.682926829	56	1.119069689
12178	0.02	50	1.090491049	0.695121951	57	1.555035129
12493	0.02	50	1.062995277	0.707317073	58	1.570358691
12827	0.02	50	1.03531613	0.719512195	59	1.573584011
12209	0.02	50	1.087722172	0.731707317	60	1.576947435
12549	0.02	50	1.058251654	0.743902439	61	1.579197717
12804	0.02	50	1.037175883	0.756097561	62	1.582333783
11976	0.02	50	1.108884436	0.768292683	63	1.608786949
12314	0.02	50	1.078447296	0.780487805	64	1.612955466
12200	0.02	50	1.08852459	0.792682927	65	1.627052193
12088	0.02	50	1.098610192	0.804878049	66	1.637484587
12403	0.02	50	1.0707087	0.817073171	67	1.638292623
12243	0.03	50	1.627052193	0.829268293	68	1.643022105
12421	0.02	50	1.069157073	0.841463415	69	1.643157634
12362	0.02	50	1.074259829	0.853658537	70	1.643564356
12159	0.03	50	1.638292623	0.865853659	71	1.670020121
12481	0.02	50	1.064017306	0.87804878	72	1.671421379
12061	0.02	50	1.101069563	0.890243902	73	2.075162122
12411	0.02	50	1.070018532	0.902439024	74	2.093481517
12012	0.02	50	1.105561106	0.914634146	75	2.109610802
12479	0.02	50	1.064187836	0.926829268	76	2.144183418
12052	0.02	50	1.101891802	0.93902439	77	2.160052049
12839	0.02	50	1.050716038	0.951219512	78	2.190876846
12296	0.04	50	2.160052049	0.963414634	79	2.603513174
12213	0.02	50	1.087365922	0.975609756	80	2.636804066
12686	0.02	50	1.04682327	0.987804878	81	3.344526528
11981	0.02	50	1.108421668	1	82	4.222575517

2.603513174	79	0.963415
2.636804066	80	0.97561
97.5th Percentile	**2.6351395**	

Graph Title Craig C3: 97.5th Percentile = 2.6351 lb Hg/TBtu


Craig C3: 97.5th Percentile = 2.6351 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
lb Hg/TBtu

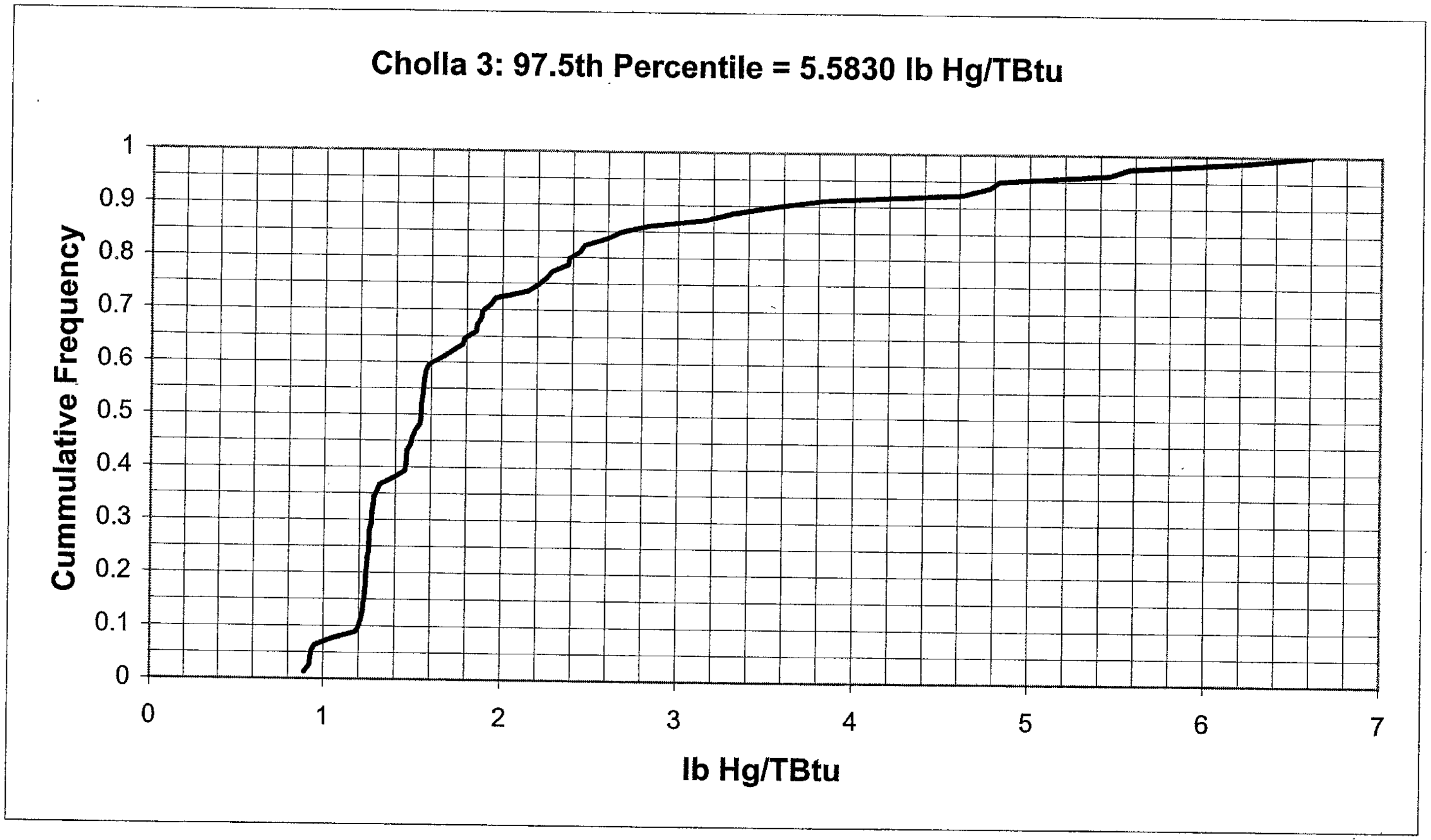
Cholla 3

ALPHA	BETA
0	0.358

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
9802	0.04	100	1.460926342	0.012658228	1	0.892990771
10017	0.05	100	1.786962164	0.025316456	2	0.920702958
9856	0.04	100	1.452922078	0.037974684	3	0.924984928
10219	0.03	100	1.050983462	0.050632911	4	0.930514642
9744	0.06	100	2.204433498	0.063291139	5	0.947507719
9643	0.04	100	1.485015037	0.075949367	6	1.050983462
9807	0.04	100	1.460181503	0.088607595	7	1.182786818
9420	0.06	100	2.280254777	0.101265823	8	1.201745552
9707	0.09	100	3.319254146	0.113924051	9	1.213559322
10077	0.13	100	4.618438027	0.126582278	10	1.221947265
10100	0.08	100	2.835643564	0.139240506	11	1.223513329
9665	0.07	100	2.592860838	0.151898734	12	1.231404248
9541	0.06	100	2.251336338	0.164556962	13	1.231722002
10075	0.05	100	1.776674938	0.17721519	14	1.237683665
9240	0.04	100	1.54978355	0.189873418	15	1.238111707
9586	0.04	100	1.493845191	0.202531646	16	1.240578706
9667	0.05	100	1.851660288	0.215189873	17	1.243055556
9644	0.13	100	4.825798424	0.227848101	18	1.245433989
11542	0.03	100	0.930514642	0.240506329	19	1.253062653
11520	0.04	100	1.243055556	0.253164557	20	1.253611135
9193	0.16	100	6.230827804	0.265822785	21	1.255149443
10956	0.06	100	1.960569551	0.278481013	22	1.256691531
11425	0.06	100	1.880087527	0.291139241	23	1.267368794
9214	0.17	100	6.605166052	0.303797468	24	1.269166002
9031	0.06	100	2.378474145	0.316455696	25	1.269503546
11498	0.04	100	1.245433989	0.329113924	26	1.277430865
9058	0.06	100	2.371384412	0.341772152	27	1.278913995
9004	0.12	100	4.771212794	0.35443038	28	1.297689171
11283	0.04	100	1.269166002	0.367088608	29	1.313520455
12027	0.03	100	0.892990771	0.379746835	30	1.390696319
12239	0.05	100	1.462537789	0.392405063	31	1.452922078
11299	0.04	100	1.267368794	0.405063291	32	1.460181503
11665	0.03	100	0.920702958	0.417721519	33	1.460926342
11410	0.05	100	1.568799299	0.430379747	34	1.462537789
11035	0.04	100	1.297689171	0.443037975	35	1.485015037
10297	0.04	100	1.390696319	0.455696203	36	1.493845191
11210	0.04	100	1.277430865	0.46835443	37	1.509656743
11106	0.06	100	1.934089681	0.481012658	38	1.536085128
11423	0.04	100	1.253611135	0.493670886	39	1.542438604
11629	0.04	100	1.231404248	0.506329114	40	1.54350263
9193	0.14	100	5.451974328	0.518987342	41	1.544301613
9644	0.05	100	1.856076317	0.53164557	42	1.54978355
11591	0.05	100	1.544301613	0.544303797	43	1.554156718
11192	0.12	100	3.83845604	0.556962025	44	1.556792486
9031	0.04	100	1.58564943	0.569620253	45	1.561273441
9004	0.14	100	5.566414927	0.582278481	46	1.568799299
9058	0.08	100	3.161845882	0.594936709	47	1.58564943
9214	0.04	100	1.554156718	0.607594937	48	1.653732446
11075	0.11	100	3.555756208	0.620253165	49	1.714395173
10441	0.05	100	1.714395173	0.632911392	50	1.776674938
10721	0.08	100	2.671392594	0.64556962	51	1.786962164
11626	0.04	100	1.231722002	0.658227848	52	1.851660288
11498	0.05	100	1.556792486	0.670886076	53	1.856076317
11605	0.05	100	1.542438604	0.683544304	54	1.880087527
11857	0.05	100	1.509656743	0.696202532	55	1.887853753
12107	0.04	100	1.182786818	0.708860759	56	1.934089681
11800	0.04	100	1.213559322	0.721518987	57	1.960569551
11409	0.04	100	1.255149443	0.734177215	58	2.141148325
11378	0.06	100	1.887853753	0.746835443	59	2.204433498
11704	0.04	100	1.223513329	0.759493671	60	2.251336338
11704	0.07	100	2.141148325	0.772151899	61	2.280254777
11566	0.04	100	1.238111707	0.784810127	62	2.371384412
11610	0.08	100	2.466838932	0.797468354	63	2.378474145
11597	0.05	100	1.54350263	0.810126582	64	2.437861764
11653	0.05	100	1.536085128	0.82278481	65	2.466838932
11543	0.04	100	1.240578706	0.835443038	66	2.592860838
10824	0.05	100	1.653732446	0.848101266	67	2.671392594
11748	0.08	100	2.437861764	0.860759494	68	2.835643564
10902	0.04	100	1.313520455	0.873417722	69	3.161845882
11428	0.04	100	1.253062653	0.886075949	70	3.319254146
11280	0.04	100	1.269503546	0.898734177	71	3.555756208
11395	0.04	100	1.256691531	0.911392405	72	3.83845604
11197	0.04	100	1.278913995	0.924050633	73	4.618438027
11465	0.05	100	1.561273441	0.936708861	74	4.771212794
11335	0.03	100	0.947507719	0.949367089	75	4.825798424
11611	0.03	100	0.924984928	0.962025316	76	5.451974328
11570	0.04	100	1.237683665	0.974683544	77	5.566414927
11719	0.04	100	1.221947265	0.987341772	78	6.230827804
11916	0.04	100	1.201745552	1	79	6.605166052

5.566414927	77	0.97468
6.230827804	78	0.98734
97.5th Percentile	**5.5830252**	

Graph Title Cholla 3: 97.5th Percentile = 5.5830 lb Hg/TBtu


Cholla 3: 97.5th Percentile = 5.5830 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
lb Hg/TBtu

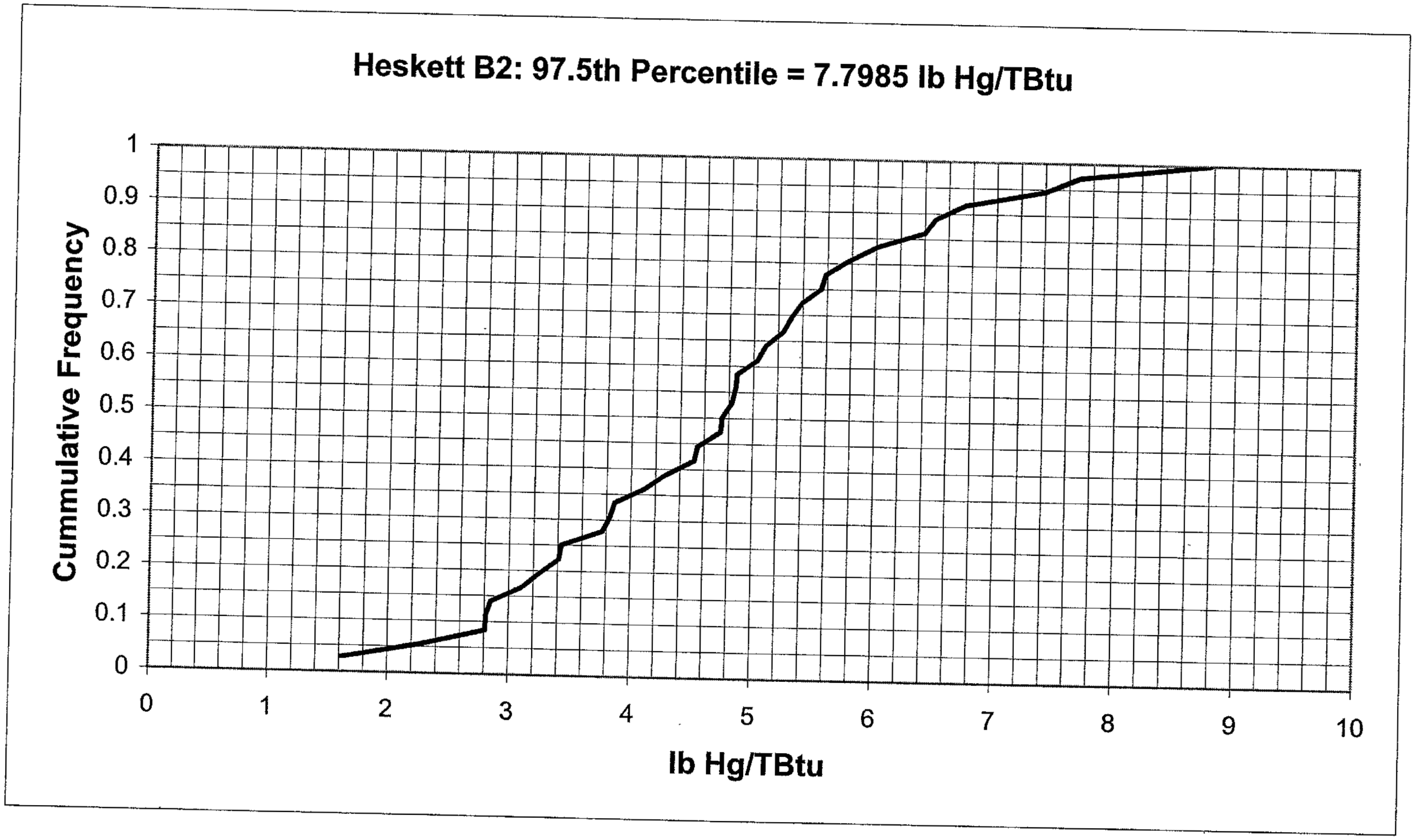
Heskett B2

ALPHA	BETA
0	0.5964

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
11115	0.095	200	5.097435897	0.027777778	1	1.617575264
11218	0.165	200	8.772151899	0.055555556	2	2.28860667
10941	0.087	200	4.742418426	0.083333333	3	2.808113003
10882	0.088	200	4.82293696	0.111111111	4	2.810706029
11041	0.137	200	7.400307943	0.138888889	5	2.851271874
11105	0.072	200	3.866798739	0.166666667	6	3.102349776
11044	0.052	200	2.808113003	0.194444444	7	3.250586605
11150	0.058	200	3.102349776	0.222222222	8	3.40860868
11090	0.143	200	7.690279531	0.25	9	3.428857567
11135	0.08	200	4.284867535	0.277777778	10	3.766970091
11040	0.107	200	5.780326087	0.305555556	11	3.827569375
11059	0.125	200	6.741115833	0.333333333	12	3.866798739
11035	0.09	200	4.864159493	0.361111111	13	4.109747031
11026	0.093	200	5.030400871	0.388888889	14	4.284867535
11943	0.13	200	6.491836222	0.416666667	15	4.518996933
10996	0.103	200	5.586504183	0.444444444	16	4.546399706
11087	0.088	200	4.73376026	0.472222222	17	4.73376026
11008	0.111	200	6.013844477	0.5	18	4.742418426
10935	0.089	200	4.854101509	0.527777778	19	4.82293696
10854	0.101	200	5.549695965	0.555555556	20	4.854101509
10888	0.083	200	4.546399706	0.583333333	21	4.864159493
11086	0.084	200	4.518996933	0.611111111	22	5.030400871
10945	0.042	200	2.28860667	0.638888889	23	5.097435897
11246	0.053	200	2.810706029	0.666666667	24	5.242262275
11063	0.071	200	3.827569375	0.694444444	25	5.30903806
11061	0.03	200	1.617575264	0.722222222	26	5.392405063
11263	0.099	200	5.242262275	0.75	27	5.549695965
10825	0.059	200	3.250586605	0.777777778	28	5.586504183
10766	0.068	200	3.766970091	0.805555556	29	5.780326087
11060	0.1	200	5.392405063	0.833333333	30	6.013844477
11029	0.076	200	4.109747031	0.861111111	31	6.402220988
11009	0.098	200	5.30903806	0.888888889	32	6.491836222
11086	0.053	200	2.851271874	0.916666667	33	6.741115833
11198	0.064	200	3.40860868	0.944444444	34	7.400307943
10784	0.062	200	3.428857567	0.972222222	35	7.690279531
10806	0.116	200	6.402220988	1	36	8.772151899

7.690279531	35	0.972222
8.772151899	36	1
97.5th Percentile	**7.7984668**	

Graph Title Heskett B2: 97.5th Percentile = 7.7985 lb Hg/TBtu



Heskett B2: 97.5th Percentile = 7.7985 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
9
10
lb Hg/TBtu

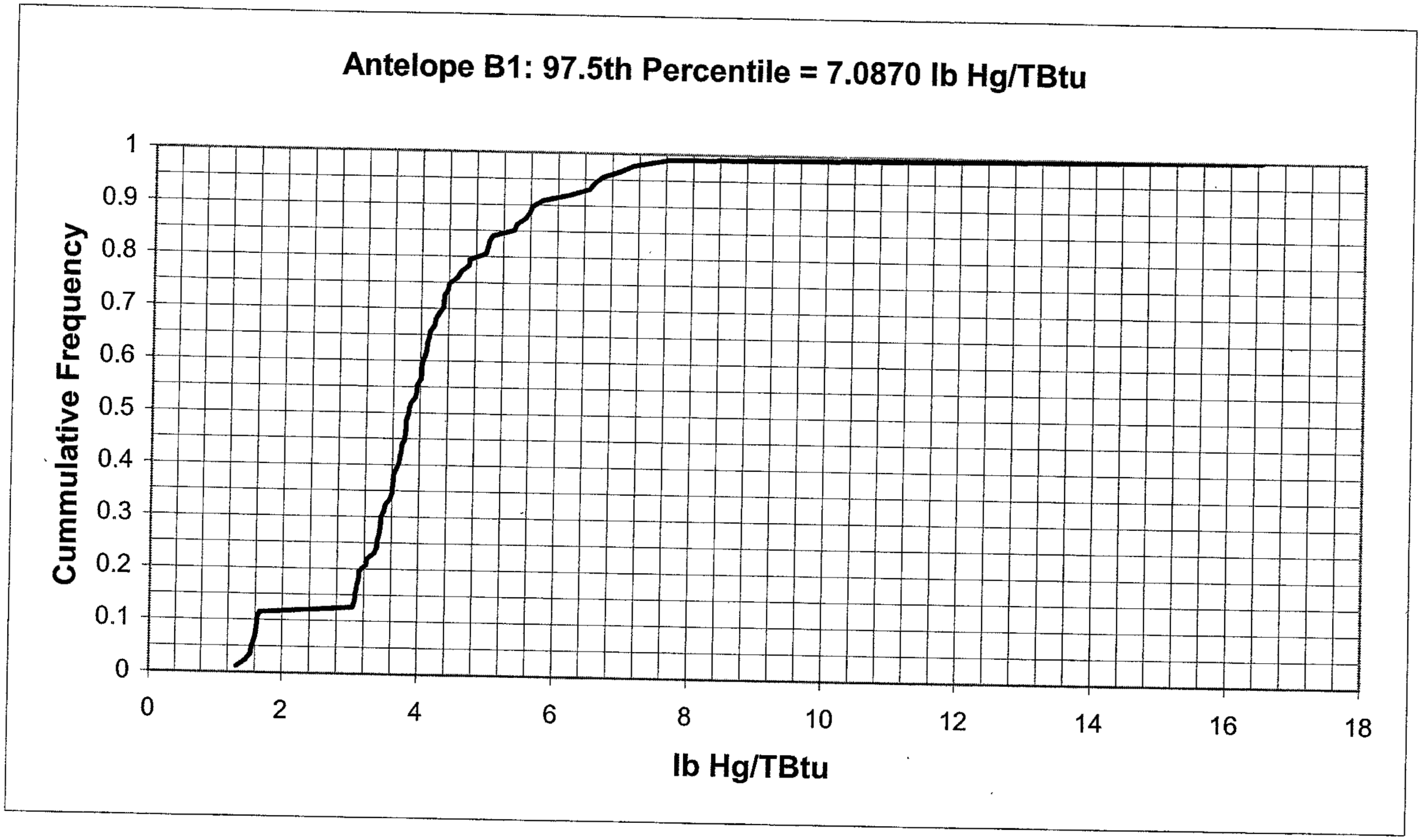
Antelope B1

ALPHA	BETA
0.002164007	0.818815299

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
10550	0.064	106	3.949052753	0.011494253	1	1.333005038
10340	0.056	100	3.571673955	0.022988506	2	1.46375196
10470	0.088	96	5.591129796	0.034482759	3	1.532616585
10490	0.068	86	4.406514174	0.045977011	4	1.546898634
10710	0.056	131	3.224545947	0.057471264	5	1.57551029
10650	0.06	98	3.731518455	0.068965517	6	1.598734547
10510	0.025	98	1.57551029	0.08045977	7	1.610685711
10390	0.062	117	3.793181149	0.091954023	8	1.622052145
10590	0.057	121	3.391931491	0.103448276	9	1.629378388
10480	0.025	74	1.664248861	0.114942529	10	1.664248861
10580	0.051	92	3.234501504	0.126436782	11	3.033879795
10510	0.025	132	1.46375196	0.137931034	12	3.069452065
10290	0.06	90	3.929509629	0.149425287	13	3.074396362
10610	0.05	105	3.074396362	0.16091954	14	3.085357401
10550	0.025	109	1.532616585	0.172413793	15	3.103826875
11050	0.079	152	4.213070091	0.183908046	16	3.127216836
10470	0.025	177	1.333005038	0.195402299	17	3.128083864
10540	0.058	175	3.085357401	0.206896552	18	3.224545947
10920	0.071	122	4.088500644	0.218390805	19	3.234501504
10590	0.093	136	5.357447456	0.229885057	20	3.347850807
10300	0.066	89	4.3276189	0.24137931	21	3.386948223
10740	0.103	111	6.175886169	0.252873563	22	3.391931491
10510	0.069	143	3.944923561	0.264367816	23	3.417001888
10790	0.066	94	4.086633656	0.275862069	24	3.427986884
10570	0.06	95	3.784248638	0.287356322	25	3.436450065
10410	0.065	113	4.003587586	0.298850575	26	3.441053719
10400	0.058	96	3.709866127	0.310344828	27	3.483139564
10600	0.057	106	3.500534895	0.32183908	28	3.500534895
10270	0.062	145	3.611884309	0.333333333	29	3.571673955
10320	0.062	115	3.835474206	0.344827586	30	3.599243766
10400	0.058	134	3.417001888	0.356321839	31	3.606616474
10477	0.025	86	1.622052145	0.367816092	32	3.611884309
10650	0.067	88	4.258016198	0.379310345	33	3.616557118
10430	0.079	129	4.691291603	0.390804598	34	3.653891357
10570	0.052	131	3.033879795	0.402298851	35	3.69249121
10340	0.092	120	5.61921024	0.413793103	36	3.709866127
10490	0.069	124	4.118341252	0.425287356	37	3.731518455
10670	0.062	122	3.653891357	0.436781609	38	3.734029004
10970	0.066	113	3.857660594	0.448275862	39	3.77555461
10240	0.05	117	3.103826875	0.459770115	40	3.784248638
10390	0.06	104	3.77555461	0.471264368	41	3.793181149
10560	0.052	75	3.427986884	0.482758621	42	3.793771483
10490	0.059	142	3.386948223	0.494252874	43	3.824208963
10380	0.066	119	4.024337458	0.505747126	44	3.835474206
9946	0.083	109	5.397288208	0.517241379	45	3.857660594
10390	0.05	57	3.483139564	0.528735632	46	3.929509629
10260	0.054	104	3.441053719	0.540229885	47	3.944923561
10180	0.063	108	4.01123919	0.551724138	48	3.949052753
10340	0.025	90	1.629378388	0.563218391	49	4.003587586
10230	0.053	75	3.606616474	0.574712644	50	4.010612301
10320	0.102	59	7.122906793	0.586206897	51	4.01123919
10510	0.05	70	3.347850807	0.597701149	52	4.024337458
10410	0.079	106	4.940168733	0.609195402	53	4.062089309
10400	0.058	93	3.734029004	0.620689655	54	4.086633656
10200	0.107	131	6.469245305	0.632183908	55	4.088500644
10540	0.071	111	4.337945358	0.643678161	56	4.118341252
10290	0.105	113	6.542754594	0.655172414	57	4.13247873
10400	0.082	121	4.968767659	0.666666667	58	4.19865319
10300	0.076	84	5.037531178	0.67816092	59	4.213070091
10240	0.06	121	3.69249121	0.689655172	60	4.258016198
10610	0.05	97	3.128083864	0.701149425	61	4.32002847
10530	0.073	119	4.387754274	0.712643678	62	4.3276189
10390	0.056	92	3.616557118	0.724137931	63	4.337945358
10350	0.056	96	3.599243766	0.735632184	64	4.387754274
10480	0.123	106	7.640279557	0.747126437	65	4.406514174
10490	0.05	111	3.069452065	0.75862069	66	4.524672833
10380	0.061	63	4.19865319	0.770114943	67	4.5759746
10090	0.09	129	5.52460191	0.781609195	68	4.691291603
10590	0.05	98	3.127216836	0.793103448	69	4.70305787
10680	0.061	93	3.824208963	0.804597701	70	4.940168733
10370	0.058	87	3.793771483	0.816091954	71	4.968767659
10430	0.025	110	1.546898634	0.827586207	72	4.990341701
10470	0.109	114	6.660804804	0.83908046	73	5.037531178
10460	0.025	90	1.610685711	0.850574713	74	5.357447456
10680	0.059	127	3.436450065	0.862068966	75	5.397288208
10470	0.025	93	1.598734547	0.873563218	76	5.52460191
10430	0.073	104	4.5759746	0.885057471	77	5.591129796
10480	0.073	107	4.524672833	0.896551724	78	5.61921024
10240	0.071	87	4.70305787	0.908045977	79	5.776398098
10630	0.1	133	5.776398098	0.91954023	80	6.175886169
10410	0.103	73	6.917765784	0.931034483	81	6.469245305
10420	0.078	95	4.990341701	0.942528736	82	6.542754594
10480	0.071	144	4.062089309	0.954022989	83	6.660804804
10080	0.25	97	16.46278264	0.965517241	84	6.917765784
10280	0.064	97	4.13247873	0.977011494	85	7.122906793
10420	0.069	105	4.32002847	0.988505747	86	7.640279557
10330	0.059	71	4.010612301	1	87	16.46278264

6.917765784	84	0.965517
7.122906793	85	0.977011
97.5th Percentile	**7.0870071**	

Graph Title Antelope B1: 97.5th Percentile = 7.0870 lb Hg/TBtu


Antelope B1: 97.5th Percentile = 7.0870 lb Hg/TBtu
Cummulative Frequency
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
2
4
6
8
10
12
14
16
18
lb Hg/TBtu

Leland 2

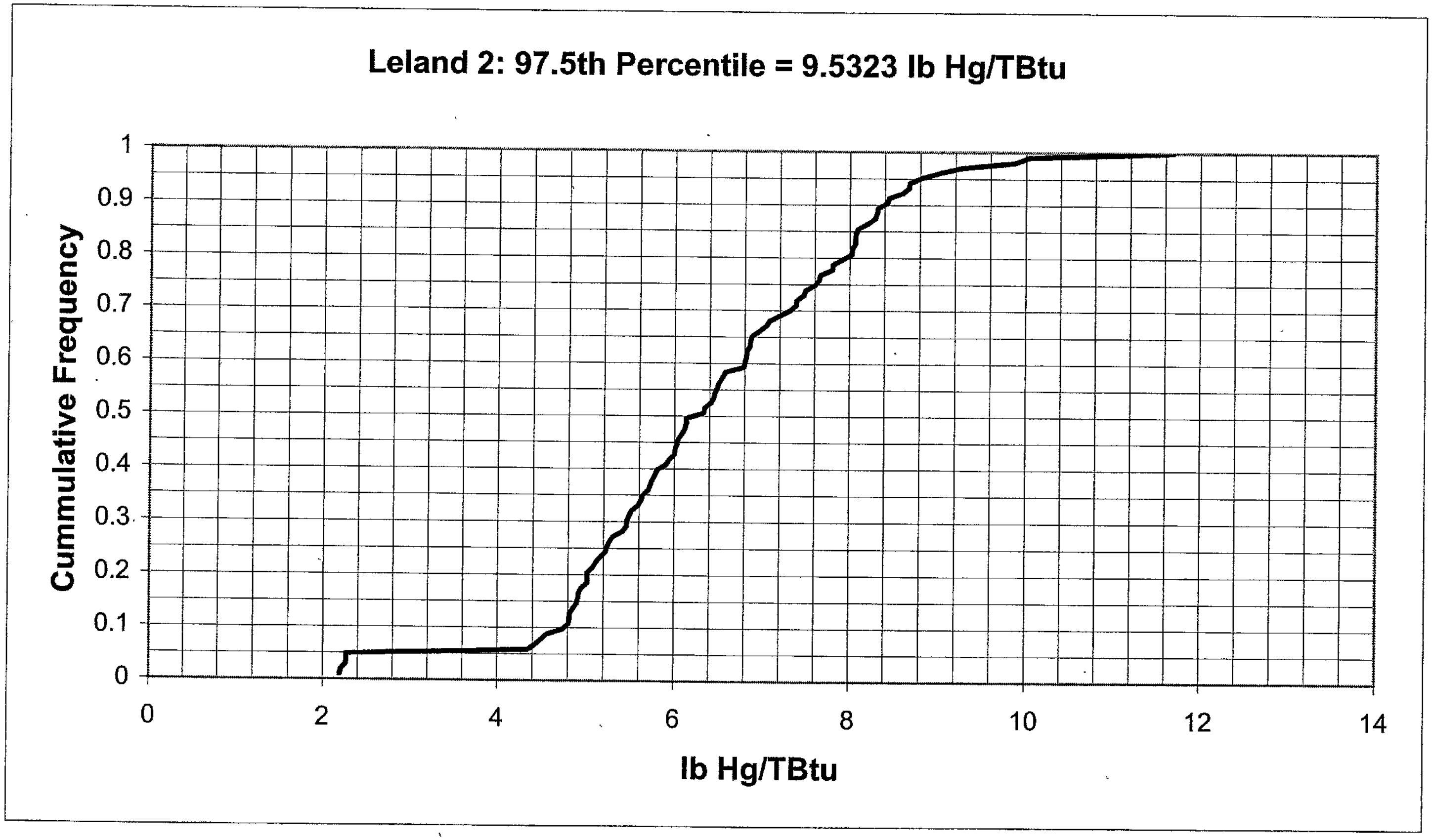
ALPHA -	BETA
0	0.9513

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
10830	0.073	103	6.412271468	0.009708738	1	2.19598338
10920	0.086	93	7.491923077	0.019417476	2	2.20821727
10890	0.069	136	6.027520661	0.029126214	3	2.26284491
10950	0.079	121	6.863260274	0.038834951	4	2.267159199
11040	0.064	131	5.514782609	0.048543689	5	2.267159199
10940	0.05	119	4.347806216	0.058252427	6	4.347806216
10930	0.078	85	6.788783166	0.067961165	7	4.432898416
10950	0.07	86	6.081369863	0.077669903	8	4.5
10800	0.072	133	6.342	0.087378641	9	4.564779271
10630	0.097	76	8.680724365	0.097087379	10	4.738948339
10690	0.058	127	5.161403181	0.106796117	11	4.805444341
10550	0.089	120	8.025184834	0.116504854	12	4.814451734
10790	0.078	119	6.87686747	0.126213592	13	4.818968105
10660	0.065	161	5.800609756	0.13592233	14	4.855406427
10790	0.1	97	8.816496756	0.145631068	15	4.899016854
10500	0.129	107	11.6874	0.155339806	16	4.910972405
10500	0.109	112	9.8754	0.165048544	17	4.920517241
10700	0.089	168	7.912682243	0.174757282	18	4.95
10700	0.113	113	10.04643925	0.184466019	19	5.016105458
10860	0.095	117	8.321685083	0.194174757	20	5.016105458
10690	0.084	121	7.475135641	0.203883495	21	5.016442953
10710	0.081	140	7.194705882	0.213592233	22	5.079757282
10820	0.078	125	6.85780037	0.223300971	23	5.113568119
10740	0.091	177	8.060363128	0.233009709	24	5.161403181
10680	0.073	147	6.502331461	0.242718447	25	5.222140897
10700	0.095	111	8.446121495	0.252427184	26	5.236513761
10770	0.077	73	6.801309192	0.262135922	27	5.264828244
10720	0.097	90	8.607845149	0.27184466	28	5.30464684
10890	0.087	125	7.599917355	0.281553398	29	5.41318097
10800	0.08	116	7.046666667	0.291262136	30	5.456787763
10840	0.054	87	4.738948339	0.300970874	31	5.461166667
10727	0.063	96	5.587014077	0.310679612	32	5.485757437
10410	0.072	70	6.579596542	0.32038835	33	5.514782609
10632	0.067	166	5.994836343	0.330097087	34	5.587014077
10654	0.055	164	4.910972405	0.339805825	35	5.616860356
10750	0.073	126	6.459990698	0.349514563	36	5.637996237
10608	0.076	95	6.815497738	0.359223301	37	5.699032258
10925	0.063	120	5.485757437	0.368932039	38	5.723409298
10480	0.071	123	6.444875954	0.378640777	39	5.746107383
10801	0.067	133	5.901036941	0.388349515	40	5.781381215
10490	0.089	97	8.071086749	0.398058252	41	5.800609756
10430	0.055	174	5.016442953	0.40776699	42	5.901036941
10580	0.054	127	4.855406427	0.417475728	43	5.940083877
10690	0.054	160	4.805444341	0.427184466	44	5.994836343
10420	0.05	103	4.564779271	0.436893204	45	6.006350975
10430	0.063	103	5.746107383	0.446601942	46	6.027520661
10630	0.063	75	5.637996237	0.45631068	47	6.042906641
10720	0.061	83	5.41318097	0.466019417	48	6.081369863
10440	0.054	147	4.920517241	0.475728155	49	6.117399814
10570	0.055	97	4.95	0.485436893	50	6.131425781
10490	0.025	97	2.267159199	0.495145631	51	6.131601896
10560	0.082	88	7.386988636	0.504854369	52	6.330277264
10520	0.077	121	6.962937262	0.514563107	53	6.342
10760	0.06	134	5.30464684	0.524271845	54	6.412271468
10770	0.025	89	2.20821727	0.533980583	55	6.444875954
10830	0.025	119	2.19598338	0.54368932	56	6.459990698
10670	0.054	138	4.814451734	0.553398058	57	6.484117647
10810	0.057	142	5.016105458	0.563106796	58	6.502331461
10660	0.054	97	4.818968105	0.572815534	59	6.545230914
10550	0.068	91	6.131601896	0.582524272	60	6.579596542
10770	0.068	106	6.006350975	0.59223301	61	6.788783166
10390	0.066	137	6.042906641	0.601941748	62	6.801309192
10670	0.063	115	5.616860356	0.611650485	63	6.815497738
10240	0.066	116	6.131425781	0.621359223	64	6.820641509
10510	0.025	83	2.26284491	0.631067961	65	6.85780037
10460	0.06	124	5.456787763	0.640776699	66	6.863260274
10490	0.025	95	2.267159199	0.650485437	67	6.87686747
10790	0.058	137	5.113568119	0.660194175	68	6.962937262
10970	0.066	120	5.723409298	0.669902913	69	7.046666667
10600	0.087	122	7.807839623	0.67961165	70	7.083195099
10850	0.065	71	5.699032258	0.689320388	71	7.194705882
10640	0.097	118	8.672565789	0.699029126	72	7.317692308
10930	0.06	117	5.222140897	0.708737864	73	7.386145931
10900	0.06	120	5.236513761	0.718446602	74	7.386988636
10790	0.091	112	8.023012048	0.72815534	75	7.475135641
10300	0.055	117	5.079757282	0.737864078	76	7.491923077
10570	0.05	122	4.5	0.747572816	77	7.599917355
10560	0.103	103	9.278778409	0.757281553	78	7.646813397
10580	0.09	134	8.092344045	0.766990291	79	7.667460169
10820	0.072	151	6.330277264	0.776699029	80	7.800480679
10680	0.055	115	4.899016854	0.786407767	81	7.807839623
10600	0.076	122	6.820641509	0.796116505	82	7.912682243
10730	0.05	87	4.432898416	0.805825243	83	8.023012048
10450	0.058	94	5.264828244	0.815533981	84	8.025184834
10670	0.093	96	8.291555764	0.825242718	85	8.060363128
10860	0.066	83	5.781381215	0.834951456	86	8.0634
10610	0.079	106	7.083195099	0.844660194	87	8.071086749
10660	0.092	114	8.210093809	0.854368932	88	8.092344045
10730	0.069	85	6.117399814	0.86407767	89	8.210093809
10730	0.067	132	5.940083877	0.873786408	90	8.291555764
10270	0.091	64	8.429240506	0.883495146	91	8.311452991
10610	0.073	145	6.545230914	0.893203883	92	8.321685083
10810	0.057	136	5.016105458	0.902912621	93	8.429240506
10800	0.062	140	5.461166667	0.912621359	94	8.446121495
10710	0.073	103	6.484117647	0.922330097	95	8.607845149
10610	0.087	84	7.800480679	0.932038835	96	8.672565789
10670	0.086	86	7.667460169	0.941747573	97	8.680724365
10530	0.092	91	8.311452991	0.951456311	98	8.816496756
10450	0.084	103	7.646813397	0.961165049	99	9.029597315
10790	0.083	116	7.317692308	0.970873786	100	9.278778409
10690	0.083	107	7.386145931	0.980582524	101	9.8754
10500	0.089	130	8.0634	0.990291262	102	10.04643925
10430	0.099	75	9.029597315	1	103	11.6874

9.278778409	100	0.970874
9.8754	101	0.980583

97.5th Percentile 9.5323426

Graph Title Leland 2 97.5th Percentile = 9.5323 lb Hg/TBtu



Leland 2: 97.5th Percentile = 9.5323 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
2
4
6
8
10
12
14
lb Hg/TBtu

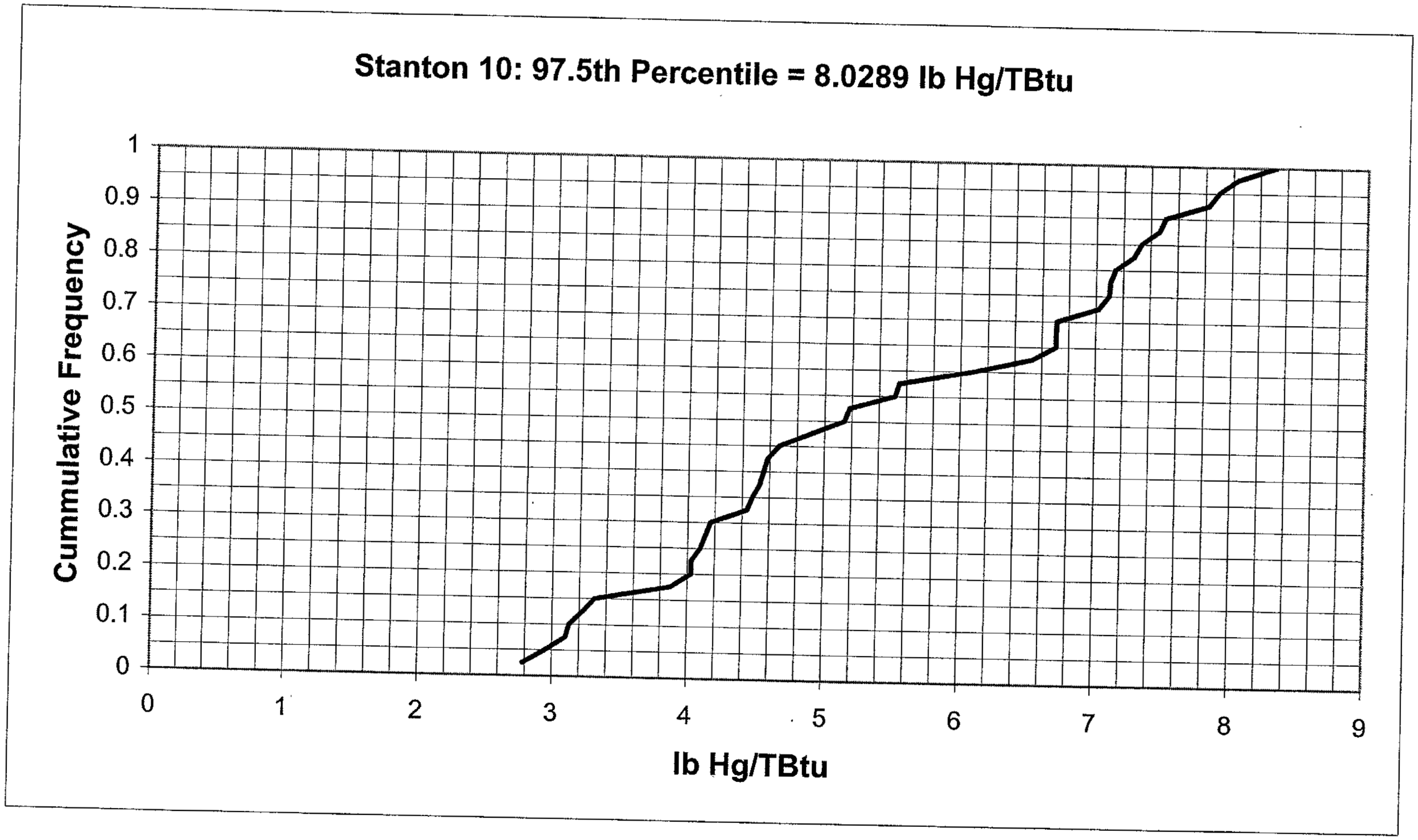
Stanton 10

ALPHA	BETA
0.002164007	0.818815299

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
10850	0.069	74	4.436688061	0.025	1	2.785579397
11000	0.082	79	5.144718635	0.05	2	2.951148004
10870	0.064	83	4.02839108	0.075	3	3.099966029
10960	0.076	99	4.582971675	0.1	4	3.125431775
10690	0.077	108	4.668730532	0.125	5	3.22797068
10920	0.081	141	4.476455081	0.15	6	3.315013318
10570	0.074	106	4.557452525	0.175	7	3.875310863
10730	0.073	134	4.16844142	0.2	8	4.026578732
10870	0.085	123	4.906569167	0.225	9	4.02839108
10570	0.065	121	3.875310863	0.25	10	4.094987148
10900	0.079	125	4.528032179	0.275	11	4.129775162
10600	0.067	116	4.026578732	0.3	12	4.16844142
10680	0.072	138	4.094987148	0.325	13	4.436688061
10870	0.084	92	5.185284516	0.35	14	4.476455081
10620	0.055	141	3.125431775	0.375	15	4.528032179
10650	0.051	158	2.785579397	0.4	16	4.557452525
10680	0.054	115	3.22797068	0.425	17	4.582971675
10630	0.067	103	4.129775162	0.45	18	4.668730532
10660	0.05	99	3.099966029	0.475	19	4.906569167
10750	0.051	127	2.951148004	0.5	20	5.144718635
10480	0.052	94	3.315013318	0.525	21	5.185284516
10500	0.104	88	6.703878807	0.55	22	5.517398572
10510	0.104	87	6.712009366	0.575	23	5.546711282
10500	0.104	88	6.703878807	0.6	24	6.095774359
10610	0.116	107	7.101796277	0.625	25	6.528191494
10850	0.116	82	7.330764416	0.65	26	6.703878807
10300	0.116	64	8.02894476	0.675	27	6.703878807
10620	0.115	108	7.018739306	0.7	28	6.712009366
10770	0.115	135	6.528191494	0.725	29	7.018739306
10390	0.115	87	7.50765355	0.75	30	7.09522177
10490	0.115	97	7.276895189	0.775	31	7.101796277
10520	0.115	84	7.463172503	0.8	32	7.138178881
10370	0.115	114	7.09522177	0.825	33	7.276895189
10680	0.091	106	5.546711282	0.85	34	7.330764416
10760	0.091	105	5.517398572	0.875	35	7.463172503
10460	0.091	72	6.095774359	0.9	36	7.50765355
10650	0.12	72	7.894975985	0.925	37	7.822592863
10310	0.12	63	8.315724687	0.95	38	7.894975985
10640	0.12	119	7.138178881	0.975	39	8.02894476
10590	0.119	75	7.822592863	1	40	8.315724687

8.02894476	39	0.975
8.315724687	40	1
97.5th Percentile	**8.0289448**	

Graph Title Stanton 10: 97.5th Percentile = 8.0289 lb Hg/TBtu


Stanton 10: 97.5th Percentile = 8.0289 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
9
lb Hg/TBtu

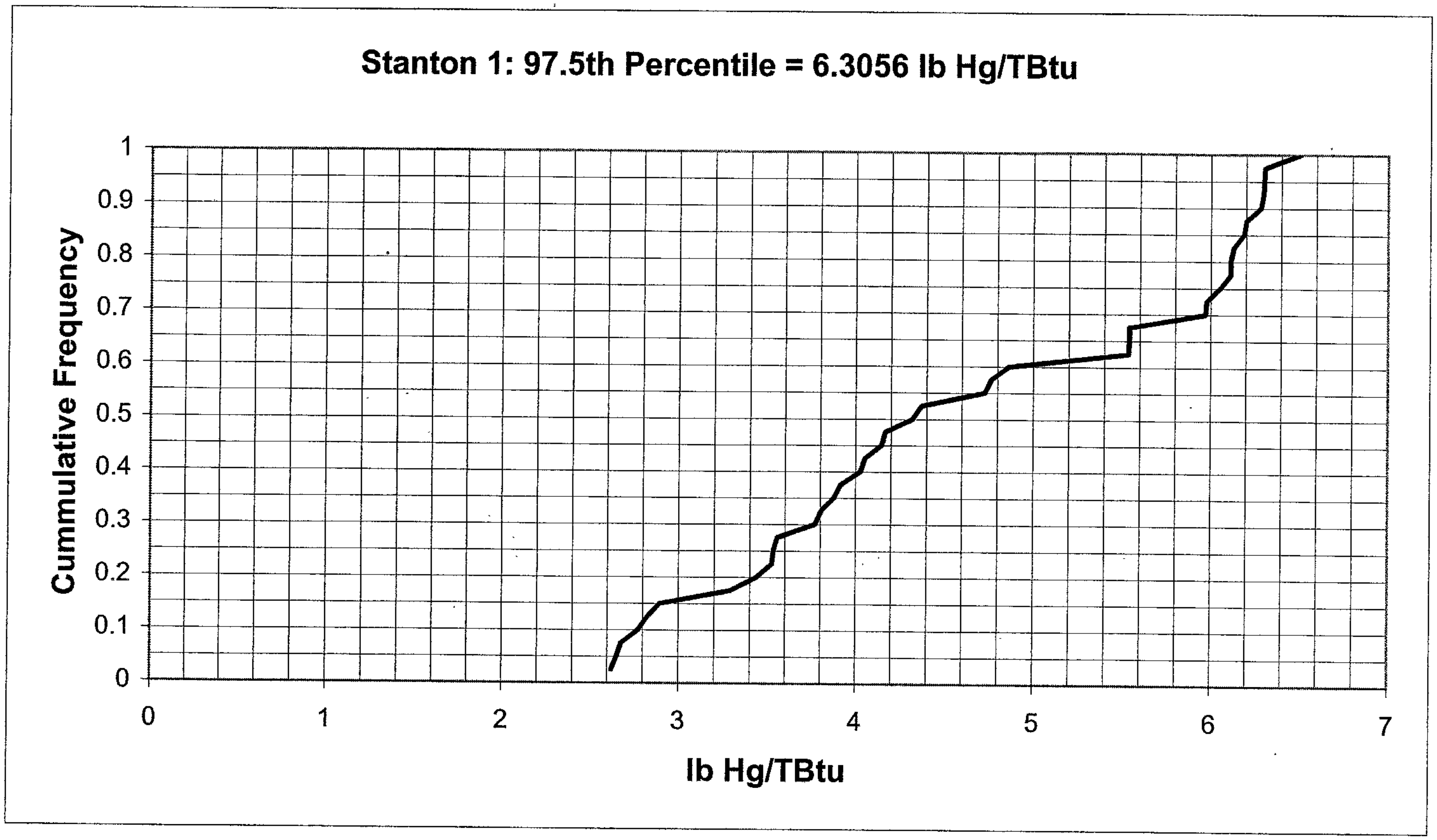
Stanton 1

ALPHA	BETA
0	0.5591

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
10850	0.069	74	3.55556682	0.025	1	2.622420263
11000	0.082	79	4.167836364	0.05	2	2.652474419
10870	0.064	83	3.291849126	0.075	3	2.677380282
10960	0.076	99	3.876970803	0.1	4	2.774160305
10690	0.077	108	4.027193639	0.125	5	2.826910112
10920	0.081	141	4.14717033	0.15	6	2.895527307
10570	0.074	106	3.91422895	0.175	7	3.291849126
10730	0.073	134	3.803755825	0.2	8	3.438174078
10870	0.085	123	4.371987121	0.225	9	3.523960489
10570	0.065	121	3.438174078	0.25	10	3.533933962
10900	0.079	125	4.052192661	0.275	11	3.55556682
10600	0.067	116	3.533933962	0.3	12	3.769213483
10680	0.072	138	3.769213483	0.325	13	3.803755825
10870	0.084	92	4.320551978	0.35	14	3.876970803
10620	0.055	141	2.895527307	0.375	15	3.91422895
10650	0.051	158	2.677380282	0.4	16	4.027193639
10680	0.054	115	2.826910112	0.425	17	4.052192661
10630	0.067	103	3.523960489	0.45	18	4.14717033
10660	0.05	99	2.622420263	0.475	19	4.167836364
10750	0.051	127	2.652474419	0.5	20	4.320551978
10480	0.052	94	2.774160305	0.525	21	4.371987121
10500	0.104	88	5.537752381	0.55	22	4.728447955
10510	0.104	87	5.532483349	0.575	23	4.763867041
10500	0.104	88	5.537752381	0.6	24	4.864063098
10610	0.116	107	6.112686145	0.625	25	5.532483349
10850	0.116	82	5.977474654	0.65	26	5.537752381
10300	0.116	64	6.296660194	0.675	27	5.537752381
10620	0.115	108	6.054284369	0.7	28	5.96996286
10770	0.115	135	5.96996286	0.725	29	5.977474654
10390	0.115	87	6.188306064	0.75	30	6.054284369
10490	0.115	97	6.129313632	0.775	31	6.111834601
10520	0.115	84	6.111834601	0.8	32	6.112686145
10370	0.115	114	6.20024108	0.825	33	6.129313632
10680	0.091	106	4.763867041	0.85	34	6.188306064
10760	0.091	105	4.728447955	0.875	35	6.20024108
10460	0.091	72	4.864063098	0.9	36	6.282615675
10650	0.12	72	6.29971831	0.925	37	6.296660194
10310	0.12	63	6.507468477	0.95	38	6.29971831
10640	0.12	119	6.305639098	0.975	39	6.305639098
10590	0.119	75	6.282615675	1	40	6.507468477

6.305639098	39	0.975
6.507468477	40	1
97.5th Percentile	**6.3056391**	

Graph Title Stanton 1: 97.5th Percentile = 6.3056 lb Hg/TBtu


Stanton 1: 97.5th Percentile = 6.3056 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
lb Hg/TBtu

Kline 1

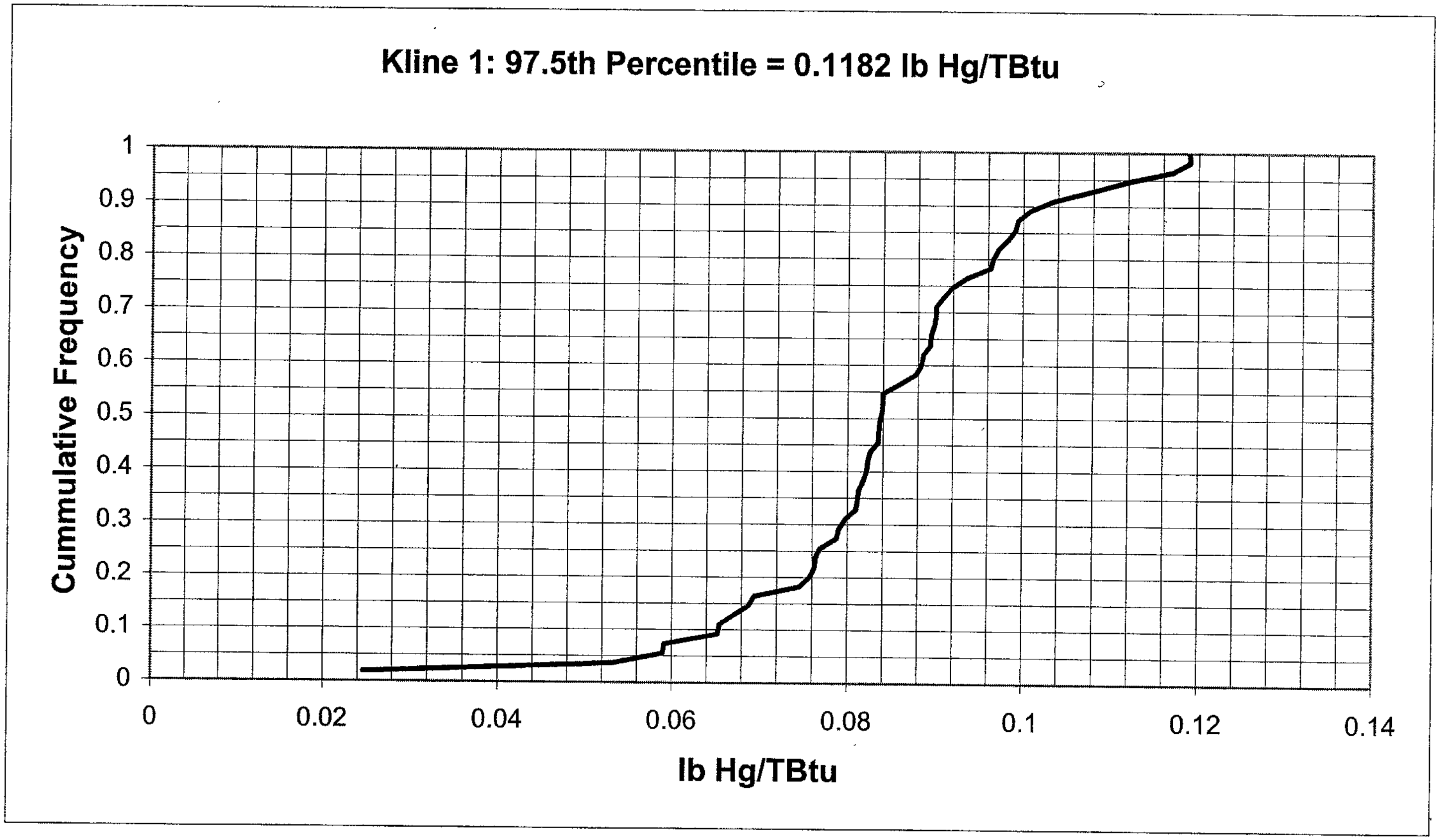
ALPHA	BETA
0	0.0025

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
5238	0.16	100	0.076365025	0.018181818	1	0.024703557
5296	0.21	100	0.09913142	0.036363636	2	0.053160642
5092	0.18	100	0.08837392	0.054545455	3	0.058949625
5230	0.17	100	0.08126195	0.072727273	4	0.059159929
5246	0.16	100	0.07624857	0.090909091	5	0.065234845
5347	0.14	100	0.065457266	0.109090909	6	0.065457266
5397	0.17	100	0.078747452	0.127272727	7	0.067088365
5362	0.19	100	0.088586348	0.145454545	8	0.068775791
5364	0.16	100	0.074571216	0.163636364	9	0.069444444
5173	0.11	100	0.053160642	0.181818182	10	0.074571216
5089	0.14	100	0.068775791	0.2	11	0.075728891
5082	0.17	100	0.083628493	0.218181818	12	0.07624857
5060	0.05	100	0.024703557	0.236363636	13	0.076365025
5400	0.15	100	0.069444444	0.254545455	14	0.076870516
5288	0.19	100	0.089826021	0.272727273	15	0.078747452
4675	0.17	200	0.090909091	0.290909091	16	0.078988942
5217	0.14	100	0.067088365	0.309090909	17	0.079707427
5071	0.12	100	0.059159929	0.327272727	18	0.080921554
5239	0.17	100	0.081122352	0.345454545	19	0.081122352
5313	0.19	100	0.08940335	0.363636364	20	0.08126195
5316	0.22	100	0.103461249	0.381818182	21	0.081777949
5277	0.19	100	0.090013265	0.4	22	0.082108902
5166	0.17	100	0.08226868	0.418181818	23	0.08226868
5091	0.17	100	0.083480652	0.436363636	24	0.082572372
4769	0.16	100	0.083875026	0.454545455	25	0.083480652
5170	0.19	100	0.091876209	0.472727273	26	0.083503433
4710	0.19	100	0.100849257	0.490909091	27	0.083628493
5129	0.24	100	0.116981868	0.509090909	28	0.083875026
5389	0.18	100	0.083503433	0.527272727	29	0.083927822
5252	0.17	100	0.080921554	0.545454545	30	0.083986562
5146	0.23	200	0.111737272	0.563636364	31	0.085910653
4622	0.22	100	0.118996106	0.581818182	32	0.087766676
4665	0.11	100	0.058949625	0.6	33	0.08837392
3703	0.13	100	0.087766676	0.618181818	34	0.088586348
5178	0.2	100	0.096562379	0.636363636	35	0.08940335
5197	0.17	100	0.081777949	0.654545455	36	0.089445438
4472	0.16	100	0.089445438	0.672727273	37	0.089826021
4406	0.19	100	0.107807535	0.690909091	38	0.090013265
5147	0.17	100	0.082572372	0.709090909	39	0.090030326
4982	0.13	100	0.065234845	0.727272727	40	0.090909091
4766	0.16	100	0.083927822	0.745454545	41	0.091876209
4934	0.19	100	0.096270774	0.763636364	42	0.093614505
5074	0.19	100	0.093614505	0.781818182	43	0.096270774
5064	0.16	100	0.078988942	0.8	44	0.096562379
5145	0.2	100	0.09718173	0.818181818	45	0.09718173
5358	0.18	100	0.083986562	0.836363636	46	0.098309084
5086	0.2	100	0.098309084	0.854545455	47	0.09913142
5854	0.18	100	0.076870516	0.872727273	48	0.09941299
5238	0.18	100	0.085910653	0.890909091	49	0.100849257
5332	0.17	100	0.079707427	0.909090909	50	0.103461249
5282	0.16	100	0.075728891	0.927272727	51	0.107807535
5785	0.19	100	0.082108902	0.945454545	52	0.111737272
5043	0.24	100	0.1189768	0.963636364	53	0.116981868
5281	0.21	200	0.09941299	0.981818182	54	0.1189768
5276	0.19	100	0.090030326	1	55	0.118996106

0.116981868	53	0.963636
0.1189768	54	0.981818

97.5th Percentile 0.1182287

Graph Title Kline 1: 97.5th Percentile = 0.1182 lb Hg/TBtu


Kline 1: 97.5th Percentile = 0.1182 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
lb Hg/TBtu

Scrubgrass 1

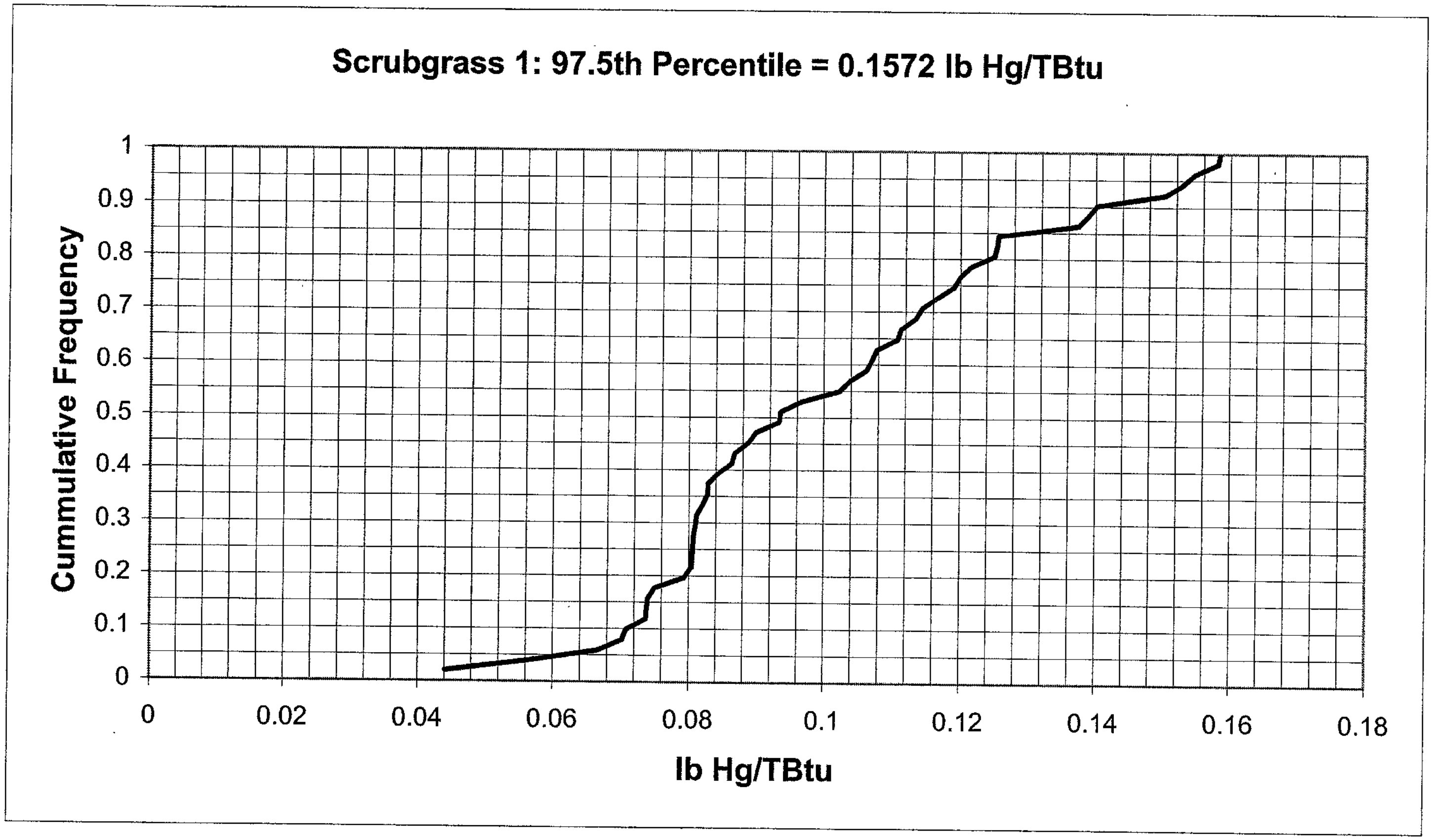
ALPHA	BETA
0	0.0011

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
7621	0.67	900	0.096706469	0.019607843	1	0.044132397
7646	0.57	900	0.082003662	0.039215686	2	0.056424371
8045	0.83	1200	0.113486638	0.058823529	3	0.066726897
7636	0.56	897	0.080670508	0.078431373	4	0.070203979
7968	0.77	997	0.106300201	0.098039216	5	0.070827142
7047	0.71	997	0.110827302	0.117647059	6	0.073682855
7267	1.01	1295	0.152882895	0.137254902	7	0.073795787
7879	0.67	1047	0.093539789	0.156862745	8	0.073973572
7515	1.08	1146	0.158083832	0.176470588	9	0.074977061
7261	0.57	997	0.086351742	0.196078431	10	0.079302661
7704	0.59	1278	0.084241952	0.215686275	11	0.080380532
6645	0.5	1621	0.082768999	0.235294118	12	0.080480794
7977	0.87	1247	0.119969914	0.254901961	13	0.080580902
7846	1	1387	0.140198827	0.274509804	14	0.080670508
7893	0.9	1535	0.125427594	0.294117647	15	0.080956762
7629	0.55	1319	0.079302661	0.31372549	16	0.08113804
7510	0.76	1597	0.111318242	0.333333333	17	0.082003662
8370	0.71	1696	0.093309438	0.352941176	18	0.082768999
7807	0.63	1455	0.088766492	0.37254902	19	0.082822869
7781	0.57	1410	0.080580902	0.392156863	20	0.084241952
7499	1.08	1590	0.158421123	0.411764706	21	0.086351742
7735	0.72	1828	0.102391726	0.431372549	22	0.086761315
7604	0.95	1418	0.13742767	0.450980392	23	0.088766492
7476	0.85	1350	0.125066881	0.470588235	24	0.08988764
7629	0.52	1022	0.074977061	0.490196078	25	0.093309438
8076	0.52	1083	0.070827142	0.509803922	26	0.093539789
7991	0.51	1209	0.070203979	0.529411765	27	0.096706469
8163	0.8	1306	0.107803504	0.549019608	28	0.102391726
8241	0.65	1201	0.086761315	0.568627451	29	0.103880983
7922	0.84	2120	0.116637213	0.588235294	30	0.106300201
7730	0.73	1709	0.103880983	0.607843137	31	0.107087227
7592	0.56	4277	0.08113804	0.62745098	32	0.107803504
7836	0.59	1923	0.082822869	0.647058824	33	0.110827302
7609	0.56	1531	0.080956762	0.666666667	34	0.111318242
7763	0.52	1398	0.073682855	0.68627451	35	0.113486638
8476	0.57	2774	0.073973572	0.705882353	36	0.114410839
7993	0.41	1712	0.056424371	0.725490196	37	0.116637213
7453	0.5	1789	0.073795787	0.745098039	38	0.119066249
7748	0.47	1820	0.066726897	0.764705882	39	0.119969914
7976	0.32	1650	0.044132397	0.784313725	40	0.121584699
7654	0.56	1266	0.080480794	0.803921569	41	0.125066881
8052	0.89	1058	0.121584699	0.823529412	42	0.125427594
7794	0.89	1607	0.125609443	0.843137255	43	0.125609443
7253	0.53	2003	0.080380532	0.862745098	44	0.13742767
7048	0.89	1008	0.138904654	0.882352941	45	0.138904654
7097	0.97	1172	0.150345216	0.901960784	46	0.140198827
7668	0.83	1309	0.119066249	0.921568627	47	0.150345216
7704	0.75	1390	0.107087227	0.941176471	48	0.152882895
7307	0.76	2123	0.114410839	0.960784314	49	0.154700222
6755	0.95	1055	0.154700222	0.980392157	50	0.158083832
7832	0.64	1607	0.08988764	1	51	0.158421123

0.154700222	49	0.960784
0.158083832	50	0.980392

97.5th Percentile 0.1571533

Graph Title Scrubgrass 1: 97.5th Percentile = 0.1572 lb Hg/TBtu


Scrubgrass 1: 97.5th Percentile = 0.1572 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
lb Hg/TBtu

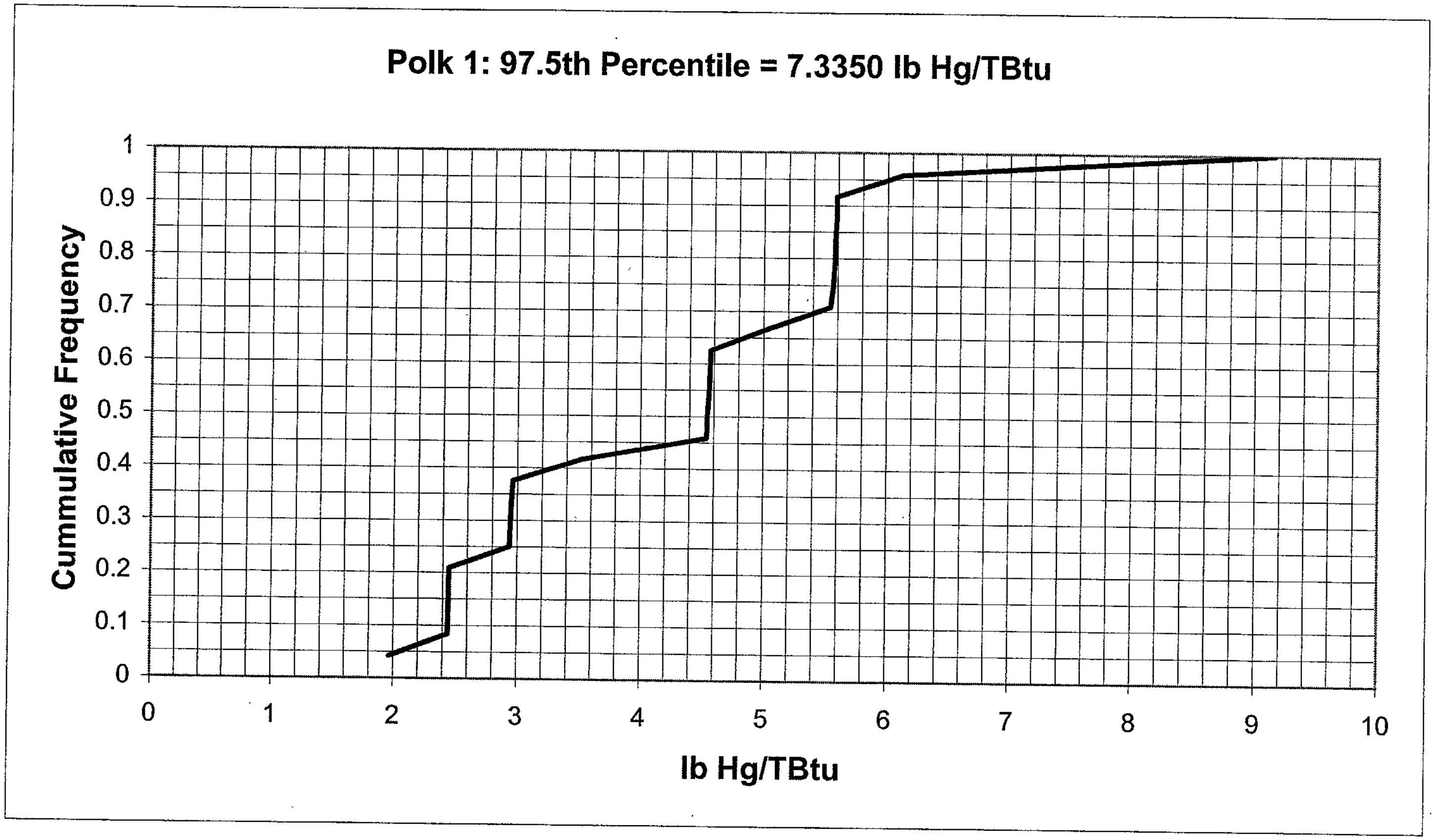
Polk 1

ALPHA	BETA
0	0.6601

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
12931	0.12	1000	6.125744335	0.041666667	1	1.967364578
12987	0.18	1100	9.148995149	0.083333333	2	2.4413788
12996	0.11	1100	5.587180671	0.125	3	2.444995926
12997	0.09	800	4.570977918	0.166666667	4	2.446808511
12998	0.11	900	5.586320972	0.208333333	5	2.448987163
13009	0.09	600	4.566761473	0.25	6	2.938130564
13022	0.11	1000	5.576025188	0.291666667	7	2.942933571
13029	0.11	800	5.573029396	0.333333333	8	2.950827
13036	0.09	1000	4.557302854	0.375	9	2.962525245
13053	0.11	1100	5.562782502	0.416666667	10	3.529137707
13074	0.09	1000	4.544056907	0.458333333	11	4.53919621
13088	0.09	1100	4.53919621	0.5	12	4.544056907
13093	0.07	1100	3.529137707	0.541666667	13	4.557302854
13106	0.11	900	5.540286892	0.583333333	14	4.566761473
13114	0.1	1000	5.033551929	0.625	15	4.570977918
13369	0.06	1000	2.962525245	0.666666667	16	5.033551929
13421	0.04	800	1.967364578	0.708333333	17	5.540286892
13422	0.06	1000	2.950827	0.75	18	5.562782502
13458	0.06	1000	2.942933571	0.791666667	19	5.573029396
13477	0.05	1200	2.448987163	0.833333333	20	5.576025188
13480	0.06	1000	2.938130564	0.875	21	5.586320972
13489	0.05	1200	2.446808511	0.916666667	22	5.587180671
13499	0.05	1100	2.444995926	0.958333333	23	6.125744335
13519	0.05	1300	2.4413788	1	24	9.148995149

6.125744335	23	0.958333
9.148995149	24	1
97.5th Percentile	**7.3350447**	

Graph Title Polk 1: 97.5th Percentile = 7.3350 lb Hg/TBtu


Polk 1: 97.5th Percentile = 7.3350 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
9
10
lb Hg/TBtu

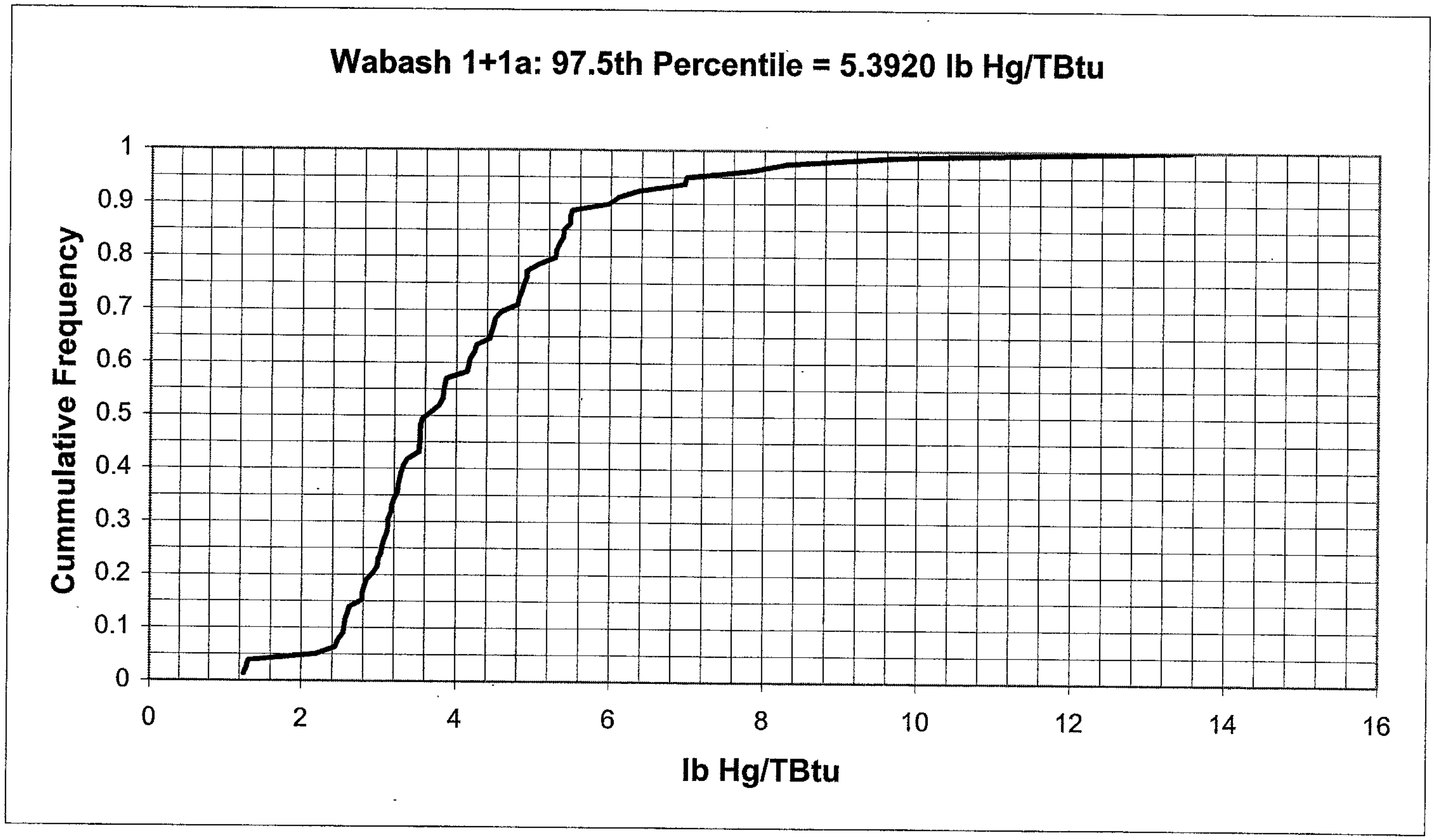
Wabash 1+1a

ALPHA	BETA
0	0.6747

H (lb/Btu)	Hg(ppm)	Cl(ppm)	lb Hg/TBtu	Cummulative Frequency	Index	Sorted lb Hg/TBtu
11539	0.084	317	4.911586793	0.012658228	1	1.254963962
11539	0.084	317	4.911586793	0.025316456	2	1 292322426
11594	0 094	358	5.470225979	0.037974684	3	1.317258883
11594	0 094	358	5.470225979	0.050632911	4	2.200279525
12276	0.111	666.7	6.100659824	0.063291139	5	2.437612422
12276	0.127	658.1	6.980034213	0.075949367	6	2.475395551
12276	0.098	531.2	5.386168133	0.088607595	7	2.540246294
12276	0.097	623.7	5.331207234	0.101265823	8	2.553707709
12276	0.116	697.8	6.375464321	0.113924051	9	2.564619127
12374	0.076	520.5	4.143946986	0.126582278	10	2.599198706
12442	0.071	492 2	3.850160746	0.139240506	11	2.622434701
12451	0.065	343.7	3.522247209	0.151898734	12	2.788233918
12505	0.071	490.1	3.830763695	0.164556962	13	2.788233918
12530	0.024	442.2	1.292322426	0.17721519	14	2.812552107
12550	0 058	514.7	3.118135458	0.189873418	15	2.841285191
12573	0.059	476.8	3.166094011	0.202531646	16	2.925754995
12578	0.084	498.3	4.505867388	0.215189873	17	2.980770423
12580	0.079	548.5	4.236987281	0.227848101	18	2.996096915
12598	0 078	491.9	4.177377361	0.240506329	19	3.027901578
12660	0.078	532.5	4.156919431	0.253164557	20	3.043917237
12662	0 08	480.4	4.262833676	0.265822785	21	3.067527163
12663	0 06	282	3.196872779	0.278481013	22	3.105093604
12666	0.091	345.3	4.847441971	0.291139241	23	3.117837338
12718	0.084	492	4.456266709	0.303797468	24	3.118135458
12749	0.048	472	2.540246294	0.316455696	25	3.157722309
12782	0.084	522.9	4.433953998	0.329113924	26	3.166094011
12785	0.067	389	3.5357763	0.341772152	27	3.196872779
12791	0.062	825	3.270377609	0.35443038	28	3.242995581
12796	0.132	426.5	6.960018756	0.367088608	29	3 248788444
12796	0.257	338	13.55094561	0.379746835	30	3.270377609
12798	0 067	462	3.532184716	0 392405063	31	3.291984201
12800	0.067	450	3.531632813	0.405063291	32	3.318281718
12805	0.025	318.9	1.317258883	0.417721519	33	3.368762677
12816	0 087	478.6	4.580126404	0.430379747	34	3 522247209
12818	0.064	406	3 368762677	0.443037975	35	3.523374903
12820	0.06	692	3.157722309	0.455696203	36	3.531632813
12820	0.059	462	3.105093604	0.46835443	37	3.532184716
12823	0.054	366	2.841285191	0.481012658	38	3.5357763
12825	0.053	591	2.788233918	0.493670886	39	3.565260059
12825	0.053	252	2.788233918	0.506329114	40	3 676839237
12830	0.067	745	3.523374903	0.518987342	41	3.780847471
12833	0.186	322	9.779022832	0.53164557	42	3.830763695
12836	0.057	380	2.996096915	0.544303797	43	3.832031432
12845	0.07	464	3.676839237	0.556962025	44	3 850160746
12853	0.073	400.9	3.832031432	0.569620253	45	3.86887253
12856	0 058	352	3.043917237	0.582278481	46	4 143946986
12864	0.05	384	2.622434701	0.594936709	47	4.156919431
12876	0.062	229	3.248788444	0.607594937	48	4.177377361
12879	0.042	832	2.200279525	0.620253165	49	4.236987281
12899	0.062	313	3.242995581	0.632911392	50	4.262833676
12902	0 057	467	2.980770423	0.64556962	51	4.433953998
12903	0.024	499	1.254963962	0.658227848	52	4.456266709
12905	0.074	474	3.86887253	0 670886076	53	4.483893369
12910	0.103	461.7	5.382966692	0.683544304	54	4.505867388
12912	0.063	434	3.291984201	0.696202532	55	4 580126404
12914	0.056	362	2.925754995	0.708860759	56	4.789804395
12924	0 058	507	3.027901578	0.721518987	57	4.808195383
12946	0.049	526	2.553707709	0.734177215	58	4.847441971
12954	0.054	272	2.812552107	0.746835443	59	4.874564278
12977	0.059	712	3.067527163	0.759493671	60	4 911586793
12979	0.05	399	2.599198706	0.772151899	61	4.911586793
12984	0.06	406	3 117837338	0.784810127	62	5.067598017
13001	0.106	418.1	5 500976848	0.797468354	63	5.280216721
13009	0.047	743	2.437612422	0.810126582	64	5.29438519
13013	0.064	532.6	3.318281718	0.82278481	65	5.331207234
13019	0.16	260	8.291881097	0.835443038	66	5.382966692
13027	0.073	232	3.780847471	0.848101266	67	5.386168133
13083	0.048	578	2.475395551	0.860759494	68	5.470225979
13100	0.152	313	7.828580153	0.873417722	69	5.470225979
13126	0.103	188	5.29438519	0.886075949	70	5.500976848
13154	0.05	555	2.564619127	0.898734177	71	5.979389486
13202	0.117	347.2	5 979389486	0 911392405	72	6.100659824
13241	0.094	281.7	4.789804395	0.924050633	73	6.375464321
13247	0.07	755	3.565260059	0.936708861	74	6.960018756
13289	0.104	758	5.280216721	0.949367089	75	6.980034213
13314	0.1	351	5.067598017	0.962025316	76	7.828580153
13392	0.089	291	4.483893369	0.974683544	77	8.291881097
13426	0.097	306	4.874564278	0.987341772	78	9.779022832
13471	0.096	253	4.808195383	1	79	13.55094561

8 291881097	77	0.974684
9.779022832	78	0.987342
97.5th Percentile	5.3919547	

Graph Title   Wabash 1+1a 97.5th Percentile = 5.3920 lb Hg/TBtu


Wabash 1+1a: 97.5th Percentile = 5.3920 lb Hg/TBtu
Cummulative Frequency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
2
4
6
8
10
12
14
16
lb Hg/TBtu

Fabric Filter (Baghouse) with Spray Dryer Absorber

Plant	Unit	Tested Coal	Cl (ppm) "X_i"	$F_{removed}$ (Control)	$-LN(1-F_{removed})$ "Y_i"	X_i^2	X_iY_i	Calculated $F_{removed}$ from 2 Parameter Fit	$(Fr_{Cal.}-Fr_{Mea.})^2$
Stanton Station	10	Lignite	28.33333	0.0147	0.014809116	802.7777778	0.41959161	0.229881023	0.046302873
Coyote	1	Lignite	100	0.3824	0.48191428	10000	48.191428	0.34051589	0.001754279
Sherburne County Generating Plant	#3	Subbituminous	102	0.0446	0.045625178	10404	4.65376816	0.343363978	0.089259915
Antelope Valley Station	B1	Lignite	107	0.3333	0.405415109	11449	43.3794167	0.350430502	0.000293454
Craig	C3	Subbituminous	116.6667	0.336	0.40947313	13611.11111	47.7718651	0.363877534	0.000777157
Rawhide	101	Subbituminous	126.6667	0.3183	0.383165601	16044.44444	48.5343094	0.377495389	0.003504094
SEI - Birchwood Power Facility	1	Bituminous	917.3333	0.9736	3.634391269	841500.4444	3333.94826	0.887523631	0.007409141
Logan Generating Plant	GEN 1	Bituminous	1500	0.9752	3.696911626	2250000	5545.36744	0.968124151	5.00676E-05
Dwayne Collier Battle Cogeneration Facility	2B	Bituminous	1700	0.9366	2.758291418	2890000	4689.09541	0.979322476	0.00182521
Mecklenburg Cogeneration Facility	GEN 1	Bituminous	1892.667	0.9881	4.431216879	3582187.111	8386.81648	0.986372152	2.98546E-06

Fabric Filter (Baghouse) with Spray Dryer Absorber - Bituminous only

Plant	Unit	Tested Coal	Cl (ppm) "X_i"	$F_{removed}$ (Control)	$-LN(1-F_{removed})$ "Y_i"	X_i^2	X_iY_i	Calculated $F_{removed}$ from 2 Parameter Fit	$(Fr_{Cal.}-Fr_{Mea.})^2$
SEI - Birchwood Power Facility	1	Bituminous	917.3333	0.9736	3.634391269	841500.4444	3333.94826	0.887523631	0.007409141
Logan Generating Plant	GEN 1	Bituminous	1500	0.9752	3.696911626	2250000	5545.36744	0.968124151	5.00676E-05
Dwayne Collier Battle Cogeneration Facility	2B	Bituminous	1700	0.9366	2.758291418	2890000	4689.09541	0.979322476	0.00182521
Mecklenburg Cogeneration Facility	GEN 1	Bituminous	1892.667	0.9881	4.431216879	3582187.111	8386.81648	0.986372152	2.98546E-06

Fabric Filter (Baghouse) with Spray Dryer Absorber - Bituminous only - Top 12% only

Plant	Unit	Tested Coal	Cl (ppm) "X_i"	$F_{removed}$ (Control)	$-LN(1-F_{removed})$ "Y_i"	X_i^2	X_iY_i	Calculated $F_{removed}$ from 2 Parameter Fit	$(Fr_{Cal.}-Fr_{Mea.})^2$
SEI - Birchwood Power Facility	1	Bituminous	917.3333	0.9736	3.634391269	841500.4444	3333.94826	0.887523631	0.007409141
Dwayne Collier Battle Cogeneration Facility	2B	Bituminous	1700	0.9366	2.758291418	2890000	4689.09541	0.979322476	0.00182521
Mecklenburg Cogeneration Facility	GEN 1	Bituminous	1892.667	0.9881	4.431216879	3582187.111	8386.81648	0.986372152	2.98546E-06

A="ALPHA"	0.002164007
B	0.19989674
Minimum Removal	0.181184701
EXP(-B)="BETA"	0.818815299
Residual Variance	0.018897397
Total Variance	0.157137686
Residual/Total	0.12026012
R	0.966795037
R2**	0.934692644

Removal/Cl Curve

Cl (ppm)	F_{remove}
0	0.181184701
5	0.189996551
10	0.198713571
15	0.207336781
20	0.21586719
25	0.224305797
30	0.232653591
35	0.240911548
40	0.249080636
45	0.25716181

A="ALPHA"	0.000258045
B	3.242490702
Minimum Removal	0.960933529
EXP(-B)="BETA"	0.039066471
Residual Variance	0.004643702
Total Variance	0.000490869
Residual/Total	9.460162688
R	-0.136906342
R2**	0.018743346

Removal/Cl Curve

Cl (ppm)	F_{remove}
0	0.181184701
5	0.189996551
10	0.198713571
15	0.207336781
20	0.21586719
25	0.224305797
30	0.232653591
35	0.240911548
40	0.249080636
45	0.25716181
50	0.265156017
55	0.273064193
60	0.280887263
65	0.288626144
70	0.296281741
75	0.30385495

A="ALPHA"	0.000258465
B	3.219406923
Minimum Removal	0.960021238
EXP(-B)="BETA"	0.039978762
Residual Variance	0.004618668

Total Variance	0.00070525
Residual/Total	6.548980301
R	-0.182104685
R2**	0.033162116

80	0.311346659
85	0.318757745
90	0.326089074
95	0.333341506
100	0.34051589
105	0.347613065
110	0.354633862
115	0.361579103
120	0.368449602
125	0.375246162
130	0.38196958
135	0.388620642
140	0.395200128
145	0.401708807
150	0.408147441
155	0.414516785
160	0.420817584
165	0.427050575
170	0.433216489
175	0.439316047
180	0.445349964
185	0.451318945
190	0.45722369
195	0.463064889
200	0.468843228
205	0.474559381
210	0.480214019
215	0.485807804
220	0.491341389
225	0.496815424
230	0.502230549
235	0.507587398
240	0.512886598
245	0.51812877
250	0.523314527
255	0.528444477
260	0.533519219
265	0.538539348
270	0.543505453
275	0.548418113
280	0.553277905
285	0.558085398

290	0.562841153
295	0.567545729
300	0.572199675
305	0.576803536
310	0.581357853
315	0.585863157
320	0.590319976
325	0.594728833
330	0.599090242
335	0.603404716
340	0.607672758
345	0.611894869
350	0.616071542
355	0.620203268
360	0.624290529
365	0.628333804
370	0.632333567
375	0.636290286
380	0.640204423
385	0.644076438
390	0.647906783
395	0.651695907
400	0.655444253
405	0.659152261
410	0.662820365
415	0.666448993
420	0.670038571
425	0.67358952
430	0.677102254
435	0.680577185
440	0.684014719
445	0.68741526
450	0.690779206
455	0.694106949
460	0.697398881
465	0.700655385
470	0.703876844
475	0.707063635
480	0.71021613
485	0.713334699
490	0.716419707
495	0.719471515

500	0.722490481
505	0.725476957
510	0.728431294
515	0.731353836
520	0.734244928
525	0.737104906
530	0.739934106
535	0.742732859
540	0.745501492
545	0.748240331
550	0.750949695
555	0.753629901
560	0.756281264
565	0.758904094
570	0.761498697
575	0.764065378
580	0.766604437
585	0.769116172
590	0.771600876
595	0.774058841
600	0.776490353
605	0.778895699
610	0.781275158
615	0.783629011
620	0.785957532
625	0.788260994
630	0.790539668
635	0.792793818
640	0.795023711
645	0.797229605
650	0.799411761
655	0.801570433
660	0.803705874
665	0.805818334
670	0.80790806
675	0.809975297
680	0.812020287
685	0.81404327
690	0.816044482
695	0.818024157
700	0.819982528
705	0.821919823

710	0.82383627
715	0.825732092
720	0.827607512
725	0.82946275
730	0.831298022
735	0.833113543
740	0.834909526
745	0.836686181
750	0.838443717
755	0.840182338
760	0.841902249
765	0.843603651
770	0.845286742
775	0.846951721
780	0.848598782
785	0.850228117
790	0.851839919
795	0.853434374
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805	0.856571992
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1045	0.914674647
1050	0.915592893
1055	0.916501258
1060	0.917399847
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1075	0.920038007
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1090	0.922591907
1095	0.92342495
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1105	0.925064238
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1115	0.926668433
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1125	0.928238286

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1140	0.930530278
1145	0.93127789
1150	0.932017458
1155	0.932749066
1160	0.933472801
1165	0.934188747
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1185	0.936976309
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1745	0.981241124
1750	0.981443002
1755	0.981642707

1760	0.981840263
1765	0.982035692
1770	0.982229019
1775	0.982420265
1780	0.982609453
1785	0.982796605
1790	0.982981743
1795	0.983164888
1800	0.983346063
1805	0.983525288
1810	0.983702584
1815	0.983877972
1820	0.984051472
1825	0.984223106
1830	0.984392892
1835	0.984560851
1840	0.984727003
1845	0.984891366
1850	0.985053961
1855	0.985214806
1860	0.98537392
1865	0.985531321
1870	0.985687029
1875	0.985841061
1880	0.985993435
1885	0.98614417
1890	0.986293282
1895	0.98644079
1900	0.98658671
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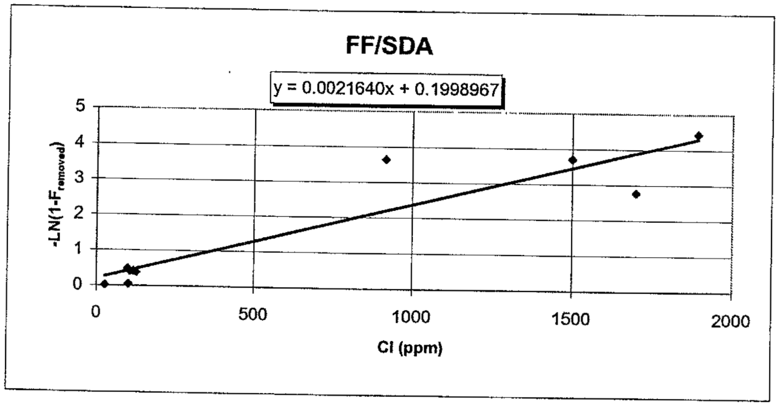
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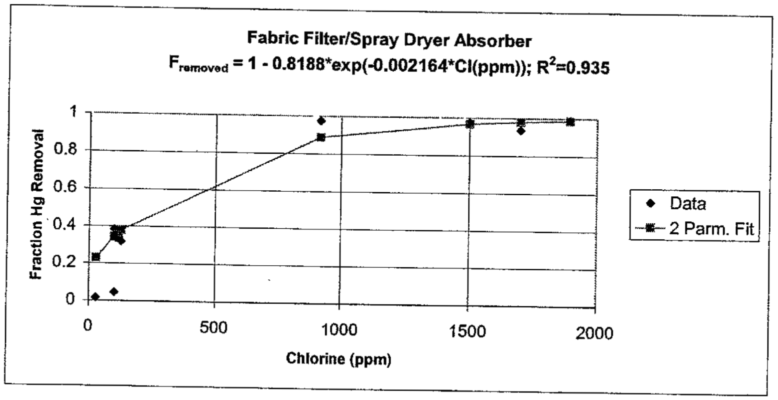
0 500 1000 1500 2000
Cl (ppm)


Fabric Filter/Spray Dryer Absorber
F_removed = 1 - 0.8188*exp(-0.002164*Cl(ppm)); R2=0.935
Fraction Hg Removal
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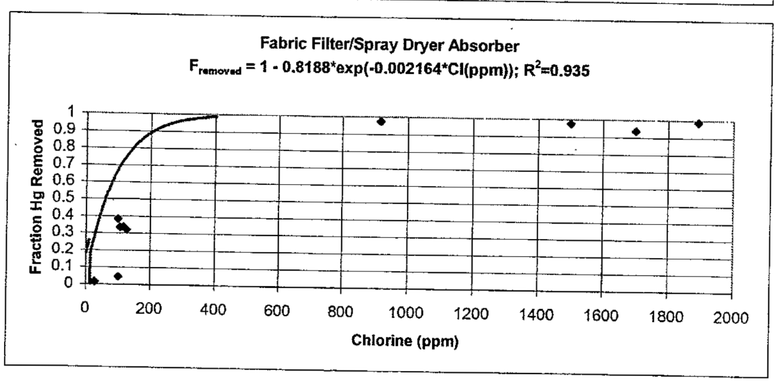
0 500 1000 1500 2000
Chlorine (ppm)
Data
2 Parm. Fit


Fabric Filter/Spray Dryer Absorber
F_removed = 1 - 0.8188*exp(-0.002164*Cl(ppm)); R2=0.935
Fraction Hg Removed
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
0 200 400 600 800 1000 1200 1400 1600 1800 2000
Chlorine (ppm)

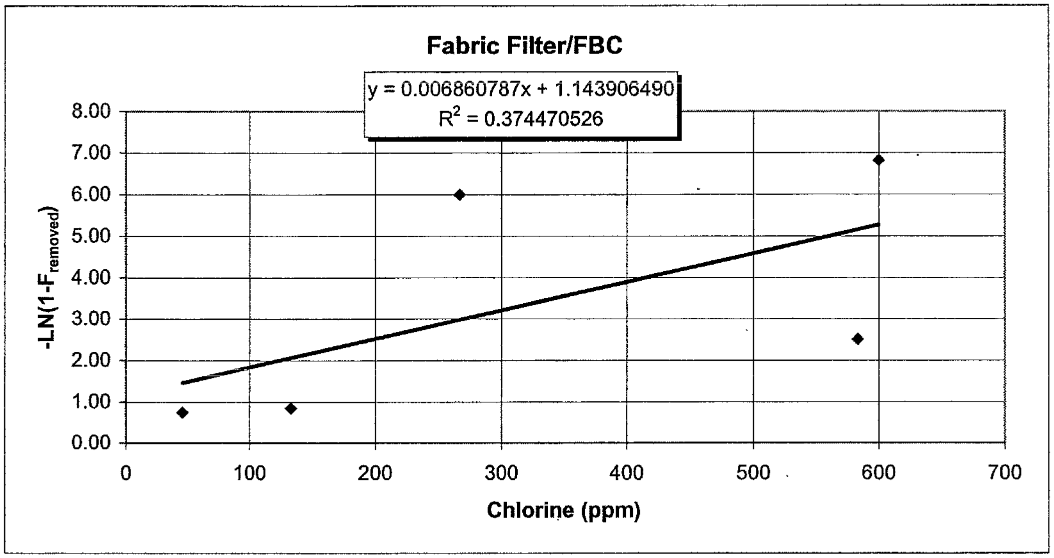
Fabric Filter (Baghouse) with Fluidized Bed Combustion

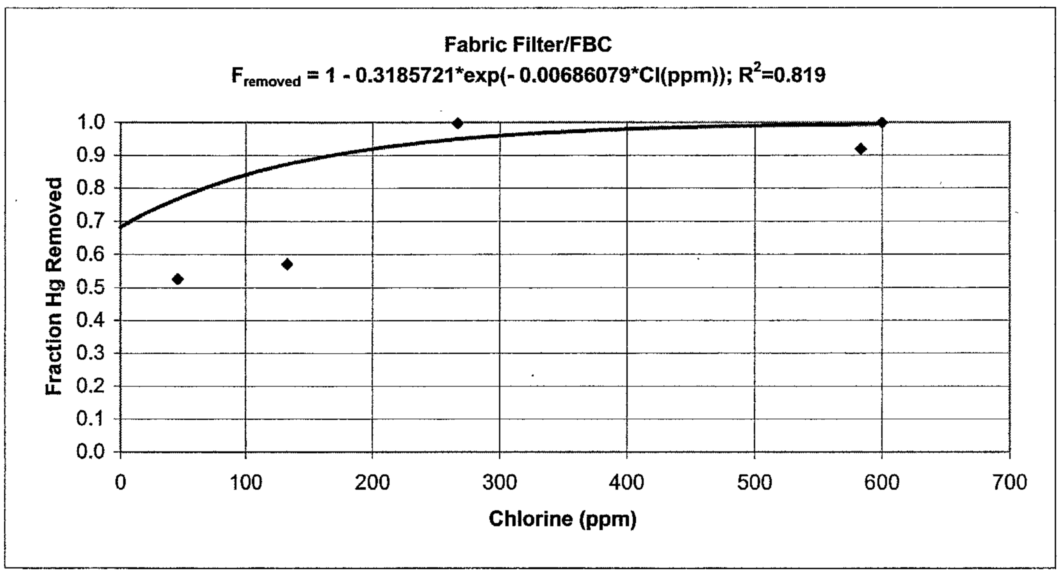
Plant name	Unit name	Tested Coal	Cl in test coal (ppm) ="X_i"	X_i^2	F_{remove} (Control)	-LN(1-F_{remove}) ="Y_i"	X_iY_i	Calculated F_r from 2 Parameter Fit	$(Fr_{mea.}-Fr_{calc.})^2$
AES Hawaii, Inc.	A	Subbituminous	45.66666667	2085.444444	0.5252	0.744861616	34.01534714	0.767116223	0.058523459
TNP-One	U2	Lignite	133.3333333	17777.77778	0.5698	0.843505062	112.4673416	0.872377435	0.091553104
Kline Township Cogen Facility	GEN1	Waste Bituminous	266.6666667	71111.11111	0.9975	5.991464547	1597.723879	0.948873364	0.00236455
Stockton Cogen Company	GEN1	Bituminous/Petroleum Coke	583.3333333	340277.7778	0.9182	2.503478035	1460.362187	0.994177539	0.005772586
Scrubgrass Generating Company L. P.	GEN1	Waste Bituminous	600	360000	0.9989	6.812445099	4087.46706	0.994806662	1.67554E-05

Xbar	325.8
Ybar	3.379150872
$SUMx^2$	791252.1111
SUMxy	7292.035815
N	5
A	0.006860787
B	1.14390649
"ALPHA"	0.006860787
"BETA"	0.318572089
Minimum Removal	0.681427911
Total Variance	0.055256837
Residual Variance	0.052743485
Residual/Total	0.954515091
R	0.905084345
R^2	0.819177671

Removal/Cl Curve

Cl (ppm)	F_{remove}
0	0.681427911
10	0.702551554
20	0.722274546
30	0.74068976
40	0.757883912
50	0.773937967
60	0.788927522
70	0.80292316
80	0.815990786
90	0.828191933
100	0.839584055
110	0.850220797
120	0.860152246
130	0.869425168
140	0.878083228
150	0.886167195
160	0.893715137
170	0.900762595
180	0.907342756
190	0.913486604
200	0.91922307
210	0.924579167
220	0.929580116
230	0.934249466
240	0.938609204
250	0.942679859
260	0.946480601
270	0.950029326
280	0.953342744
290	0.956436459
300	0.959325038
310	0.962022084
320	0.964540295
330	0.966891531
340	0.969086863
350	0.971136629
360	0.97305048
370	0.974837429
380	0.97650589
390	0.97806372
400	0.979518255
410	0.980876343
420	0.98214438
430	0.983328338
440	0.98443379
450	0.985465943
460	0.986429656
470	0.987329469
480	0.988169617
490	0.988954057
500	0.989686483
510	0.990370344
520	0.991008861
530	0.991605038
540	0.992161685
550	0.992681423
560	0.993166697
570	0.993619795
580	0.994042849
590	0.994437851
600	0.994806662


Fabric Filter/FBC
y = 0.006860787x + 1.143906490
R^2 = 0.374470526
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-LN(1-$F_{removed}$)
0
100
200
300
400
500
600
700
Chlorine (ppm)


Fabric Filter/FBC
$F_{removed}$ = 1 - 0.3185721*exp(- 0.00686079*Cl(ppm)); R^2=0.819
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Fraction Hg Removed
0
100
200
300
400
500
600
700
Chlorine (ppm)

Attachment

The attachment to this memo is contained in Docket A-92-55, Entry II-E-119, and is entitled:

> Multivariable Method To Estimate The Mercury Emissions Of The Best-Performing Coal-Fired Utility Units Under The Most Adverse Circumstances Which Can Reasonably Be Expected To Recur. WEST Associates, Tucson, Arizona. March 4, 2003.