



**Department of Energy**

Idaho Operations Office  
West Valley Project Office  
P.O. Box 191  
West Valley, ID 14171  
January 29, 1991

M-32  
PDR/LPDR

Mr. R. Davis Hurt  
U. S. Nuclear Regulatory Commission  
Headquarters  
Washington, D. C. 20555

Subject: NRC Contractor Request for West Valley Demonstration Project  
(WVDP) Vitrification Facility Off-Gas System Data

Dear Mr. Hurt:

An NRC contractor employee, Ms. Henganah Karami, of Science West Research Institute recently contacted the WVDP to obtain the subject information.

In response to this request, we have enclosed for your information, a copy of a West Valley Nuclear Services Company, Inc. memorandum, EN:89:0032, "Impact of Melter Air Sparging on Off-Gas Composition," from D. E. Carl to S. M. Barnes, et. al, dated March 9, 1989. This provides the most recent information on Off-Gas System performance.

We have accommodated Ms. Kerami's request by copy of this letter and enclosure to her.

Please call me on FTS 473-4312 or Steve Ketola of my staff on FTS 473-4314 should you need any additional information.

Sincerely,

*Tom Rowland*

T. J. Rowland, Acting Director  
West Valley Project Office

Enclosure

cc: J. E. Solecki, DOE-ID  
R. W. Devlin, WVNS  
H. Karami, SRI (w/enc)

SWM:003:91 - 0116:91:10

SWM/sl

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11:00 PDR

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West Valley  
Nuclear Services Company  
Incorporated

WD:91:0039

P.O. Box 191  
West Valley, New York 14171-0191

*Stork*

January 15, 1991

Mr. T. J. Rowland, Acting Director  
West Valley Project Office  
U.S. Department of Energy  
MS-DOE  
P.O. Box 191  
West Valley, New York 14171-0191

Dear Mr. Rowland:

SUBJECT: NRC Contractor Request for Off-Gas System Data

An NRC contractor, Henganah Karami, of Southwest Research Institute contacted Fred Damerow of my staff last week. She asked for the latest information from West Valley Vitrification Facility Off-Gas System performance testing. In response to this request, attached are five copies of WVNS memo, EN:89:0032, "Impact of Melter Air Sparging on Off-Gas Composition," from D. E. Carl to S. M. Barnes, et. al, dated March 9, 1989. This provides the most recent information on Off-Gas System performance.

Please transmit copies of this document to Gary Comfort or Davis Hurt of NRC for forwarding to their contractor and placement in the Public Document Room. Also, if possible, a copy should be sent directly to Henganah Karami at the address below.

Henganah Karami  
Center for Nuclear Waste Regulatory Analysis  
Southwest Research Institute  
6220 Culebra  
San Antonio, TX 78228-0510

Very truly yours,

R. W. Devlin, Manager  
Systems Engineering & Support  
West Valley Nuclear Services Co., Inc.

EO:91:0005

FWD:jae

Attachment: A) Memo EN:89:0032, "Impact of Melter Air Sparging on Off-Gas Composition," from D. E. Carl to S. M. Barnes, et. al., dated March 9, 1989

JAE3575

0116:91:10



From           Vitrification Test Engineering  
WIN            EN:89:0032  
Date           March 9, 1989  
Subject        Impact of Melter Air Sparging on Off-Gas Composition

To

S. M. Barnes	C. W. McVay
B. P. Bauer	T. F. Murawski
B. W. Bowan	L. L. Petkus
R. B. Brooks	J. M. Pope*
J. J. Buggy	K. R. Rount
A. Drobot	R. F. Vance
P. S. Klanian	MRC-1400, 1404*
J. H. Marlow	VIP 4H, 4 B04*

\* with Appendix

During SF-10B the Melter feed rate was enhanced by use of an air bubbler in the glass melt to force convection. There was concern at the time that air bubbles rising through the melt might strip semi-volatile elements. This concern was reinforced as the Melter plenum visibly filled with smoke only when the bubbler was on. Following the steady-state portion of the run, the bubbler was turned off briefly to allow off-gas sampling for comparison with samples taken just prior with the bubbler on. It was expected that this information would establish the trade-offs involved for future bubbler use. Unfortunately, the samples with the bubbler off were not valid for this purpose because steady-state was lost.

An alternate, but less sensitive, approach was taken to establish the trade-offs. Melter off-gas samples from SF-10B at steady-state with the bubbler on were compared to steady-state samples from SF-10 with no bubbler. The results were such that there was not enough evidence to claim a statistically significant difference between bubbler on and no bubbler. There may have been a difference by an amount that is important to the Melter but which could not be seen because of sample variance (think of variance as background noise). Had sampling with the bubbler off during SF-10B been successful the lower variance during SF-10B would have permitted the detection of a much smaller difference than was possible comparing to SF-10.

The importance of the potential impact is sufficient to justify the conduct of a test during SF-10C specifically addressing the question. As it is, the data contradicts intuition, probably because of the SF-10 variance (eg, more semi-volatiles were lost to the off-gas system with the bubbler off than on, and there was nothing found that could cause the smoke).

The SF-10C test would consist of sampling at steady-state with no bubbler flow, followed by sampling with bubbler flow. This is the reverse test sequence of what was unsuccessfully attempted during SF-10B.

Although the SF-10B testing for smoke was inconclusive and requires additional testing, an unexpected result of this preliminary data analysis was that Melter DF's observed at WVNS are generally more than an order of magnitude worse than comparable DF's reported by other facilities. The implications of this is not clear but will be evaluated with further sampling and as existing samples undergo final analysis over the next several months.

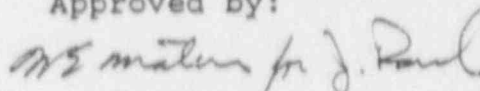
A summary of the off-gas sample data interpretation is provided on the following pages with details in the Appendix.

Prepared by:



D. E. Carl, PhD, PE  
Principal Engineer  
Test Engineering

Approved by:



J. Paul  
Manager  
Test Engineering

Attachment

dec/smoke.doc

## TEST APPROACH

One of the SF10B observations was that smoke visibly filled the Melter plenum at any time when the Melter air sparging (ie, "bubbler") was operational. This was a concern because of the possibility the smoke was an indication that the air bubbles were stripping so-called "semi-volatiles" from the melt as they rose to the surface. Semi-volatile elements are those which evaporate from the glass surface but later condense in the off-gas jumper as very small particles. Depletion of the glass in such non-radioactive elements as Na or B could be accommodated by feed adjustments, but depletion of radioactive elements such as Cs or Tc has implications not so easily addressed. Any depletion means the mass balance of certain elements (perhaps elements key to the process) must be changed accordingly. A test exception was issued to briefly turn off the bubbler so that the difference in off-gas composition with the bubbler on and off could be measured. The approach was to collect off-gas samples as quickly as possible: by taking quick samples the intent was to simplify data interpretation by virtue that the only significant change was the bubbler itself.

Bubbler evaluation was not as straightforward as hoped because of changes in the Melter when the bubbler was off. During the hour the bubbler was off the melt rate was reduced in half due to plenum cool-down. This in itself was not considered a significant change in that expected changes in off-gas composition should have been in relative compositions of various elements (eg, that the volatile elements such as cesium would make up a significantly greater portion of the particulate with the bubbler on). The significant Melter change was that when the bubbler was turned off the cold cap closed over completely, which was not representative of normal operation without the bubbler. Qualitatively, we had previously seen approximately the same surface area of exposed glass melt without the bubbler as seen in SF10B with it on: without the bubbler the exposed glass appeared at the outer edge of the cold cap while with the bubbler on the exposed glass appeared where the air bubbles broke the surface. Since the amount of semi-volatile elements entering the off-gas should have been a strong function of the amount of exposed glass melt the simple test during SF-10B to measure the differences was compromised by the unrepresentative loss of exposed melt. This was confirmed by off-gas concentrations as described below. A better test of the bubbler related to the off-gas composition is planned for SF-10C that will take data first with the bubbler off and then with it on at the same feed rate. This sequence would be expected to result in both the same approximate area of exposed glass and same quasi steady-state for both conditions.

## SAMPLE TRAIN DESCRIPTION

A schematic of the off-gas sampling train is given in Fig. 1. Ideally, particulate is all collected on the filter, with the probe being a conduit from the off-gas pipe to the filter and the impingers serving to condense and measure the total water content of the sample (water content is needed for certain calculations). Knowing the particulate captured on the filter and the dry standard cubic feet sampled (DSCF), the particulate concentration in the off-gas is easily calculated by dividing the mass captured by the volume sampled. In reality, the probe itself collects appreciable particulate that is presumably too large to negotiate the path to the filter. Also, the hose and the impingers usually capture measurable quantities that are presumably too small to be trapped on the filter (note that the filter has a DOP rating greater than HEPA filter media). The total particulate concentration is therefore the sum of the capture from each of the sample train components, divided by the DSCF.

The contributions from each train component were found by analyses of samples sent to A/PC as follows: the entire quantity of material which can be rinsed and brushed from the probe and nozzle; the entire filter; the entire quantity of material which can be rinsed from the hose; and a sample of the impinger liquid.

## APPEARANCE OF SAMPLE FILTERS

The nature of the particulate samples changed for the two conditions. With the bubbler on the samples on the filter had a whitish brown color with a dusty texture. With the bubbler off the filter sample was brown with a glossy texture. The difference in texture suggests that the particulate melting point was lower for the particulate without the bubbler: this would imply relatively more alkali metals in the no-bubbler particulate, which is contrary to expectations. During prior runs without the bubbler, the filter samples did not have the glossy character but instead a dusty brown one. See the Off-Gas Concentration section below for further discussion of this.

Another difference in the samples was the difference in dust loading for the two conditions; "dust" defined as the net mass of particulate collected on the filter. With the bubbler on the dust concentration was 59.5 mg/DSCF while with it off the concentration was 8.3 mg/DSCF.

There was sufficient concern with the validity of conclusions made comparing the SF-10B samples with the bubbler on to those with it off that a third sample population was examined consisting of samples collected during the SF-10 steady-state. Two teflon Gelman filters

and two Cascade Impactors loaded with stainless steel substrate/teflon backup comprised the samples for this third population. These samples were selected to cover a nine-day period of the run to avoid short term effects putting a bias on the data.

#### DISPLAY OF RESULTS

Metals were grouped during data analysis for ease in explaining the results. The groups were selected based on expected similarity of behavior. After reviewing the results, the groupings appear reasonable when the inherent increase in RSD (standard deviation/mean) for measurements of elements appearing in low concentrations is considered. The elements were also individually analyzed as presented in the Appendix. The composition of the groupings was as follows:

Alkali Metals: Li, Na, K, Cs

Alkali Earths: Mg, Ca, Sr, Ba (for SF-10 comparisons only Ca and Mg were used because of the Ba and Sr tracers in SF-10)

Refractory Metals: Al, Si, Zr, La, Ce, Nd

Transition Metals: Ti, Cr, Mn, Fe, Ni, Cu, Zn

Boron and phosphorous were tracked individually because of uncertainty where they belong

#### SAMPLE QUALITY

There was obvious improvement in quality of particulate samples between SF-10 and SF-10B. This was probably due to major improvements in the sampling and the analytical techniques. This quality can be demonstrated by the variance of samples: for SF-10 the RSD was approximately 20% for all elements; for SF-10B the RSD was approximately 10% (with the bubbler on) or 2% (with the bubbler off). It is also possible that part of the variance difference may have been due to SF-10 samples being collected over a nine-day period while the SF-10B samples were taken in a ten-hour period.

The improvement was also displayed by better agreement with results intuitively expected: Figures 2a through 2f show where in the sample trains the elements were found. For most elements of the SF-10 samples, greater than 95% apparently did not make it to the filter but instead dropped out in the probe. A notable exception was Si, which was predominantly found in the impingers. Silica should have appeared as a relatively large particle that was probably found in the probe or certainly captured by the filter.

The very high percentage of refractory metals found in the impingers in SF-10 was probably an error, either of sample contamination or analysis. The low RSD of 8% for Si during SF-10 prevented making this a definite conclusion.

The SF-10B samples followed expectations in that the semi-volatiles, which should be small particles, showed relatively low collection in the probe when compared to the "non-volatiles" (meaning elements which do not evaporate but are carried into the off-gas when bubbles burst, etc.). In addition, when the cold cap totally covered the melt (the "air off" case), the collection shifted to the filter as would be expected when the relatively large particles that are entrained due to bursting bubbles, flash evaporation of slurry, etc. are preferentially eliminated compared to the smaller particles not so strongly influenced by the cold cap. The fraction of total particulate caught in the probe was higher for all samples than expected.

#### OFF-GAS CONCENTRATIONS

The off-gas concentrations are shown in Figures 3a and 3b. These figures illustrate the similar concentrations found for SF-10 and for SF-10B (air on). The figures also illustrate the dis-similarity of these two to SF-10B (air off). The off-gas concentration for the three samples were viewed statistically to gain further insight. The statistical approach was to determine, with a significance level of 0.10, whether the samples came from normal distributions with the same mean. In other words, with this approach there would be a 10% probability of erroneously claiming the means not-equal when they actually were equal.

The samples were statistically analyzed by first performing a logarithmic transformation on all data (groupings of elements were done prior to the transformations). This was done because the factors which cause off-gas (eg, temperature, splatter rate) tend to have a "normal" distribution, which in turn causes a skewed distribution in the off-gas (eg, normal temperature fluctuations cause exponential fluctuations in chemical reaction rates). The three samples were then considered to be uncorrelated, with all variances unknown, but with variances assumed to be equal. Because the variance was not known, the test had to rely on a test statistic which is distributed as Student's t. All three samples were intercompared in turn.

Comparison of SF-10B (Air On) to SF-10: There was insufficient difference between these two samples to claim a difference for any metal. It is noteworthy that this does not mean the tests have the same means. For example, the mean Cs concentration for SF-10B (air on) was approximately four times that of SF-10. The variances were such that the



90% confidence limits for SF-10B (air on) were 178 - 915 ug/DSCF while they were 13 - 926 ug/DSCF for SF-10. Table 1 displays the confidence limits for the other elements. The meaning of 90% confidence limits is that the true mean will lie between the lower and upper limits for 90% of similar distributions.

Comparison of SF-10B (Air On) to SF-10B (Air Off): There was sufficient difference between these two samples to claim a difference for all metals except La and Nd. Those two elements probably were also different but the variance associated with the low mass collected prevented this statistical conclusion. All groupings of elements were significantly different for the two samples.

Comparison of SF-10B (Air Off) to SF-10: There was insufficient difference between these two samples to claim a difference for any metal in the alkali metal group. As a group, the transition metals were not different between the two samples (Ti was the only transition metal displaying a significant difference). As a group the refractory metals were different because of the Si even though Si was the only refractory metal displaying a significant difference. The alkali earth groups for the two samples were significantly different because of the Ca whether or not the Ba and Sr tracers were considered: Ba and Mg were insufficiently different to claim a difference but the Ca and the Sr were.

Summary of Comparisons of Off-Gas Concentrations: The observation that every metal was different in the two SF-10B samples ("air on" vs "air off") was consistent with the expectation that it is not valid to compare the two data sets. This would not have been the case if the principle effect of the bubbler was either stripping of semi-volatile elements or the generation of glass spray as the bubbles burst. The difference between the two was obviously due primarily to steady-state vs unsteady-state conditions. The result that the mass fraction of 'alkali metal + boron' in the samples increased from 47% to 65% after the bubbler was turned off was opposite expectations. A possible explanation is that the total cold cap coverage with the air off preferentially interfered with the evolution of other elements. That SF-10 had a corresponding 61% mass fraction is possibly coincidence rather than confirmation that the bubbler minimizes loss of semi-volatiles.

The increase in mass fraction of 'alkali metal + boron' on just the filter from 63% to 75% after the bubbler was turned off in SF-10B was consistent with the visual observation of apparent melting point of the filter mass. It is likely that this increase was coincidental, and that the real reason for the change in visual appearance related to a reduction in size of the particulate. This latter explanation would be consistent with the observation that

the SF-10 filter had a 74% mass fraction of 'alkali metal + boron' without the appearance of a low melting point filter mass.

The data interpretation was unable to claim a difference in steady-states for SF-10 and for SF-10B (air on) as hoped. For the same reason, no explanation for the smoke could be claimed. A primary reason for this was the RSD for the SF-10 data. The RSD for SF-10 would not have been considered high for conventional particulate sampling. This permits the conclusion that any difference due to the bubbler is probably a second order effect by ordinary standards. To improve on the interpretation will require a specific test which should be successful based on the significant improvement in RSD found in SF-10B.

#### OFF-GAS TREATMENT SYSTEM DF's

SFCM DF values were computed using feed compositions and the steady state feed rates at the time of the samples. The feed rate assumed for SF-10B (air off) was the same as SF-10B (air on) because of the difficulty establishing any better value. The values for the three samples is shown on Figures 4a and 4b. The agreement in concentrations between SF-10 values and SF-10B (air on) was only improved for the DF values. This was because the steady-state feed rate for SF-10B was approximately 60% greater than for SF-10. Based on the DF values, the bubbler actually reduced the loss of the semi-volatiles boron and alkali metals.

The DF values for the off-gas components, SFCM, SBS and HEME are displayed in Figures 5a and 5b for the SF-10B (air on) sample. This sample was used because it was demonstrably at steady-state and SF-10B represented the better data quality. The results appear reasonable in that the semi-volatile groups of alkali metals and transition metals, which probably occur as very small particles, had their greater removal rates in the HEME rather than the SBS. Conversely, the refractory metals, which probably occur in large particles due to the mechanisms which put them in the off-gas, were mostly removed in the SBS.

The system DF values for all metals of all three samples is given in Table 2. This table will require further work to understand certain specifics. For example, DF-SBS for Cs for SF-10B for the air on and air off samples is unclear: the Cs concentration out of the SBS was the same with the air on or off. This could mean that that concentration was due entirely to re-entrainment of SBS Bed liquids. This stable concentration could also have been due to small particles leaving the Melter that had no removal in the SBS (this would mean there was an unchanged concentration of these small particles whether the air was on or off).

A question that cannot yet be answered is why the WVNS results show worse Melter DF's by more than an order of magnitude than those reported by other facilities for elements (see Table 3). One possibility, that must await additional testing and data interpretation, is that the bubbler was totally responsible for this and that agreement with SF-10 data was coincidental: that is, the true values without the bubbler are approximately those reported by other facilities. Although the Melter DF's were worse, the metals were caught in the off-gas system. The overall release rate for SF-10B was virtually the same as for PNL's PSCM in that the overall DF's were generally within a factor of 100 of each other.

#### ATTACHMENTS:

- Figure 1 Off-Gas Particulate Train Schematic
- Figure 2 Train Collection Partition: Alkali Metals, Boron, Alkali Earths, Refractory Metals, Transition Metals, Phosphorous
- Figure 3 Off-Gas Concentration
- Figure 4 DF-SFCM (Preliminary)
- Figure 5 Off-Gas Treatment System DF's. Preliminary Train Values
- Table 1 Off-Gas Concentration Confidence Limits. SF-10 and SF-10B
- Table 2 Off-Gas Treatment System DF's. Preliminary Train Values
- Table 3 Off-Gas Treatment System DF's. Comparison with Other Facilities

#### APPENDIX

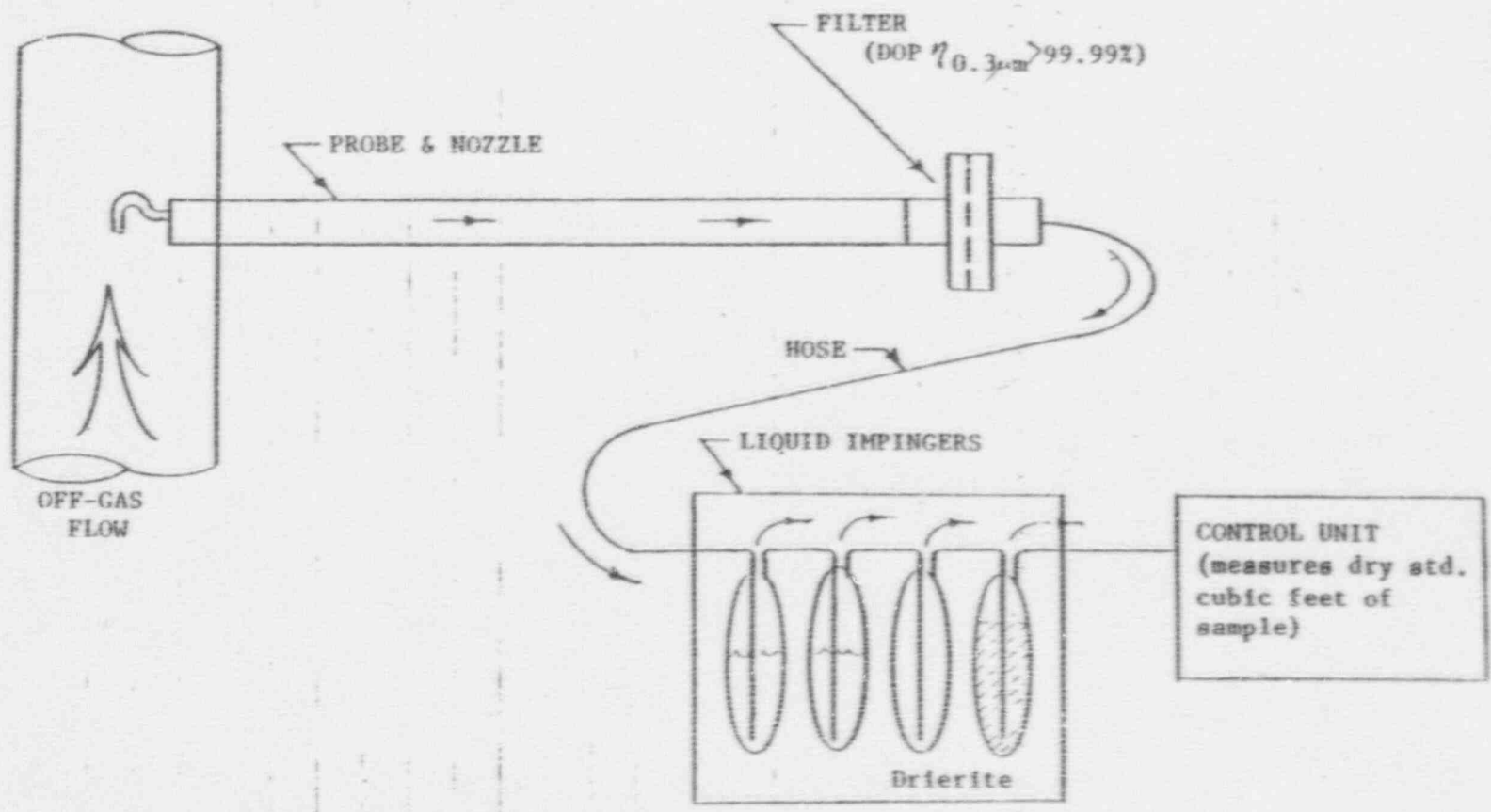
- 1 SFCM Outlet. SF-10B
- 2 SBS Outlet. SF-10B
- 3 HEME Outlet. SF-10B
- 4 SFCM Outlet. SF-10
- 5 Population I Probe (log). SF-10
- 6 Population II Probe (log). SF-10B (Air On)
- 7 Population III Probe (log). SF-10B (Air Off)
- 8 Population I Filter (log). SF-10
- 9 Population II Filter (log). SF-10B (Air On)
- 10 Population III Filter (log). SF-10B (Air Off)
- 11 Population I Probe + Filter (log). SF-10
- 12 Population II Probe + Filter (log). SF-10B (Air On)
- 13 Population III Probe + Filter (log). SF-10B (Air Off)
- 14 Population II Hose (log). SF-10B (Air On)
- 15 Population III Hose (log). SF-10B (Air Off)
- 16 Population I Impingers (log). SF-10
- 17 Population II Impingers (log). SF-10B (Air On)
- 18 Population III Impingers (log). SF-10B (Air Off)
- 19 Population II Hose + Impingers (log). SF-10B (Air On)
- 20 Population III Hose + I pingers (log). SF-10B (Air Off)

21 Population I Train (log). SF-10  
22 Population II Train (log). SF-10B (Air On)  
23 Population III Train (log). SF-10B (Air Off)  
24 DF-SFCM. Train Values  
25 Population I Train (Normalized Data Of Means). SF-10  
26 Population II Train (Normalized Data Of Means). SF-10B  
(Air On)  
27 Population III Train (Normalized Data Of Means).  
SF-10B (Air Off)  
28 SFCM Off-Gas. Normalized Data (Sample Breakdown).  
SF-10B  
29 SFCM Off-Gas. Normalized Data (Sample Breakdown).  
SF-10B  
30 SFCM Outlet. SF-10B  
31 SBS Outlet. SF-10B



West Valley Nuclear Services Co. Inc.  
West Valley, New York

FIGURE 1



OFF-GAS SAMPLE PARTICULATE TRAIN

SUBJECT

NUMBER

PAGE

OF

PREPARED BY  
CHECKED BY

DATE  
DATE

TRAIN COLLECTION PARTITION.  
ALKALI METALS

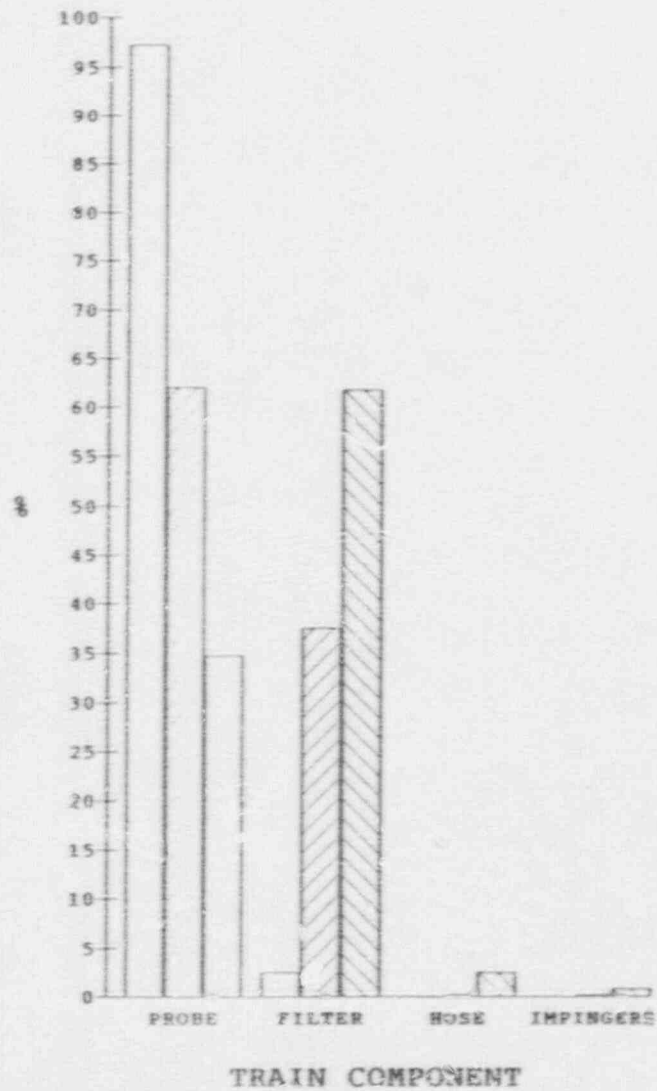


FIGURE 2a

TRAIN COLLECTION PARTITION.  
BORON

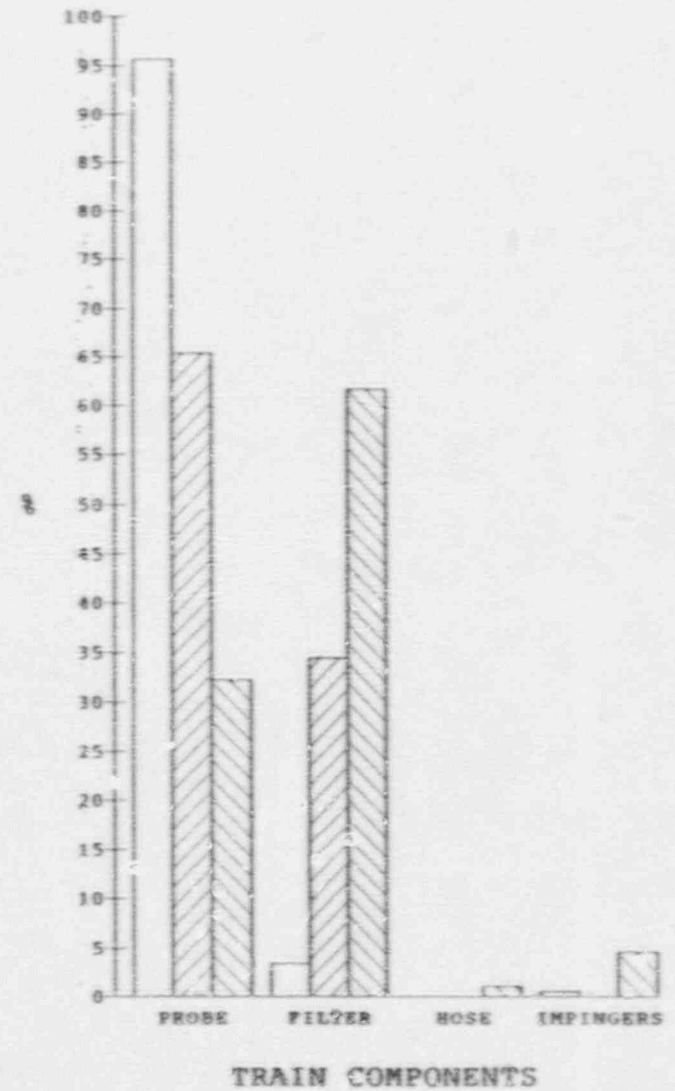


FIGURE 2b

TRAIN COLLECTION PARTITION.  
ALKALI EARTHS

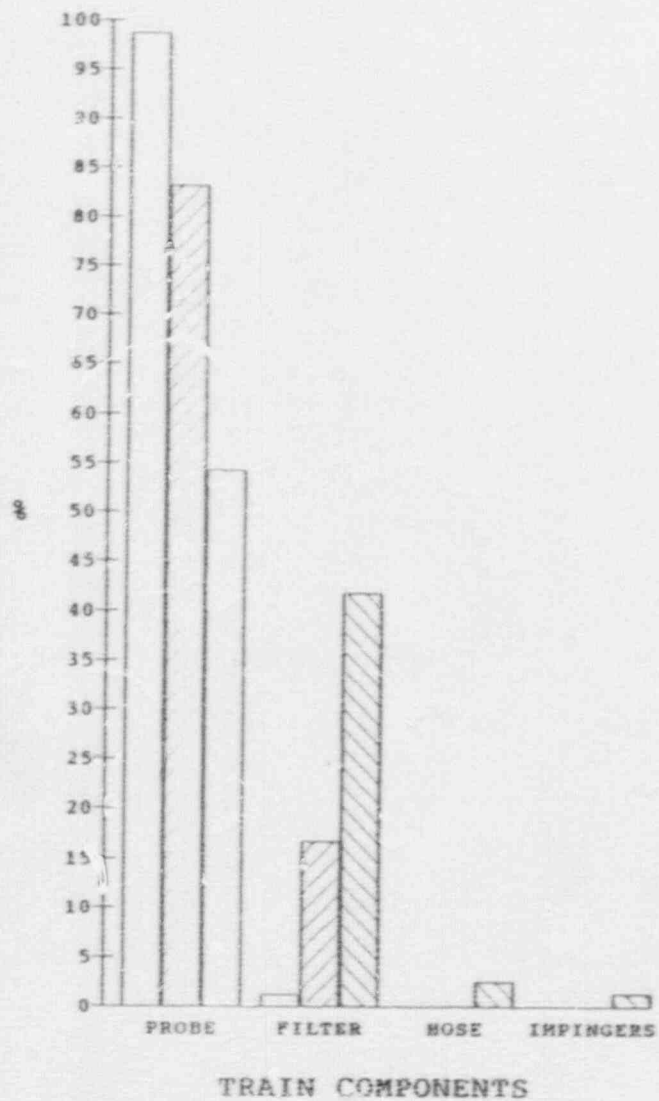


FIGURE 2c

TRAIN COLLECTION PARTITION.  
REFRACTORY METALS

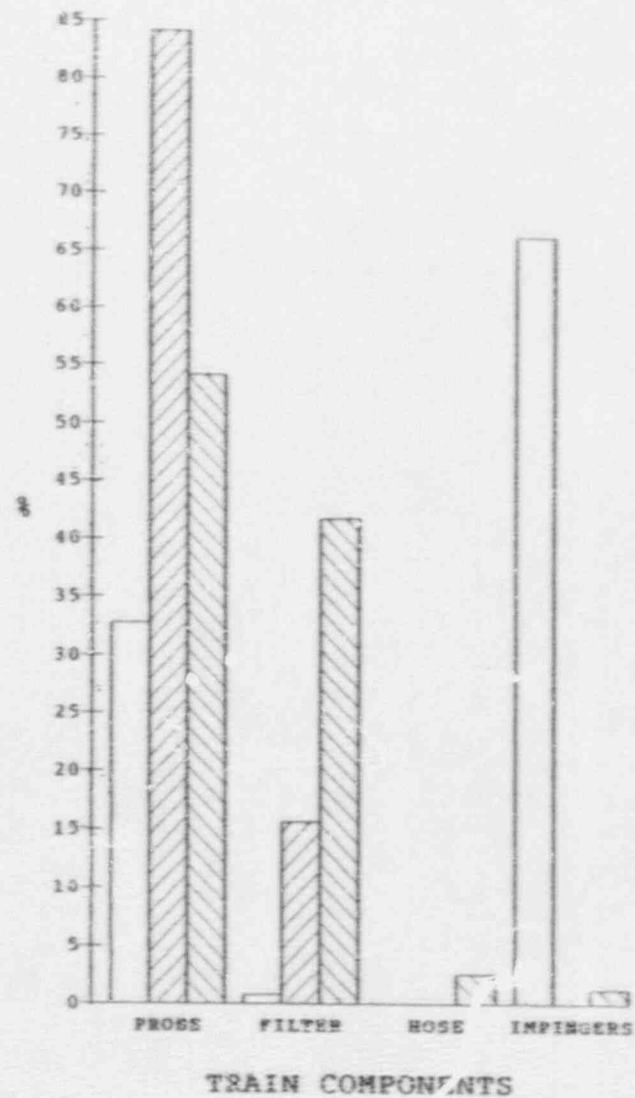
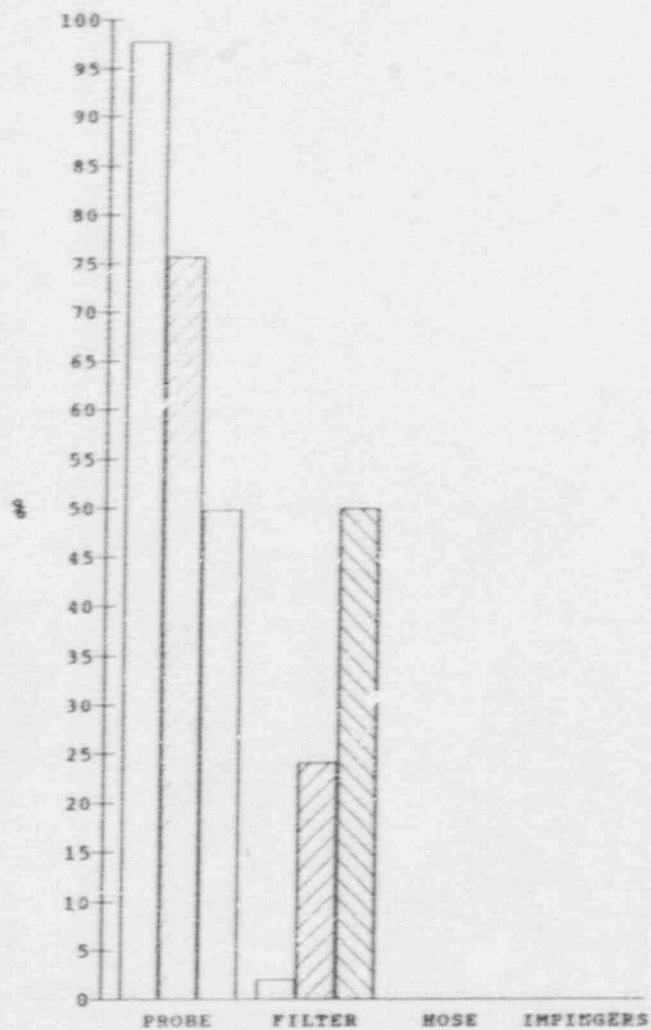


FIGURE 2d

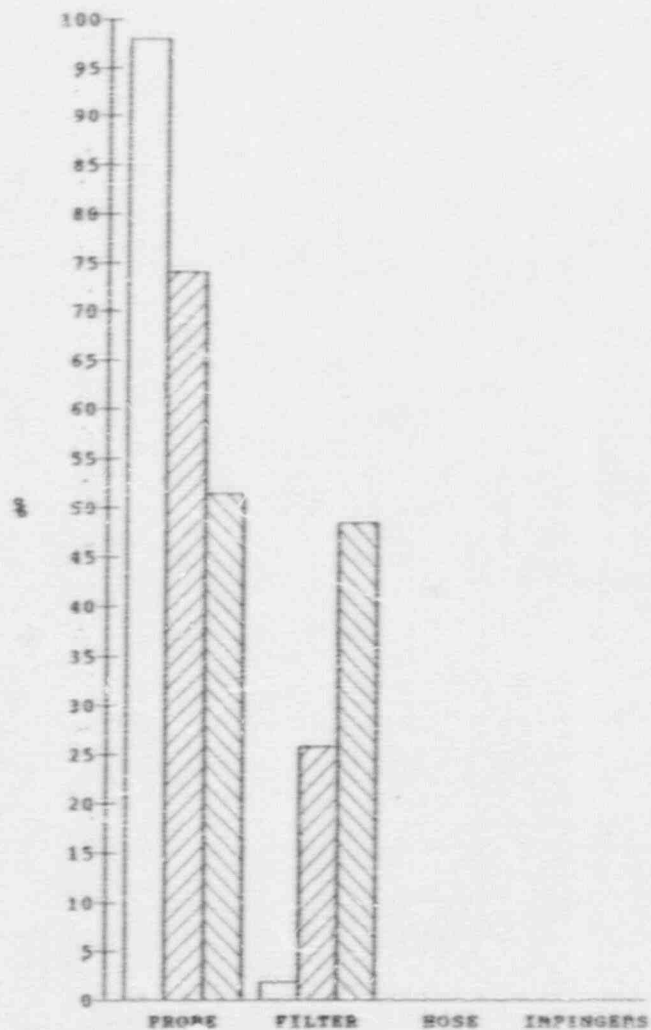
TRAIN COLLECTION PARTITION.  
TRANSITION METALS



TRAIN COMPONENTS

FIGURE 2e

TRAIN COLLECTION PARTITION.  
PHOSPHOROUS

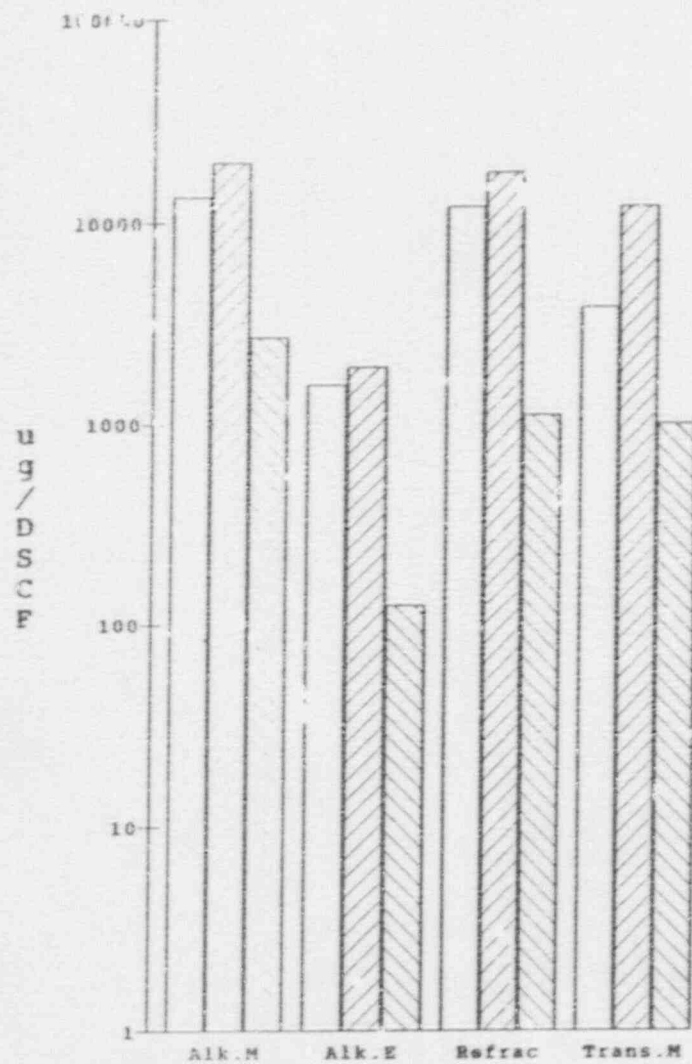


TRAIN COMPONENTS

FIGURE 2f



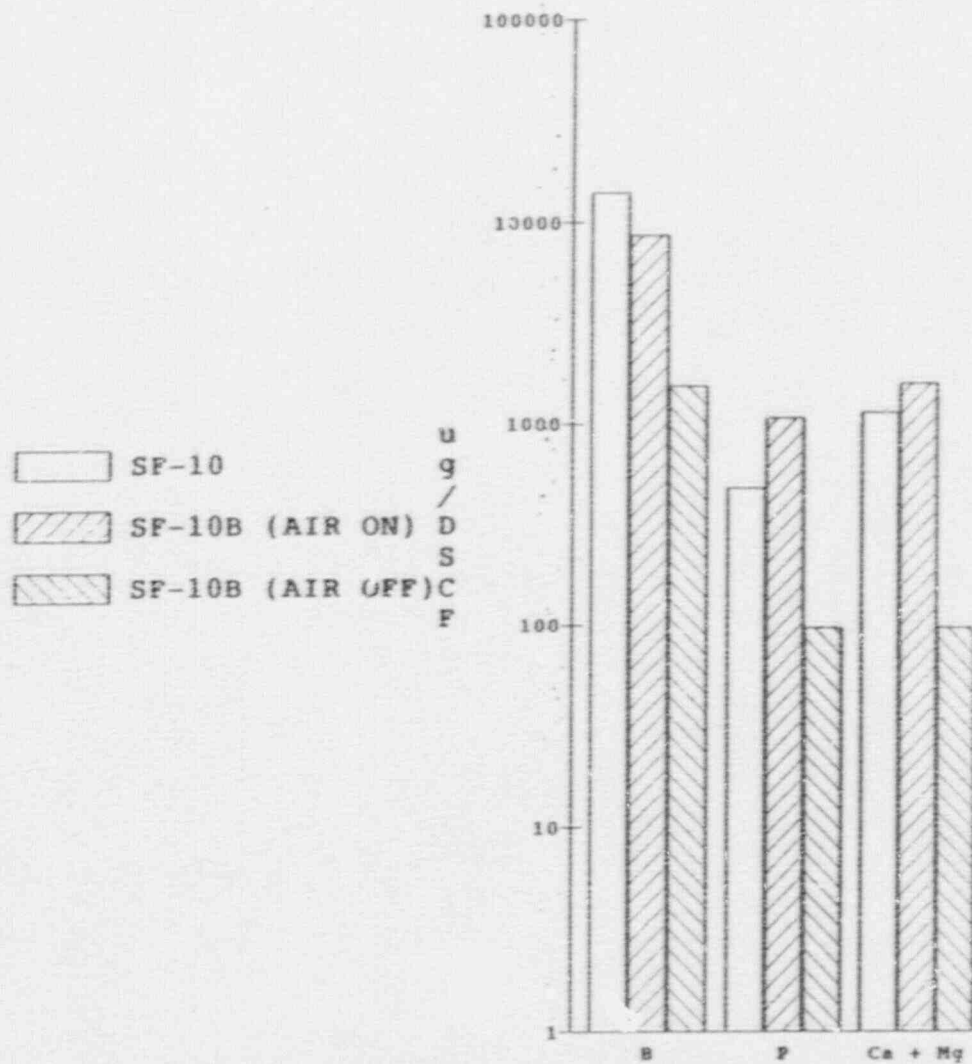
OFF-GAS CONCENTRATION



ANALYSIS

FIGURE 3a

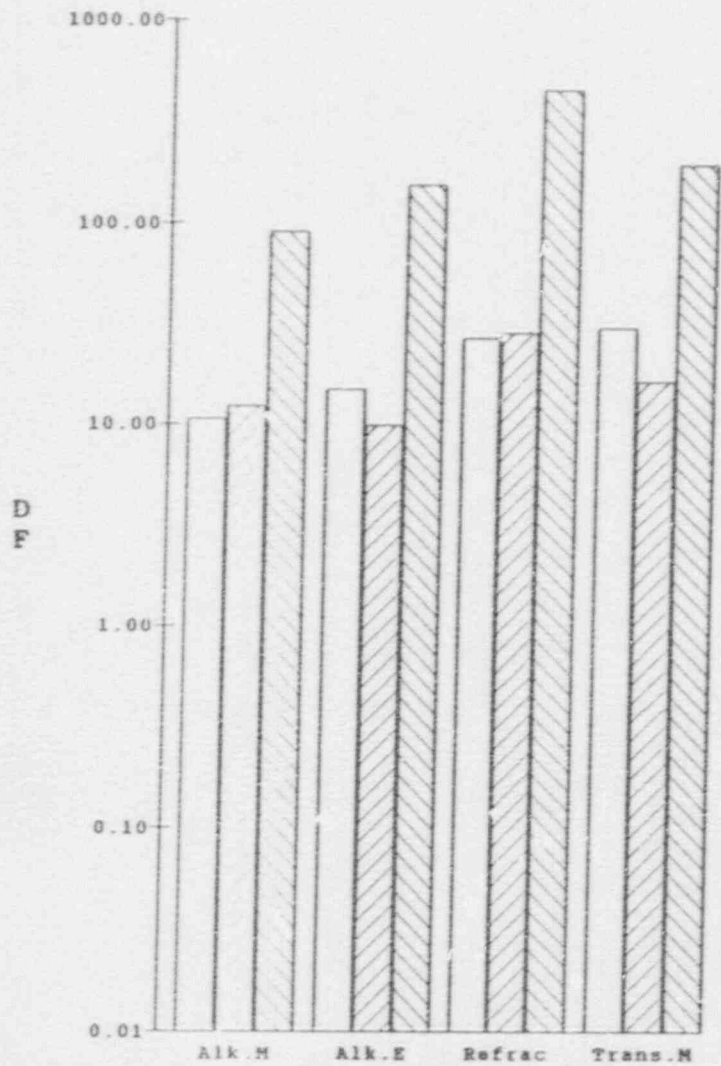
OFF-GAS CONCENTRATION



ANALYSIS

FIGURE 3b

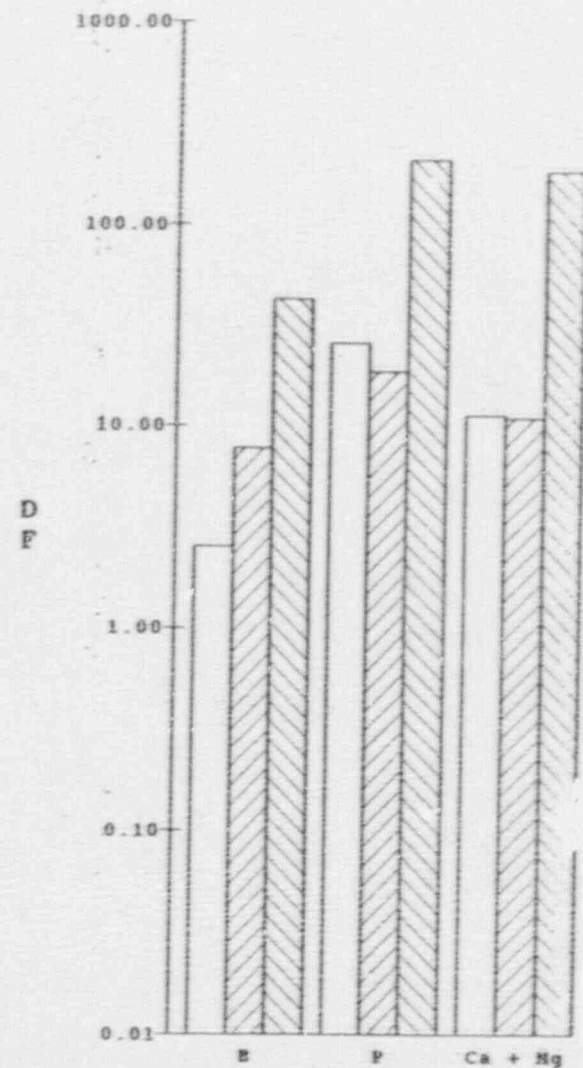
DF-SFCM (PRELIMINARY)



ANALYSIS

FIGURE 4a

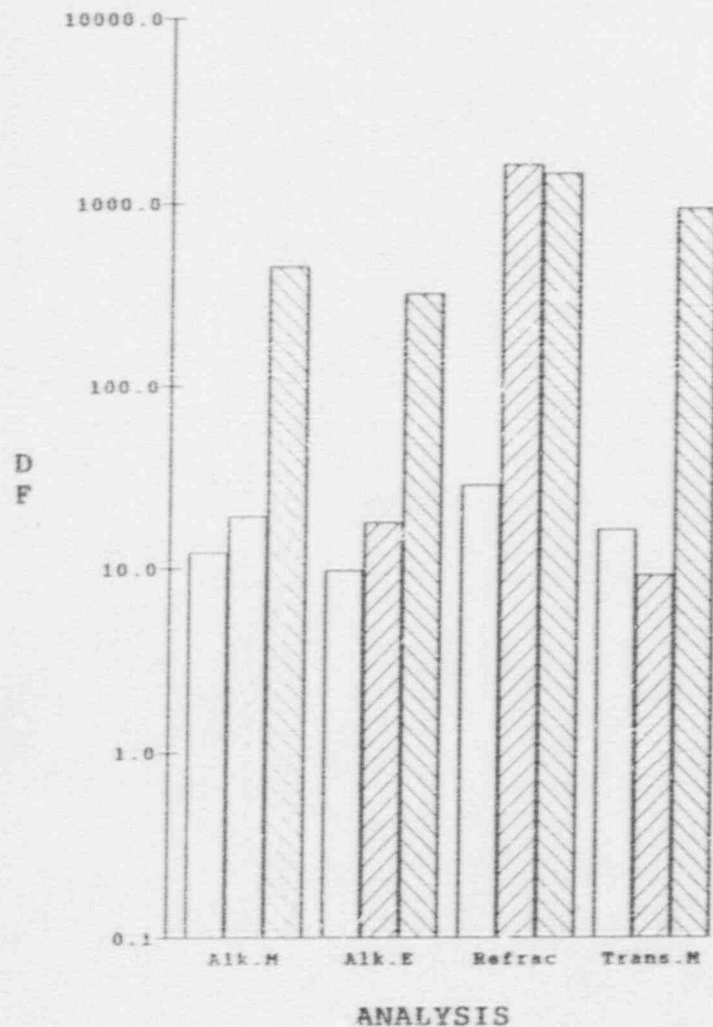
DF-SFCM (PRELIMINARY)



ANALYSIS

FIGURE 4b

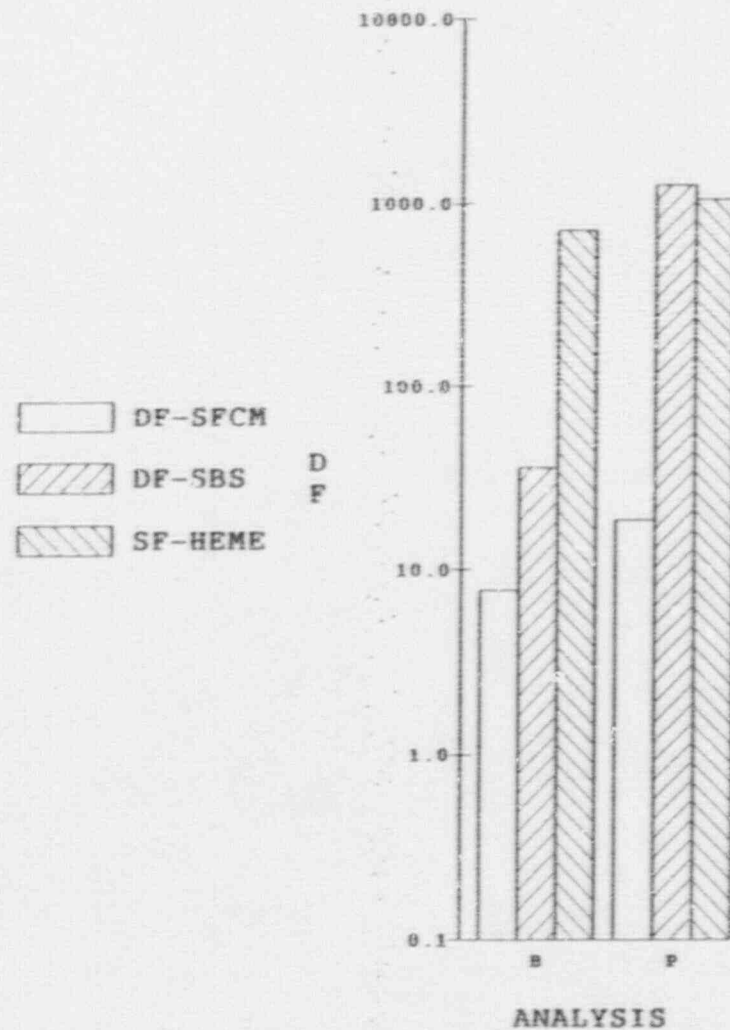
OFF-GAS TREATMENT SYSTEM DF's  
PRELIMINARY TRAIN VALUES



SF-10B (BUBBLER ON AT 1 SCFM)

FIGURE 5a

OFF-GAS TREATMENT SYSTEM DF's  
PRELIMINARY TRAIN VALUES



SF-10B (BUBBLER ON AT 1 SCFM)

FIGURE 5b

OFF-GAS CONCENTRATION CONFIDENCE LIMITS  
SF-10 AND SF-10B

ANALYSIS	SF-10 MINIMUM	SF-10 MEAN	SF-10 MAXIMUM	SF-10B MINIMUM	SF-10B MEAN	SF-10B MAXIMUM
Al	70	992.937405	14154.315949	724.801311	2862.501008	14229.361980
B	5043	14061.149258	39206.368432	3071.333587	8679.125847	24525.901639
Ba	12	150.413985	1947.598116	77.766658	292.242339	1098.980539
Ca	138	477.974663	1649.810443	520.749521	923.582793	1638.033527
Ce	0	1.134827	1108.685516	22.711505	170.499697	1279.974462
Cr	6	52.428141	432.341321	68.708850	282.420353	1160.858547
Cs	13	108.474638	926.253379	178.176843	403.962946	915.865718
Cu				34.967525	108.505308	336.695314
Fe	291	3170.072525	34520.361200	2818.745887	10020.663763	35623.538374
K	533	3620.046279	24569.747205	1878.670995	4959.725986	13093.767840
La	0	0.079061	68.675744	0.492930	6.075547	74.883408
Li	117	1136.124651	11050.122520	652.159103	1873.497221	5382.109704
Mg	68	566.831023	4758.124397	170.279914	616.953217	2235.326898
Mn	18	245.112718	3303.122405	163.170120	646.212774	2559.236639
Mo				21.538123	34.880792	56.489122
Na	987	8597.794968	74915.521188	4973.554726	12733.846973	32602.608729
Nd				3.566386	31.063383	270.563441
Ni	5	100.452751	1947.431209	136.337237	452.700260	1533.166198
P	35	483.762138	6633.206878	328.362664	1082.000542	3565.341919
Si	3580	9738.839972	26494.454035	3946.197564	13172.824127	43972.277783
Sr	30	227.774113	1708.799403	11.338411	38.676986	131.932879
Ti	25	121.274033	589.723876	23.425573	98.360714	413.002926
Zn	21	65.242267	198.038427	96.300563	351.433407	1282.499663
Zr	44	316.495437	2260.340409	476.367834	1530.002448	4914.075481
Alk.M	1584	13603.905694	109907.366562	7692.786771	19989.566135	51942.523064
Alk.E	285	1573.281297	8676.142635	758.876524	1950.624085	5013.904374
Refrac	3585	11993.708100	40129.369663	5149.106914	17860.518185	61952.123967
Trans.M	370	3841.967381	39867.467640	3371.704121	12031.509275	42932.953263
Ca+Mg	235	1145.453046	5588.614897	676.290973	1602.576873	3797.555694

90% CONFIDENCE LIMITS

TABLE 1

OFF-GAS TREATMENT SYSTEM DF's  
PRELIMINARY TRAIN VALUES

ANALYSIS	DF-SFCM SF-10	DF-SFCM SF-10B (AIR ON)	DF-SBS AIR ON	DF-HEME AIR ON	DF-SFCM SF-10B (AIR OFF)	DF-SBS AIR OFF	DF-HEME AIR OFF
Al	43	23	1556	1840	349	184964	1
B	3	8	36	719	43	22	213
Ba	36	4	719	200	48	49	257
Ca	8	8	11	292	139	3	48
Ce	1182	69	48753	3	1747	6703	1
Cr	21	7	3	789	139	5	24
Cs	8	5	159	30	47	10	46
Cu		9	4	849	64	7	64
Fe	10	17	13	798	201	19	46
K	9	11	12	369	74	9	71
La	5212	110	1247	5	721	16	59
Li	14	15	48	746	154	23	151
Mg	16	17	39	484	230	32	44
Mn	39	23	21	709	324	106	10
Mo		19	21	112	69	9	69
Na	11	13	24	527	92	13	137
Nd		92	7547	2	702	647	3
Ni	23	8	3	1109	70	6	73
P	26	19	1254	1045	206	61	1954
Si	27	30	2189	6017	195	799550	1
Sr	23	13	606	64	179	183	15
Ti	56	95	1204	2	2478	3783	2e-02
Zn		9e-01	4	1210	13	13	26
Zr	57	22	61633	25	284	4109	29
Alk.M	11	12	19	451	90	12	102
Alk.E	15	10	18	325	154	8	49
Refrac	27	28	1637	1459	456	3707	40
Trans.M	30	16	9	927	196	16	45
Ca+Mg	11	11			182		

LOG NORMAL MEAN VALUES

TABLE 2

OFF-GAS TREATMENT SYSTEM DF's  
COMPARISON WITH OTHER FACILITIES

ANALYSIS	DF-SFCM SF-10	DF-SFCM SF-10B	DF-PSCM PNL	SF-RLFCM PNL	DF-LFCM DWPf	DF-SBS SF-10B	DF-SBS PNL	DF-QUENCH/SAS DWPf	DF-HEME SF-10B	DF-HEME PNL	DF-HEME DWPf
Al	43	23				1556			1840		
B	3	8				36			719		
Ba	36	4	210			719	150		200	6	
Ca	8	8				11			292		
Ce	1182	69	550			48753	780		3	1	
Cr	21	7	100			3	39		789	190	
Cs	8	5	43	11	10	159	6		30	29	
Cu		9				4			849		
Fe	30	17	500		150	13	1700		798	10	
K	9	11				12			369		
La	5212	110	620			1247	1200		5	41	
Li	14	15				48			746		
Mg	16	17				39			484		
Mn	39	23	720			21	290		709	10	
Mo		19				21			112		
Na	11	13				24			527		
Nd		92	550			7547	1200		2	8	
Ni	23	8	6200			3	540		1109	4	
P	26	19	1000			1254	340		1045	16	
Si	27	30	610		100	2189	12000		6017	4	
Sr	23	13	420	33	90	606	1200		64	25	
Ti	56	95	760			1204	410		2	3	
Zn		1				4			1210		
Zr	57	22	2400			61633	190		25	5	
Alk.M	11	12				19			451		
Alk.Z	15	10				18			325		
Refrac	27	28				1637			1459		
Trans.M	30	16				9			927		
Ca+Mg	11	11									
NON-VOLATILES					100-400			600			100

TABLE 3

APPENDIX

1	SFCM Outlet.	SF-10B
2	SBS Outlet.	SF-10B
3	HEME Outlet.	SF-10B
4	SFCM Outlet.	SF-10
5	Population I Probe (log).	SF-10
6	Population II Probe (log).	SF-10B (Air On)
7	Population III Probe (log).	SF-10B (Air Off)
8	Population I Filter (log).	SF-10
9	Population II Filter (log).	SF-10B (Air On)
10	Population III Filter (log).	SF-10B (Air Off)
11	Population I Probe + Filter (log).	SF-10
12	Population II Probe + Filter (log).	SF-10B (Air On)
13	Population III Probe + Filter (log).	SF-10B (Air Off)
14	Population II Hose (log).	SF-10B (Air On)
15	Population III Hose (log).	SF-10B (Air Off)
16	Population I Impingers (log).	SF-10
17	Population II Impingers (log).	SF-10B (Air On)
18	Population III Impingers (log).	SF-10B (Air Off)
19	Population II Hose + Impingers (log).	SF-10B (Air On)
20	Population III Hose + Impingers (log).	SF-10B (Air Off)
21	Population I Train (log).	SF-10
22	Population II Train (log).	SF-10B (Air On)
23	Population III Train (log).	SF-10B (Air Off)
24	DF-SFCM. Train Values	
25	Population I Train (Normalized Data Of Means).	SF-10
26	Population II Train (Normalized Data Of Means).	SF-10B (Air On)
27	Population III Train (Normalized Data Of Means).	SF-10B (Air Off)
28	SFCM Off-Gas. Normalized Data (Sample Breakdown).	SF-10
29	SFCM Off-Gas. Normalized Data (Sample Breakdown).	SF-10B
30	SFCM Outlet.	SF-10B
31	SBS Outlet.	SF-10B

SFCM OUTLET SP-10B

0	Analyses	1 SET 33 ->	2 PROBE (ppm)	3 PROBE (ug)	4 TE-816 (ug)	5 HO (ppm)	6 HOSE (ug)	7 IMP 1 (ppm)	8 IMP 2 (ppm)	9 IMP (ug)	10 SET 33 (tot. ug)	11
1	pH		7	822.500000	7	7.44	148.8	7.82	3.3	2192.548000	3170.848000	
2	Cl		10.8	1269.000000	0	2.6	52.0	0	0	0.000000	1321.000000	
3	NO2		24	2820.000000	0	52.5	1050.0	15	0	2946.000000	6816.000000	
4	NO3		44.5	5228.750000	0	0	0.0	14	34	9515.600000	14744.350000	
5	SO4		31.8	3736.500000	0	0	0.0	0	0	0.000000	3736.500000	
6	TOC		0	0.000000	0	19.68	393.6	0	15000	2985000.000000	2985393.600000	
7	Nd2O3		1.31451	154.455526	3.216102	0	0.0	0	0	0.000000	157.671629	
8	CeO2		4.45044	522.927163	5.006879	0	0.0	0	0	0.000000	527.934042	
9	Al2O3		35.4480	4165.145391	300.3809	0	0.0	0	0	0.000000	4465.526309	
10	SiO3		68.2071	8014.342406	1809.256	0	0.0	0	0	0.000000	9823.598745	
11	BaO		3.4579	406.303250	45.98	0	0.0	0	0	0.000000	452.283250	
12	CaO		4.74962	558.081041	62.05451	0	0.0	0	0.04072	8.104451	628.240009	
13	Cr2O3		2.28521	268.512911	22.84432	0	0.0	0	0	0.000000	291.357236	
14	CuO		0.8988	105.609000	15.684	0	0.0	0	0	0.000000	121.293000	
15	Fe2O3		95.8082	11257.475077	1363.016	0	0.0	4	0	0.000000	12620.491674	
16	Li2O		15.2166	1787.960176	278.6553	0	0.0	0	0	0.000000	2066.615541	
17	MgO		6.94409	815.931688	73.52198	0	0.0	0	0	0.000000	889.453678	
18	MnO		7.77135	913.133684	70.74701	0	0.0	0	0	0.000000	983.880694	
19	Na2O		85.5669	10054.121118	2442.073	0	0.0	0	0	0.000000	12496.195094	
20	NiO		3.06896	360.602807	143.2412	0	0.0	0	0	0.000000	503.844008	
21	P2O5		10.3128	1211.758911	165.9656	0	0.0	0	0	0.000000	1377.724594	
22	PbO		0	0.000000	0	0	0.0	0	0	0.000000	0.000000	
23	SO3		238.19	27987.325000	683.18	0	0.0	0	0	0.000000	28670.505000	
24	SiO2		121.375	14261.660232	1558.151	0	0.0	0	0	0.000000	15819.811896	
25	SiO		0.4089	48.045750	4.792	0	0.0	0	0	0.000000	52.837750	
26	ZnO		3.65371	429.311185	39.65424	0	0.0	0	0	0.000000	468.965429	
27	ZrO2		13.6099	1599.170162	216.8999	0	0.0	0	0	0.000000	1816.070079	
28	La2O3		0.32865	38.617344	0.687365	0	0.0	0.01957	0.01704	7.237571	46.542280	
29	Ti		1.35015	158.642732	10.18301	0	0.0	0	0	0.000000	168.825750	
30	K2O		29.6	3478.000000	1380	0	0.0	0.16	0.17	65.254000	4923.254000	
31	Cs2O		2.086	245.105000	90.6	0	0.0	0	0	0.000000	335.705000	
32	MO		0	0.000000	20.338	0	0.0	0	0	0.000000	20.338000	

I-1-V



SFCM OUTLET. SP-10B

0 Analyses	12 SET 33 (ug/DSCF)	13 SET 34 ->	14 PROBE (ppm)	15 PROBE (ug)	16 TE-819	17 ROSE (ppm)	18 ROSE (ug)	19 IMP 1	20 IMP 2	21 IMP (ug)
1 pH	9637.835866		7	112.000000	0.000000	6.75	16.875000	2.33	2.25	195.278000
2 Cl	4015.197568		12.5	200.000000	0.000000	7.01	17.525000	0	0	0.000000
3 NO2	20717.325228		13.5	216.000000	0.000000	0	0.000000	42	0	1642.200000
4 NO3	44815.653495		34.9	558.400000	0.000000	24.84	62.100000	500	300	33440.000000
5 SO4	11357.142857		74.5	1192.000000	0.000000	0	0.000000	0	0	0.000000
6 TOC	9074144.680851		0	0.000000	0.000000	17.26	43.150000	0	3610	167133.000000
7 Nd2O3	479.245072		0.067725	1.083602	3.408302	0	0.000000	0	0	0.000000
8 CeO2	1604.662741		0.765244	12.243903	2.854879	0	0.000000	0	0	0.000000
9 Al2O3	13573.028294		16.75904	268.144734	197.580918	0	0.000000	0	0	0.000000
10 B2O3	29858.962750		49.36281	789.805071	908.036339	2.517817	6.294542	0	0	0.000000
11 BaO	1374.721125		1.4809	23.694400	27.160000	0	0.000000	0	0	0.000000
12 CaO	1909.544102		13.10572	209.691614	41.432518	0.358026	0.895065	0	0	0.000000
13 Cr2O3	885.584305		1.050216	16.803460	17.900325	0	0.000000	3.038266	0.023546	2.586403
14 CuO	368.671733		0.4472	7.155200	11.548000	0.01563	0.039075	0.01557	0.020569	1.561132
15 Fe2O3	38360.157065		49.82183	797.149278	1060.036597	0	0.000000	0	0	0.000000
16 Li2O	6281.506434		12.01276	192.204292	172.813365	0.275768	0.689421	0	0	0.000000
17 MgO	2703.506619		3.584099	57.345592	49.943989	0.085399	0.213499	0	0	0.000000
18 MnO	2990.518826		3.441351	55.061608	54.849010	0	0.000000	0	0	0.000000
19 Na2O	37982.355909		75.11269	1201.803181	1386.453976	5.584699	13.961747	0	0	0.000000
20 NiO	1531.440755		1.49796	23.967361	63.759201	0	0.000000	0	0	0.000000
21 P2O5	4187.612749		6.041184	96.658947	110.543684	0	0.000000	0	0	0.000000
22 PbO	0.000000		0	0.000000	0.400600	0	0.000000	0	0	0.000000
23 SO3	87144.392097		23.569	377.104000	436.180000	2.134	5.335000	0	0	0.000000
24 SiO2	48084.534638		87.59858	1401.577331	316.351664	0	0.000000	0	0	0.000000
25 SrO	160.601064		0.2364	3.782400	3.122000	0	0.000000	0	0	0.000000
26 ZnO	1425.426835		1.905712	30.491395	29.714244	0.174612	0.437031	0	0	0.000000
27 ZrO2	5519.969846		9.262996	148.207934	148.837918	0	0.000000	0	0	0.000000
28 La2O3	141.465896		0.021327	0.341236	0.078365	0	0.000000	0	0	0.000000
29 TiO2	513.148177		0.530241	8.483855	8.625018	0	0.000000	0	0	0.000000
30 K2O	14964.297872		20.91	334.560000	554.000000	3.32	8.300000	0	0.13	0.000000
31 Cs2O	1020.379939		1.769	28.304000	68.700000	0.217	0.542500	0	0	0.000000
32 MO	61.817629		0	0.000000	11.916000	0	0.090000	0	0	0.000000

SFCM OUTLET. SF-108

0 Analyses	22 SET 34 (tot. ug)	23	24 SET 34 (ug/DSCF)	25 SET 35 ->	16 PROBE (ppm)	27 PROBE (ug)	28 TE-821 (ug)	29 HOSE (ppm)	30 HOSE (ug)	31 IMP 1 (ppm)
1 pH	324.153000		964.741071		7	392.000000	0.000000	6.75	58.725000	2.33
2 Cl	217.525000		647.395833		12.5	700.000000	0.000000	7.01	60.987000	0
3 NO2	1858.200000		5530.357143		13.5	756.000000	0.000000	0	0.000000	42
4 NO3	34060.500000		101370.535714		34.9	1954.400000	0.000000	24.84	216.108000	500
5 SO4	1192.000000		3547.619048		74.5	4172.000000	0.000000	0	0.000000	0
6 TOC	167186.150000		497577.827381		0	0.000000	0.000000	17.26	150.162000	0
7 Nd2O3	4.491904		13.368763		0.067725	3.792607	6.874302	0	0.000000	0
8 CoO2	15.098782		44.936851		0.785244	42.853661	9.466879	0	0.000000	0
9 Al2O3	465.725652		1386.088249		16.75904	938.506569	246.960918	0	0.000000	0
10 B2O3	1704.135952		5071.833191		49.36281	2764.317749	2178.563388	2.517817	21.905007	0
11 BaO	50.854400		151.352381		1.4809	82.930400	46.300000	0	0.000000	0
12 CaO	252.019196		750.057132		13.10572	733.920649	57.094518	0.358026	3.114825	0
13 Cr2O3	37.290189		110.982704		1.050216	58.812111	38.986325	0	0.000000	0.038266
14 CuO	20.303407		60.426806		0.4472	25.043200	20.020000	0.01563	0.135981	0.01557
15 Fe2O3	1857.185875		5527.338913		49.82183	2790.022472	1147.345971	0	0.000000	0
16 Li2O	365.707077		1088.413920		12.01276	672.715021	318.835365	0.275768	2.399184	0
17 HgO	107.503080		319.949642		3.584099	200.709571	72.503989	0.085399	0.742975	0
18 MnO	109.910618		327.114935		3.441351	192.715628	58.749010	0	0.000000	0
19 Na2O	2602.218905		7746.699121		75.11269	4206.311134	3328.739765	5.584699	48.586880	0
20 NiO	87.726562		261.090959		1.49796	83.885763	97.519201	0	0.000000	0
21 P2O5	207.202630		616.674495		6.041184	338.306314	153.596836	0	0.000000	0
22 PbO	0.400600		1.192262		0	0.000000	0.000000	0	0.000000	0
23 SO3	818.619000		2436.366071		23.569	1319.864000	1218.780000	2.134	18.565800	0
24 SiO2	2317.928994		6898.598197		87.59854	4905.520658	959.951664	0	0.060000	0
25 SrO	6.904400		20.548810		0.2364	13.238400	5.168000	0	0.000000	0
26 ZnO	60.642670		180.484137		1.905712	106.719884	35.434244	0.174812	1.520866	0
27 ZrO	297.045952		884.065035		9.262996	518.727769	162.999176	0	0.000000	0
28 La	0.4		1.248812		0.021327	1.194326	1.670965	0	0.000000	0
29 Ti	17.101873		50.919264		0.530241	29.693491	7.707018	0	0.000000	0
30 K2O	902.879070		2687.139881		20.91	1170.960000	1832.000000	3.32	28.884000	0
31 Cs2O	97.54		290.316964		1.769	99.064000	138.000000	0.217	1.887900	0
32 MO	11.916000		35.464286		0	0.000000	29.540000	0	0.000000	0

SFCM OUTLET SF-108

0 Analyses	32 IMP 2 (ppm)	33 IMP (ug)	34 SET 35 (tot. ug)	35	36 SET 35 (ug/DSCF)	37 SET 36 ->	38 PROBE (ppm)	39 PROBE (ug)	40 TE-823 (ug)	41 HOSE (ppm)
1 PH	2.25	685.050000	1135.785000		963.386056		7	259.000000	0.000000	6.75
2 Cl	0	0.000000	760.987000		645.451230		0.2	7.400000	0.000000	7.01
3 NO2	0	5754.000000	6510.000000		5521.628499		30	1110.000000	0.000000	0
4 NO3	300	117280.000000	119450.508000		101315.104326		53	1961.000000	0.000000	24.84
5 SO4	0	0.000000	4172.000000		3538.592027		10	370.000000	0.000000	0
6 FOC	3610	586906.000000	587136.162000		497995.048346		0	0.000000	0.000000	17.26
7 Nd2O3	0	0.000000	10.666909		9.047421		0	0.000000	0.000000	0
8 CeO2	0	0.000000	52.320540		44.377048		0.006044	0.223626	11.274679	0
9 Al2O3	0	0.000000	1185.467487		1005.485570		7.655046	283.236698	83.598918	0
10 B2O3	0	0.000000	4964.786144		4211.014541		28.91281	1069.774227	1718.236339	2.517817
11 BaO	0	0.000000	129.239400		109.610178		0.722	26.714000	23.038000	0
12 CaO	0	0.000000	794.129992		673.562334		1.458726	53.972858	38.412518	0.358026
13 Cr2O3	0.023546	9.071101	06.869537		90.644221		0.265316	9.816702	14.018325	0
14 CuO	0.020569	5.477609	50.676790		42.982859		0.3871	14.322700	11.234000	0.01563
15 Fe2O3	0	0.000000	3937.368442		3339.583072		24.18183	894.727705	833.416597	0
16 Li2O	0	0.000000	993.949570		843.044588		5.318768	196.794425	151.913365	0.275768
17 MgO	0	0.000000	273.956535		232.363474		1.641099	60.720681	31.181969	0.085399
18 MnO	0	0.000000	251.464638		213.286377		1.908351	70.608969	21.089031	0
19 Na2O	0	0.000000	7583.637779		6472.262747		37.81269	1399.069856	1864.673976	5.584699
20 NiO	0	0.000000	181.404965		133.863414		0.61366	22.705422	45.319201	0
21 P2O5	0	0.000000	491.903150		417.220653		2.897184	107.195815	84.863684	0
22 PbO	0	0.000000	0.000000		0.000000		0	0.000000	0.000000	0
23 SO3	0	0.000000	2557.209800		2168.965055		4.418	163.466000	120.838000	2.134
24 SiO2	0	0.000000	5865.472321		4974.955319		36.17758	1338.570578	263.971664	0
25 SrO	0	0.000000	18.406400		15.611874		0.08027	2.969990	2.388000	0
26 ZnO	0	0.000000	143.674994		121.861742		0.868912	32.149752	15.506044	0.174812
27 ZrO2	0	0.000000	681.726946		578.224721		4.214996	155.954848	81.419918	0
28 La2O3	0	0.000000	2.865291		2.430272		0	0.000000	1.753165	0
29 TiO2	0	0.000000	37.400509		31.722230		0.160251	5.929284	1.441018	0
30 K2O	0.13	21.138000	3052.982000		2589.467345		10.68	395.160000	782.000000	3.32
31 Cs2O	0	0.000000	238.951900		202.673367		0.70	28.120000	39.020000	0.217
32 MO	0	0.000000	29.540000		25.055131		0	0.000000	15.708000	0

SFCM OUTLET. SF-10B

0 Analyses	42 HOSE (ug)	43 IMP 1 (ppm)	44 IMP 2 (ppm)	45 IMP (ug)	46 SET 36 (tot. ug)	47	48 SET 36 (ug/DSCF)	49 SET 27 ->	50 PROBE (ppm)	51 PROBE (ug)
1 H	106.650000	8.66	7.09	1833.149000	2198.799000		1026.037797		7	182.000000
2 Cl	110.758000	0	0	0.000000	118.158000		55.136724		0.2	5.200000
3 NO2	3.000000	85	49	15523.500000	17033.500000		7948.436771		30	780.000000
4 NO3	392.472000	34	46	9022.600000	11376.072000		5308.479701		53	1378.000000
5 SO4	0.000000	0	0	0.000000	370.000000		172.655156		10	260.000000
6 TOC	272.708000	0	13500	1356750.000000	1357022.708000		633235.048063		0	0.000000
7 Nd2O3	0.000000	0	0	0.000000	6.872302		3.206861		0	0.000000
8 CeO2	0.000000	0	0	0.000000	11.498305		5.365518		0.006044	0.157142
9 Al2O3	0.000000	0	0	0.000000	366.835615		171.178542		7.655046	199.031193
10 B2O3	39.781508	1.214717	0	157.184372	2984.976446		1392.896148		28.91281	751.733240
11 BaO	0.000000	0	0	0.000000	49.752000		23.216052		0.722	18.772000
12 CaO	5.656809	0	0.035926	3.610551	101.652735		47.434781		1.458726	37.926873
13 Cr2O3	0.000000	0	0.009606	0.965430	24.800457		11.572775		0.265316	6.898223
14 CuO	0.246954	0	0	0.000000	25.803654		12.040902		0.3871	10.064600
15 Fe2O3	0.000000	0	0	0.000000	1728.144302		806.413580		24.18183	628.727576
16 Li2O	4.357138	0	0	0.000000	353.064928		164.752649		5.318768	138.287974
17 HgO	1.349312	0	0	0.000000	93.251982		43.514690		1.641099	42.668586
18 MnO	0.000000	0	0	0.000000	91.697979		42.789537		1.908351	49.617113
19 Na2O	82.238241	0	0	0.000000	3351.982074		1564.154024		37.81269	983.130169
20 NiO	0.000000	0	0.00509	0.511551	68.536175		31.981416		0.61366	15.955162
21 P2O5	0.000000	0	0	0.000000	192.059498		89.621791		2.897184	75.326789
22 PbO	0.000000	0	0	0.000000	0.000000		0.000000		0	0.000000
23 SO3	33.717200	0.1229	0	15.903260	333.924460		155.821027		4.418	114.868000
24 SiO2	0.000000	0	0	0.000000	1602.542241		747.803192		36.17758	940.617163
25 SrO	0.000000	0	0	0.000000	5.357990		2.500229		0.08027	2.087020
26 ZnO	2.762032	0	0	0.000000	50.417829		23.526752		0.868912	22.591717
27 ZrO2	0.000000	0	0	0.000000	237.374765		110.767506		4.214996	109.589893
28 La2O3	0.000000	0	0	0.000000	1.753165		0.818089		0	0.000000
29 TiO2	0.000000	0	0	0.000000	7.370302		3.439245		0.160251	4.166524
30 K2O	52.456000	0.15	0.32	51.570000	1281.186000		597.846944		10.68	277.680000
31 Cs2O	3.428600	0	0	0.000000	70.568600		32.929818		0.76	19.760000
42 MO	0.000000	0	0	0.000000	15.708000		7.329911		0	0.000000

SFCM OUTLET. SF-108

0 Analyses	52 TE-825 (ug)	53 HOSE (ppm)	54 HOSE (ug)	55 IMP 1 (ppm)	56 IMP 2 (ppm)	57 IMP (ug)	58 SET 37 (tot. ug)	59	60 SET 37 (ug/DSCF)	61 SET 38 ->
1 pH	0.000000	6.75	74.250000	8.66	7.09	1274.125000	1530.375000		1027.097315	
2 Cl	0.000000	7.01	77.110000	0	0	0.000000	82.310000		55.241611	
3 NO2	0.000000	0	0.000000	85	49	11066.600000	11846.600000		7950.738255	
4 NO3	0.600000	24.84	273.240000	34	46	6272.000000	7923.240000		5317.610738	
5 SO4	0.000000	0	0.000000	0	0	0.000000	260.000000		174.496644	
6 TOC	0.000000	17.26	189.860000	0	13500	943650.000000	943839.860000		633449.570470	
7 Nd2O3	7.676302	0	0.000000	0	0	0.000000	7.676302		5.151881	
8 CeO2	12.318879	0	0.000000	0	0	0.000000	12.476021		8.373169	
9 Al2O3	98.758918	0	0.000000	0	0	0.000000	297.790111		199.859135	
10 B2O3	1710.056339	2.517817	27.695986	1.214717	0	109.203053	2598.688619		1744.086321	
11 BaO	23.680000	0	0.000000	0	0	0.000000	42.452000		28.491275	
12 CaO	35.712518	0.358026	3.938285	0	0.035926	2.511219	80.088894		53.750936	
13 Cr2O3	15.718125	0	0.000000	0	0.009606	0.671478	23.287826		15.629413	
14 CuO	16.108000	0.01563	0.171930	0	0	0.000000	26.344530		17.680893	
15 Fe2O3	627.616597	0	0.000000	0	0	0.000000	1256.344173		843.184009	
16 Li2O	150.975365	0.275768	3.033451	0	0	0.000000	292.296789		196.172342	
17 MgO	29.523989	0.085399	0.939394	0	0	0.000000	73.131970		49.081859	
18 MnO	25.147010	0	0.000000	0	0	0.000000	74.764123		50.177264	
19 Na2O	2057.873976	5.584699	61.431687	0	0	0.000000	3102.435833		2082.171700	
20 NiO	123.081201	0	0.000000	0	0.00509	0.355795	139.392156		93.551784	
21 P2O5	84.445684	0	0.000000	0	0	0.000000	159.772472		107.229847	
22 PbO	0.414800	0	0.000000	0	0	0.000000	0.414800		0.278389	
23 SO3	237.000000	2.134	23.474000	0.1229	0	11.048710	386.390710		259.322624	
24 SiO2	333.151664	0	0.000000	0	0	0.000000	1273.768826		854.878407	
25 SrO	2.474000	0	0.000000	0	0	0.000000	4.561020		3.061087	
26 ZnO	14.970244	0.174812	1.922934	0	0	0.000000	39.484896		26.499930	
27 ZrO2	76.177918	0	0.000000	0	0	0.000000	185.767811		124.676383	
28 La2O3	1.559165	0	0.000000	0	0	0.000000	1.559165		1.046419	
29 TiO2	2.035018	0	0.000000	0	0	0.000000	6.201547		4.162109	
30 K2O	918.000000	3.32	36.520000	0.15	0.32	35.853000	1268.053000		851.042282	
31 Cs2O	48.860000	0.217	2.387000	0	0	0.000000	71.007000		47.650705	
32 MO	18.072000	0	0.000000	0	0	0.000000	18.072000		12.128859	

SFCM OUTLET SF-10B

0 Analytes	62 PROBE (ppm)	63 PROBE (ug)	64 TE-827 (ug)	65 ROSE (ppm)	66 ROSE (ug)	67 IMP (ppm)	68 IMP (ppm)	69 IMP (ug)	70 SET 38 (tot. ug)	71
1 PH	7	546.00000	0	7.05	141	6.92	3.42	1896.28800	2583.28800	
2 Cl	4.3	335.40000	0	0	0	8.66	7.32	2988.40800	3323.80800	
3 MO2	18.6	1450.80000	0	0	0	12.61	0	2194.14000	3644.94000	
4 MO3	25.6	1996.80000	0	0	0	9.67	21.51	6036.20400	8033.00400	
5 SO4	9.5	741.00000	0	0	0	0	0	0.00000	741.00000	
6 TOC	0	0.00000	0	0	0	0	2293	464103.20000	464103.20000	
7 Nd2O3	0.003545	0.276519	3.514302	0	0	0	0	0.00000	3.790822	
8 Co2	0.693644	54.104227	8.220679	0	0	0	0	0.00000	62.324906	
9 Al2O3	9.888046	771.267579	66.360918	0	0	0	0	0.00000	837.628496	
10 B2O3	19.59281	1521.219721	578.63633	0	0	0	0	0.00000	2099.856060	
11 Bi	0.7885	61.503000	14.08	0	0	0	0	0.00000	75.583000	
12 Co	1.943626	151.502819	26.394518	0	0	0	0	0.00000	177.997336	
13 Cr2O3	2.033216	158.590869	9.180325	0	0	0.004346	0	0.756250	168.527484	
14 CuO	0.37329	29.116620	5.046	0	0	0	0	0.00000	34.162620	
15 Fe2O3	37.58083	2931.304729	429.23659	0	0	0	0	0.00000	3360.541326	
16 Li2O	5.423768	423.053922	81.393365	0	0	0	0	0.00000	504.447287	
17 MgO	1.912199	149.151559	20.963989	0	0	0	0	0.00000	170.115548	
18 MnO	2.289451	178.577139	18.66701	0	0	0	0	0.00000	197.244149	
19 Na2O	31.31269	2442.390500	837.05397	0	0	0	0	0.00000	3279.444485	
20 NiO	1.71706	133.930685	27.181201	0	0	0	0	0.00000	161.111886	
21 P2O5	3.185284	248.452166	51.763684	0	0	0	0	0.00000	300.215850	
22 PbO	0	0.00000	0	0	0	0	0	0.00000	0.00000	
23 SO3	3.938	307.164000	290.78	0	0	0	0	0.00000	597.944000	
24 SiO2	51.53858	4020.009488	285.97166	0	0	0	0	0.00000	4305.981151	
25 SiO	0.2121	8.743800	1.5064	0	0	0	0	0.00000	10.250200	
26 ZnO	1.299712	101.377552	12.508244	0	0	0.005392	0	0.00000	114.824041	
27 TiO	5.078896	396.153879	62.159918	0	0	0	0	0.00000	458.313796	
28 La	0	0.00000	0.748945	0	0	0	0	0.00000	0.748945	
29 Ti	0.308151	24.035771	2.615018	0	0	0	0	0.00000	26.650789	
30 K2O	8.41	687.180000	660	0	0	0	0.12	24.288000	1371.468000	
31 Cs2O	0.2	56.316000	48.36	0	0	0	0	0.00000	104.676000	
32 MO	0	0.000000	6.36	0	0	0	0	0.00000	6.360000	

SFCH OUTLET. SF-10B

0 Analyses 72 SET 38  
(ug/DSCP)

1 pH	10946.135593
2 Cl	14083.932203
3 NO2	13444.661017
4 NO3	34038.152542
5 SO4	3139.830508
6 TOC	1966538.983051
7 Nd2O3	16.062803
8 CeO2	264.088586
9 Al2O3	3549.273290
10 B2O3	8897.695170
11 BaO	320.266949
12 CaO	754.226002
13 Cr2O3	714.099339
14 CuO	144.756864
15 Fe2O3	14239.581888
16 Li2O	2137.488504
17 MgO	720.828595
18 MnO	835.780292
19 Na2O	13895.951206
20 NiO	682.677483
21 P2O5	1272.101058
22 PbO	0.000000
23 SO3	2533.661017
24 SiO2	18245.682844
25 SrO	43.433051
26 ZnO	486.542546
27 ZrO2	1942.007612
28 La	3.173495
29 Ti	112.927074
30 K2O	5811.305085
31 Cs2O	443.542373
32 MO	26.949153

SBS OUTLET SF-10B

0 Analyses	1 SET 33	2 PROBE (ppm)	3 PROBE (ug)	4 TE-817	5 ROSE (ppm)	6 ROSE (ug)	7 IMP 1 (ppm)	8 IMP 2 (ppm)	9 IMP (ug)	10 SET 33 (tot. ug)	11
1 PH	7		287.000000	7	5.47	109.4	2.49		809.935000	1213.335000	
2 Cl	4.6		188.600000	0	0	0.0	5	0	2105.200000	2293.800000	
3 NO2	0.11219		4.600000	0	0	0.0	0.12195	0.195122	51.346341	55.946341	
4 NO3	510		20910.000000	0	5.3	106.0	601	652	214066.400000	235082.400000	
5 SO4	6.3		258.300000	0	0	0.0	0	0.000000	258.300000	258.300000	
6 TOC	0		0.000000	0	7.88	157.6	0	21000.000000	2643900.000000	2644057.660000	
7 Nd2O3	0		0.000000	1.778302	0	0.0	0	0.000000	0.000000	1.778302	
8 CoO2	0		0.000000	0.926679	0	0.0	0	0.000000	0.000000	0.926679	
9 Al2O3	1.40694		57.684781	85.66091	0	0.0	0	0.000000	0.000000	143.345699	
10 B2O3	5.27971		216.468395	421.1257	0	0.0	0.56531	0.000000	124.143600	761.738771	
11 BaO	0.2025		8.302500	20.638	0	0.0	0	0.000000	0.000000	28.940500	
12 CaO	3.18362		130.528661	22.27451	0	0.0	0	0.000000	0.000000	152.803179	
13 Cr2O3	1.41131		57.863967	1344.452	0	0.0	0	0.000000	0.000000	13502.390473	
14 CuO	0.2412		9.852200	331.96	0	0.0	0	0.000000	0.000000	341.849200	
15 Fe2O3	17.9908		737.624024	48540.73	0	0.0	0	0.000000	0.000000	49274.355965	
16 Li2O	0.96566		39.5927	89.05336	0	0.0	0	0.000000	0.000000	128.645762	
17 MgO	0.64109		7.465078	8.219989	0	0.0	0	0.000000	0.000000	34.505068	
18 MnO	0.65605		26.898071	1543.380	0	0.0	0	0.000000	0.000000	1570.278271	
19 Na2O	6.57769		269.685652	1442.639	0	0.0	0	0.000000	0.000000	1712.325181	
20 NiO	1.21496		49.813363	11622.42	0	0.0	0	0.000000	0.000000	11672.237387	
21 F2O5	0.16348		6.702851	133.1056	0	0.0	0	0.000000	0.000000	139.808535	
22 PbO	0.0726		2.976600	0	0	0.0	0	0.000000	0.000000	2.976600	
23 SO3	1.6979		69.613900	1347.2	0	0.0	0	0.000000	0.000000	2.976600	
24 SiO2	4.38058		179.603910	573.9716	0	0.0	0	0.000000	0.000000	1416.613900	
25 SrO	3.02682		1.099620	0.6612	0	0.0	0	0.000000	0.000000	753.575574	
26 ZnO	8.76461		359.349101	46.60488	0	0.0	0	0.000000	0.000000	1.760820	
27 ZrO	0.07809		3.201931	14.21791	0	0.0	0	0.000000	0.000000	405.953984	
28 La	0		0.000000	0	0	0.0	0.01136	0.000000	0.000000	17.419849	
29 Ti	0.04767		0.724507	8.839018	0	0.0	0	0.000000	3.485819	3.485819	
30 K2O	2.77		1.570000	1056	0	0.0	0	0.000000	0.000000	9.563526	
31 Cs2O	0.251		1.1291000	134.4	0	0.0	0.7	6.150000	928.005000	2097.575000	
32 MO	0		0.000000	2887.96	0	0.0	0	0.000000	0.000000	144.691000	
										2887.960000	



SBS O'LET. SF-10B

0 Analyses	12 SET 33 (ug/DSCP)	13 SET 34 ->	14 PROBE (ppm)	15 PROBE (ug)	16 TE-820	17 HOSE (ppm)	18 HOSE (ug)	19 IMP 1 (ppm)	20 IMP 2 (ppm)	21 IMP (ug)
1 pH	195.857143		7	301.000000	0.000000	5.42	25.474000	8.39	3.04	1145.118000
2 Cl	370.266344		3.9	167.700000	0.000000	2.06	9.682000	9.0	0	851.400000
3 NO2	9.030886		0	0.000000	0.000000	0	0.000000	38	0	3594.800000
4 NO3	37947.118644		200	8600.000000	0.000000	14.36	67.492000	19	58	8502.200000
5 SO4	41.694915		4.3	174.900000	0.000000	0	0.000000	0	0	0.000000
6 TOC	426805.100888		0	0.000000	0.000000	2.15	10.105000	0	6360	735216.000000
7 Nd2O3	0.287054		0	0.000000	0.000000	0	0.000000	0	0	0.000000
8 CoO2	0.149585		0	0.000000	0.000000	0	0.000000	0	0	0.000000
9 Al2O3	73.138934		1.012046	43.517973	0.000000	0	0.000000	0	0	0.000000
10 B2O3	122.960254		2.556817	109.943128	395.436339	0.474617	2.230700	0	0	0.000000
11 BaO	4.671590		0.05211	2.240730	2.674000	0.003545	0.016662	0	0	0.000000
12 CaO	24.665566		3.445726	148.166213	9.432518	0.139926	0.657652	0	0	0.000000
13 Cr2O3	2179.562627		0.558316	24.007599	6.684325	0.016936	0.079600	0.024856	0	2.351403
14 CuO	55.181469		0.4136	17.784800	1.831200	0.1113	0.523110	0.002444	0.004765	0.782025
15 Fe2O3	7954.536879		10.83083	465.725684	58.336597	0	0.000000	0	0	0.000000
16 Li2O	20.766063		.541568	23.287434	58.693365	0.122968	0.577951	0	0	0.000000
17 MgO	5.569825		.478399	20.571177	3.069989	0.076399	0.359078	0	0	0.000000
18 MnO	253.475104		0.689451	29.646372	0.000000	0	0.000000	0	0	0.000000
19 Na2O	276.404388		4.619699	198.647049	971.253976	1.721699	8.091984	0	0	0.000000
20 NiO	1884.138400		2.19996	94.598283	17.227201	0.00337	0.015839	0	0	0.000000
21 P2O5	22.567964		0.002884	0.124020	9.875684	0	0.000000	0	0	0.000000
22 PbO	0.460484		0.3186	13.699800	0.000000	0	0.000000	0	0	0.000000
23 SO3	228.702809		1.3739	59.077700	511.800000	0	0.000000	0	0	0.000000
24 SiO2	121.642546		4.722583	203.071077	0.000000	0	0.000000	0	0	0.000000
25 SrO	0.284232		0.01038	0.446340	0.047480	0	0.000000	0	0	0.000000
26 ZnO	65.529295		2.610612	112.256325	1.732244	0.328712	1.544947	0	0	0.000000
27 ZrO2	2.811921		0	0.000000	0.265918	0	0.000000	0	0	0.000000
28 La2O3	0.562683		0	0.000000	0.000000	0	0.000000	0	0	0.000000
29 TiO2	1.543749		0.007721	0.331999	0.000000	0	0.000000	0	0	0.000000
30 K2O	338.591606		1.72	73.960000	656.000000	0	0.000000	0	0	0.000000
31 Cs2O	23.356094		0.155	6.665000	71.380000	0	0.000000	0	0.35	40.460000
32 MO	466.175948		0	0.000000	7.095800	0	0.000000	0	0	0.000000

SBS OUTLET. SF-10B

0 Analyses	22 SET 34 (tot. ug)	23	24 SET 34 (ug/DSCF)	25 SET 35 ->	26 PROBE (ppm)	27 PROBE (ug)	28 TE-822 (ug)	29 HOSE (ppm)	30 HOSE (ug)	31 IMP 1 (ppm)	32 IMP 2 (ppm)
1 pH	1471.592000		747.380396		7	224.000000	0.000000	5.42	18.428000	8.39	3.04
2 Cl	1028.782000		522.489589		3.9	124.800000	0.000000	2.06	7.004000	9.0	0
3 NO2	3594.800000		1825.698324		0	0.000000	0.000000	0	0.000000	38	0
4 NO3	17169.692000		8720.006094		200	6400.000000	0.000000	14.36	48.824000	19	0
5 SO4	184.900000		93.905536		4.3	137.600000	0.000000	0	0.000000	0	0
6 TOC	735226.105000		373400.764347		0	0.000000	0.000000	2.15	7.310000	0	6360
7 Nd2O3	0.000000		0.000000		0	0.000000	0.000000	0	0.000000	0	0
8 CaO2	0.000000		0.000000		0	0.000000	0.000000	0	0.000000	0	0
9 Al2O3	43.517973		22.101561		1.012046	32.385468	0.000000	0	0.000000	0	0
10 B2O3	507.610167		257.800999		2.556817	81.818142	224.456339	0.474617	1.613698	0	0
11 BaO	4.931392		2.504516		0.05211	1.667520	1.704400	0.003545	0.012053	0	0
12 CaO	158.256382		80.373988		3.445726	110.263228	12.074518	0.139926	0.475748	0	0
13 Cr2O3	33.122928		16.822208		0.558316	17.866120	6.374125	0.016936	0.057583	0.024856	0
14 CuO	20.921135		10.625259		0.4136	13.235200	10.762000	0.1113	0.378420	0.002444	0.004765
15 Fe2O3	524.062281		266.156567		10.83083	346.586555	241.016597	0	0.000000	0	0
16 Li2O	82.558750		41.929279		0.541568	17.330184	47.275365	0.122968	0.418092	0	0
17 MgO	24.000244		12.189052		0.478399	15.308783	1.145989	0.076399	0.259758	0	0
18 MnO	29.646372		15.056562		0.689451	22.062416	1.511010	0	0.000000	0	0
19 Na2O	1177.993010		598.269685		4.619699	147.830362	803.853976	1.721699	5.853776	0	0
20 NiO	111.841323		56.801078		2.19996	70.398722	92.279201	0.00337	0.011458	0	0
21 P2O5	9.999703		5.078569		0.002884	0.092294	6.909684	0	0.000000	0	0
22 PbO	13.699800		6.957745		0.3186	10.195200	4.380000	0	0.000000	0	0
23 SO3	570.877700		289.932809		1.3739	43.964800	452.200000	0	0.000000	0	0
24 SiO2	203.071077		103.134117		4.722583	151.122662	0.000000	0	0.000000	0	0
25 SrO	0.493820		0.250797		0.01038	0.332160	0.004940	0	0.000000	0	0
26 ZnO	115.533517		58.676240		2.610612	83.539591	1.834244	0.326712	1.117622	0	0
27 ZrO2	0.265918		0.135052		0	0.000000	0.000000	0	0.000000	0	0
28 La2O3	0.000000		0.000000		0	0.000000	0.000000	0	0.000000	0	0
29 TiO2	0.331999		0.168613		0.007721	0.247069	0.000000	0	0.000000	0	0
30 K2O	770.420000		391.274759		1.72	55.040000	478.000000	0	0.000000	0	0.35
31 Cs2O	78.045000		39.636872		0.155	4.960000	59.340000	0	0.000000	0	0
32 MO	7.095800		3.603758		0	0.000000	6.032000	0	0.000000	0	0

SBS OUTLET. SP-10B

0 Analyses	33 IMP (ug)	34 SET 35 (tot. ug)	35	36 SET 35 (ug/DSCF)	37 SET 36 ->	38 PROBE (ppm)	39 PROBE (ug)	40 TE-824 (ug)	41 HOSE (ppm)	42 HOSE (ug)
1 pH	840.362000	1082.790000		748.817427		7	154.000000	0.000000	5.42	65.040000
2 Cl	624.600000	756.404000		523.100968		1.2	26.400000	0.000000	2.06	28.720000
3 NO2	2637.200000	2637.200000		1823.789765		0	0.000000	0.000000	0	0.000000
4 NO3	6242.800000	12691.624000		8777.056708		150	3300.000000	0.000000	14.36	172.320000
5 SO4	0.000000	137.600000		95.159059		5	110.000000	0.000000	0	0.000000
6 TOC	539964.000000	539971.310000		373424.142462		0	0.000000	0.000000	2.15	25.800000
7 Nd2O3	0.000000	0.000000		0.000000		0	0.000000	0.000000	0	0.000000
8 CeO2	0.000000	0.000000		0.000000		0	0.000000	0.000000	0	0.000000
9 Al2O3	0.000000	32.385468		22.396589		0	0.000000	0.000000	0	0.000000
10 B2O3	0.000000	307.888179		212.924052		1.356017	29.849973	359.456339	0.474617	5.695403
11 BaO	0.000000	3.383973		2.340230		0	0.000000	3.550000	0.003545	0.042540
12 CaO	0.000000	122.813494		84.933260		2.784626	63.461769	7.656518	0.139926	1.679111
13 Cr2O3	1.725025	26.022854		17.996441		0.073526	1.617578	20.466325	0.016936	0.203235
14 CuO	0.574154	24.949774		17.254339		0.1766	3.885200	4.236000	0.1113	1.335600
15 Fe2O3	0.000000	587.603152		406.364559		0	0.000000	153.316597	0	0.000000
16 Li2O	0.000000	65.023640		44.967939		0.139568	3.070501	44.055365	0.122968	1.475619
17 MgO	0.000000	18.714531		12.942276		0.162099	3.566188	4.043989	0.076399	0.916794
18 MnO	0.000000	23.573426		16.302508		0.01165	0.256311	2.415010	0	0.000000
19 Na2O	0.000000	957.538115		662.197866		1.493699	32.861374	756.073976	1.721699	20.660386
20 NiO	0.000000	162.689381		112.509946		0.03528	0.776261	31.121201	0.00337	0.040441
21 P2O5	0.000000	7.001977		4.842308		0	0.000000	12.811484	0	0.000000
22 PbO	0.000000	14.575200		10.079668		0	0.000000	0.000000	0	0.000000
23 SO3	0.000000	496.164800		343.129184		1.783	39.226000	71.120000	0	0.000000
24 SiO2	0.000000	151.122662		104.510831		0	0.000000	0.000000	0	0.000000
25 SrO	0.000000	0.337100		0.233126		0	0.000000	0.175480	0	0.000000
26 ZnO	0.000000	86.491456		59.814285		0.193512	4.257269	1.796244	0.328712	3.944547
27 ZrO2	0.000000	0.000000		0.000000		0	0.000000	4.111918	0	0.000000
28 La2O3	0.000000	0.000000		0.000000		0	0.000000	0.000000	0	0.000000
29 TiO2	0.000000	0.247069		0.170864		0	0.000000	0.000000	0	0.000000
30 K2O	29.715000	562.755000		389.180498		0.53	11.660000	384.200000	0	0.000000
31 Cs2O	0.000000	64.300000		14.467497		0	0.000000	22.320000	0	0.000000
32 MO	0.000000	6.032000		4.171508		0	0.000000	7.234000	0	0.000000

SBS OUTLET. SF-10B

0 Analytes	43 IMP 1 (ppm)	44 IMP 2 (ppm)	45 IMP (ug)	46 SET 36 (tot. ug)	47	48 SET 36 (ug/DSCP)	49 SET 37 ->	50 PROBE (ppm)	51 PROBE (ug)	52 TE-826 (ug)
1 PH	2.18	1.99	292.162000	511.202000		101.691267		7	231.000000	0.000000
2 Cl	1.2	1.6	200.080000	251.200000		49.970161		1.2	39.600000	0.000000
3 NO2	0	0	0.000000	0.000000		0.000000		0	0.000000	0.000000
4 NO3	640	600	87000.000000	90472.320000		17997.278495		150	4950.000000	0.000000
5 SO4	0	0	0.000000	110.000000		21.881838		5	165.000000	0.000000
6 TOC	0	19485	1515933.000000	1515958.800000		301563.318082		0	0.000000	0.000000
7 Na2O3	0	0	0.000000	0.000000		0.000000		0	0.000000	0.296102
8 CeO2	0	0	0.000000	0.000000		0.000000		0	0.000000	0.000000
9 Al2O3	0	0	0.000000	0.000000		0.000000		0	0.000000	0.000000
10 B2O3	0	0	0.000000	395.001713		78.576032		1.356817	44.774959	428.056339
11 BaO	0	0	0.000000	3.592540		0.714649		0	0.000000	2.792600
12 CaO	0	0	0.000000	72.797398		14.481281		2.886626	95.192654	10.862518
13 Cr2O3	0	0	0.000000	22.287136		4.433487		0.073526	2.426367	7.660325
14 CuO	0	0	0.000000	9.456800		1.881202		0.1766	5.827800	9.920000
15 Fe2O3	0	0	0.000000	153.316597		30.498627		0	0.000000	480.236597
16 Li2O	0	0	0.000000	48.601485		9.668089		0.139568	4.605752	42.653365
17 MgO	0	0	0.000000	8.526972		1.696235		0.162099	5.349283	2.283989
18 MnO	0	0	0.000000	2.675321		0.532190		0.01165	0.384466	2.325010
19 NaF	0	0	0.000000	809.595736		161.049480		1.493699	49.292061	817.273976
20 NiO	0	0	0.000000	31.937803		6.353253		0.03528	1.164242	110.519201
21 PbO	0	0	0.000000	12.811484		2.548535		0	0.000000	7.659684
22 P2O5	0	0	0.000000	0.000000		0.000000		0	0.000000	0.186878
23 SO3	0	0	0.000000	110.346000		21.950666		1.783	58.839000	83.318000
24 SiO2	0	0	0.000000	0.000000		0.000000		0	0.000000	0.000000
25 SrO	0	0	0.000000	0.175480		0.034907		0	0.000000	0.049060
26 ZnO	0	0	0.000000	9.998059		1.988872		0	0.000000	1.612244
27 ZrO2	0	0	0.000000	4.111918		0.817967		0	0.000000	0.000000
28 La	0.004698	0	0.295989	0.295989		0.058880		0	0.000000	0.000000
29 Ti	0	0	0.000000	0.000000		0.000000		0	0.000000	0.000000
30 K2O	0.11	0.63	55.944000	451.804000		89.875472		0.53	17.480000	432.000000
31 Cs2O	0	0	0.000000	22.320000		4.440024		0	0.000000	26.100000
32 MO	0	0	0.000000	7.234000		1.439029		0	0.000000	5.208000

SBS OUTLET, SF-108

0 Analytes	53 HOSE (ppm)	54 HOSE (ug)	55 IMP 1 (ppm)	56 IMP 2 (ppm)	57 IMP (ug)	58 SET 37 (tot. ug)	59	60 SET 37 (ug/DSCF)	61	62 PROBE (ppm)
1 PH	5.42	97.018000	2.18	1.99	435.561000	763.579000		101.932853		7
2 Cl	2.06	36.874000	1.2	1.6	298.240000	374.714000		50.021893		1.8
3 NO2	0	0.000000	0	0	0.000000	9.000000		0.000000		0.5
4 NO3	14.36	257.044000	640	600	129700.000000	134907.048000		180009.216927		270
5 SO4	0	0.000000	0	0	0.000000	165.000000		22.026432		1.9
6 TOC	2.15	38.485000	0	19485	2258311.500000	2258349.985000		301475.101455		0
7 Nd2O3	0	0.000000	0	0	0.000000	0.296102		0.039528		0
8 CeO2	0	0.000000	0	0	0.000000	0.000000		0.000000		0
9 Al2O3	0	0.000000	0	0	0.000000	0.000000		0.000000		0
10 B2O3	0.474617	8.495643	0	0	0.000000	481.326941		64.254030		1.668817
11 BaO	0.003545	0.063456	0	0	0.000000	2.855456		0.381185		0
12 CaO	0.139926	2.504673	0	0	0.000000	108.559845		14.492036		1.050726
13 Cr2O3	0.016936	0.303159	0	0	0.000000	10.388851		1.386978		0.223916
14 CuO	0.1113	1.992270	0	0	0.000000	17.740070		2.368184		0.2039
15 Fe2O3	0	0.000000	0	0	0.000000	480.236597		64.108476		1.36983
16 Li2O	0.122968	2.291131	0	0	0.000000	49.460248		6.602623		0.207368
17 MgO	0.076399	1.367551	0	0	0.000000	8.960823		1.196212		0.236699
18 MnO	0	0.000000	0	0	0.000000	2.709476		0.361698		0.05105
19 Na2O	1.721699	30.818409	0	0	0.000000	897.384447		119.795014		2.512699
20 NiO	0.00337	0.060324	0	0	0.000000	111.743767		14.917069		0.13766
21 P2O5	0	0.000000	0	0	0.000000	7.659684		1.022518		0
22 PbO	0	0.000000	0	0	0.000000	0.186878		0.024947		0
23 SO3	0	0.000000	0	0	0.000000	142.157000		18.977039		0.3922
24 SiO2	0	0.000000	0	0	0.000000	0.000000		0.000000		0
25 SiO	0	0.000000	0	0	0.000000	0.049060		0.006549		0
26 ZnO	0.328712	5.883949	0	0	0.000000	13.882096		1.853170		0.882912
27 ZnO	0	0.000000	0	0	0.000000	0.000000		0.000000		0
28 La	0	0.000000	0.004698	0	0.41635	0.000000		0.058955		0
29 Ti	0	0.000000	0	0	0.000000	0.000000		0.000000		0
30 K2O	0	0.000000	0.11	0	83.357000	532.847000		71.131625		1.08
31 Ca2O	0	0.000000	0	0	0.000000	26.100000		3.484181		0
32 MO	0	0.000000	0	0	0.000000	5.208000		0.695234		0

SMS OUTLET. SF-108

Analyses	63 PROBE (ug)	64 TE-828 (ug)	65 HOSE (ppm)	66 HOSE (ug)	67 IMP 1 (ppm)	68 IMP 2 (ppm)	69 IMP (ug)	70 SET 38 (tot. ug)	71	72 SET 37 (ug/DSCP)
1 pH	483.000000	0	5.83	116.6	2.81	2.85	1099.876000	1699.476000		7293.888412
2 Cl	124.200000	0	11.00	220.0	2.47	4.95	1484.612000	1828.812000		7848.978541
3 NO2	34.500000	0	0.00	0.0	62.45	0	11028.670000	11063.170000		47481.416309
4 NO3	18630.000000	0	11.00	220.0	137	83	41773.600000	50623.600000		260187.124464
5 SO4	131.100000	0	0.00	0.0	0	0	0.000000	131.100000		562.660944
6 TOC	0.000000	0	3600.00	72000.0	0	1401	296731.800000	368731.800000		1582739.914163
7 Nd2O3	0.000000	0	0.50	0.0	0	0	0.000000	0.000000		0.000000
8 CeO2	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
9 Al2O3	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
10 B2O3	115.148369	0	0.00	0.0	0	0	0.000000	115.148369		494.199008
11 BaO	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
12 CaO	72.500086	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
13 Cr2O3	15.450222	0	0.00	0.0	0	0	6.371582	80.871668		347.088703
14 CuO	14.069100	0	0.00	0.0	0	0	0.000000	15.450222		66.309967
15 Fe2O3	95.898260	0	0.00	0.0	0	0	0.000000	14.069100		60.382403
16 Li2O	14.308408	0	0.00	0.0	0	0	0.000000	95.898260		431.580514
17 MgO	16.332264	0	0.00	0.0	0	0	0.000000	14.308408		61.409477
18 MnO	3.522484	0	0.00	0.0	0	0	0.000000	16.332264		70.095552
19 Na2O	173.376219	0	0.00	0.0	0	0	0.000000	3.522484		15.117959
20 NiO	9.498544	0	0.00	0.0	0	0	0.000000	173.376219		744.103943
21 P2O5	0.000000	0	0.00	0.0	0	0	0.000000	9.498544		40.766284
22 PbO	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
23 SO3	20.161800	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
24 SiO2	0.000000	0	0.00	0.0	0	0	0.000000	20.161800		86.531330
25 SrO	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
26 ZnO	60.920942	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
27 ZrO	0.000000	0	0.00	0.0	0	0	0.000000	60.920942		261.463272
28 La2	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
29 Ti	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
30 K2	74.520000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
31 Cs2O	0.000000	0	0.00	0.0	0.16	0.14	57.908000	132.428000		568.360515
32 MO	0.000000	0	0.00	0.0	0	0	0.000000	0.000000		0.000000
										0.000000

HEME OUTLET. SF-10B

0 Analyses	1 PROBE (ppm)	2 PROBE (ug)	3 TE-818 (ug)	4 HOSE (ppm)	5 HOSE (ug)	6 IMP 1 (ppm)	7 IMP 2 (ppm)	8 IMP 3 (ppm)	9 IMP (ug)	10 SET 33 (tot. ug)
1 pH	7	350.000000	7	5.85	222.300090	0.56	0.45	0.14	234.777000	814.077000
2 Cl	.001	.001	.001	3.7	140.600000	131	65	29	50358.400000	50499.000000
3 NO2	0.6	30.000000	.001	.001	.001	11	10	4	4792.200000	4822.200000
4 NO3	5130	256500.000000	.001	4.8	182.400000	17000	19455	47435	8756076.000000	9012758.400000
5 SO4	1.4	70.000000	.001	.001	.001	.001	.001	.001	.001	70.000000
6 TOC	.001	.001	.001	3.75	142.500000	.001	495	235	71108.000000	71250.500000
7 Nd2O3	.001	.001	0.888502	.001	.001	.001	.001	.001	.001	0.888502
8 CeO2	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
9 Al2O3	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
10 B2O3	1.63681	81.840847	4.846339	.001	.001	0.10751	.001	.001	32.943191	119.630377
11 BaO	.001	.001	0.72698	.001	.001	.001	.001	.001	.001	0.726980
12 CaO	0.74472	37.236294	15.47651	0.19161	7.281404	0.12012	0.04802	0.20442	47.283636	107.277852
13 Cr2O3	0.19431	9.715813	16.61032	.001	.001	0.02563	0.01818	0.01457	10.584519	36.910658
14 CuO	0.1037	5.185000	3.288	.001	.001	0.00737	0.00734	0.00332	3.311885	11.784885
15 Fe2O3	0.93583	46.791493	299.0365	.001	.001	.001	.001	.001	.001	345.828090
16 Li2O	.001	.001	18.89336	.001	.001	.001	.001	.001	.001	18.893365
17 MgO	0.16149	8.074974	2.073989	0.03015	1.146060	.001	.001	0.01791	0.353014	11.648037
18 MnO	0.26545	13.272525	2.45901	.001	.001	.001	.001	.001	.001	15.731535
19 Na2O	0.47969	23.984941	338.8539	.001	.001	.001	.001	.001	.001	362.838918
20 NiO	0.30776	15.388003	32.64120	.001	.001	.001	.001	.001	.001	48.029204
21 P2O5	.001	.001	0.295684	.001	.001	.001	.001	.001	.001	0.295684
22 PbO	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
23 SO3	.001	.001	190.358	.001	.001	.001	.001	.001	.001	.001
24 SiO2	.001	.001	.001	.001	.001	.001	.001	.001	.001	190.358000
25 SrO	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
26 ZnO	0.30001	17.000610	0.986224	0.21231	8.067864	.001	.001	.001	.001	.001
27 ZrO2	.001	.001	.001	.001	.001	.001	.001	.001	.001	26.054699
28 La2O3	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
29 TiO2	0.29265	14.632546	3.310818	.001	.001	.001	.001	.001	.001	.001
30 K2O	0.62	31.000000	266.8	0.97	36.860000	0.14	0.15	0.19	66.784000	401.444000
31 Cs2O	.001	.001	30.62	.001	.001	.001	.001	.001	.001	30.620000
32 MO	.001	.001	5.198	.001	.001	.001	.001	.001	.001	5.198000
33 Alk.H	1.10169	54.986941	655.1673	0.973	36.863000	0.143	0.153	0.193	66.787000	813.796282
34 Alk.E	0.90822	45.313268	18.27848	0.22377	8.429464	0.12312	0.05102	0.22434	47.638650	119.653868
35 Refrac	0.006	0.006000	0.893502	0.006	0.006000	0.006	0.006	0.006	0.006000	0.893502
36 Trans.M	2.44072	121.986990	363.5301	0.21931	8.074864	0.03941	0.03153	0.0239	13.902404	507.480434

## HEME OUTLET SF-10B

0 Analyses 11 SET 33  
(ug/DSCF)

1 pH	2.274517
2 Cl	141.093341
3 NO2	13.473144
4 NO3	25181.492657
5 SO4	0.195579
6 TOC	199.072677
7 Nd2O3	0.082482
8 CeO2	.001
9 Al2O3	.001
10 B2O3	0.334245
11 BaO	0.002031
12 CaO	0.299732
13 Cr2O3	0.103128
14 CuO	0.032927
15 Fe2O3	0.966238
16 Li2O	0.052788
17 HgO	0.032544
18 MnO	0.043954
19 Na2O	1.013766
20 SiO	0.134193
21 P2O5	0.000826
22 PbO	.001
23 SO3	0.531857
24 SiO2	.001
25 SrO	.001
26 ZnO	0.072796
27 ZrO2	.001
28 La2O3	.001
29 Ti	0.050133
30 K2O	1.121628
31 Cs2O	0.085552
32 MO	0.014523
33 Alk.H	2.273733
34 Alk.E	0.335308
35 Refrac	0.007482
36 Trans.H	1.417892



## SFCM OUTLET. SF-10

0 ITEM	1 SET	2 STAGE 1	3 STAGE 2	4 STAGE 3	5 STAGE 4	6 STAGE 5	7 STAGE 6	8 STAGE 7	9 IMP (ppm)	10 IMP (ug)	11 PROBE (ppm)
1 RAW Al		33.36	43.60	40.30	11.74	.001	.001	.001	.001	.001	181.00
2 RAW B		11.79	9.82	272.80	224.40	168.06	318.40	936.800	.001	.001	752.00
3 RAW Ba		6.00	5.50	12.88	5.56	.001	.001	.001	.001	.001	25.60
4 RAW C	.001		.001	.001	.001	.001	.001	.001	62.40	27593.280	.001
5 RAW Ca		6.00	7.86	10.48	5.40	2.40	3.78	4.280	.001	.001	29.80
6 RAW Ce		2.54	.001	.001	.001	.001	.001	2.500	.001	.001	4.00
7 RAW Cl	.001		.001	.001	.001	.001	.001	.001	.001	.001	5.65
8 RAW Cr	.001		.001	2.54	.001	.001	.001	13.200	.001	.001	4.40
9 RAW Cs		4.20	2.40	4.40	3.80	5.40	6.00	21.800	.001	.001	10.80
10 RAW F	.001		.001	.001	.001	.001	.001	.001	.001	.001	.001
11 RAW Fe		89.32	92.14	133.70	55.60	28.96	30.26	49.000	.001	.001	488.00
12 RAW K		40.60	12.60	98.80	88.80	51.80	107.40	287.400	.001	.001	417.00
13 RAW La	.001		.001	.001	.001	.001	.001	.001	.001	.001	2.80
14 RAW Li		29.40	27.70	50.08	25.72	.001	5.10	26.380	5.60	2476.320	156.00
15 RAW Mg		12.22	12.02	22.50	11.24	3.86	4.70	7.460	.001	.001	70.80
16 RAW Mn		9.80	9.64	17.36	8.22	2.86	3.30	6.760	.001	.001	40.20
17 RAW N	.001		.001	.001	.001	.001	.001	0.001	.001	.001	.001
18 RAW Na		171.68	142.74	295.60	182.24	27.10	110.98	376.000	35.20	15565.440	1050.00
19 RAW Ni		3.12	2.70	5.52	.001	.001	.001	.001	.001	.001	20.00
20 RAW NO2	.001		.001	.001	.001	.001	.001	.001	42.80	18483.960	7.69
21 RAW NO3	.001		.001	.001	.001	.001	.001	.001	2.98	1317.756	47.90
22 RAW P		12.48	14.24	21.64	11.04	3.22	5.12	11.020	.001	.001	80.20
23 RAW Ru	.001		.001	.001	.001	.001	.001	.001	.001	.001	2.40
24 RAW S	.001		.001	.001	.001	.001	.001	.001	.001	.001	47.80
25 RAW Si		132.46	119.50	159.06	64.02	43.56	39.56	49.600	210.00	92862.000	75.20
26 RAW Sr		7.42	6.82	13.80	7.34	2.80	3.60	60.800	.001	.001	23.60
27 RAW Ti	.001		.001	.001	.001	.001	.001	.001	2.60	1149.720	6.40
28 RAW V	.001		.001	.001	.001	.001	.001	.001	.001	.001	.001
29 RAW Zn	.001		.001	.001	.001	.001	.001	.001	.001	.001	2.80
30 RAW Zr		13.82	13.44	22.80	9.92	.001	.001	33.600	.001	.001	29.00

NO BLANK CORRECTIONS MADE

SFCM OUTLET SF-10

0 ITEM	12 PROBE (ug)	13 SET 12 (tot. ug)	14 SET 12 (ug/SCF)	15 SET 13 ->	16 FILT	17 IMP 1 (ppm)	18 IMP 2 (ppm)	19 IMP (tot. ug)	20 PROBE (ppm)	21 PROBE (ug)
1 RAW Al	77468.00	77597.000	11890.438247		500	.001	.001	.001	71.779141	23400.000000
2 RAW B	321856.00	323798.070	49616.621207		5400	332.00	39.80	97321.160	285.582822	93100.000000
3 RAW Ba	10956.80	10986.740	1683.533558		200	.001	.001	.001	8.251534	2690.000000
4 RAW C	.001	27593.280	4228.207171		.001	400.30	98.90	129164.170	.001	.001
5 RAW Ca	12754.40	12794.600	1960.557769		.001	3.00	.001	795.900	12.484663	4070.000000
6 RAW Ce	1712.00	1717.040	263.107570		.001	.001	.001	.001	.001	.001
7 RAW Cl	2418.20	2418.200	370.548575		.001	4.11	.001	1090.383	4.263804	1390.000000
8 RAW Cr	1883.20	1898.940	290.980693		280	.001	.001	.001	2.079755	678.000000
9 RAW Cs	4622.40	4670.400	715.660435		174	.001	.001	.001	5.521472	1800.000000
10 RAW F	.001	.001	.001		.001	.001	.001	.001	.001	.001
11 RAW Fe	208864.00	209342.980	32078.299111		4800	.001	.001	.001	158.588957	51700.000000
12 RAW K	178476.00	179193.800	27458.381857		1150	.001	.001	.001	163.190184	53200.000000
13 RAW La	1198.40	1198.400	183.634692		.001	.001	.001	.001	.001	.001
14 RAW Li	66768.00	69408.700	10635.718664		1600	5.40	4.50	2454.200	61.650442	20100.000000
15 RAW Mg	30302.40	30376.400	4654.673613		480	.001	.001	.001	31.288344	10200.000000
16 RAW Mn	17205.60	17263.540	2645.347839		380	.001	.001	.001	14.233129	4640.000000
17 RAW N	.001	0.001	57.615691		.001	.001	.001	.001	.001	.001
18 RAW Na	449400.00	466291.780	71451.391400		11400	100.00	85.80	46452.760	407.361963	132800.000000
19 RAW Ni	8560.00	8571.340	1313.414036		.001	.001	.001	.001	5.613497	1830.000000
20 RAW NO2	3291.32	21775.280	3336.696292		.001	377.00	76.40	117758.180	1.858896	600.000096
21 RAW NO3	20501.20	21818.956	3343.388906		.001	16.77	8.04	6315.969	31.901840	10400.000000
22 RAW F	34325.60	34404.360	5271.890898		420	.001	.001	.001	38.650307	12600.000000
23 RAW Ru	1027.20	1027.200	157.401165		.001	.001	.001	.001	.001	.001
24 RAW S	20458.40	20458.400	3134.906528		.001	9.79	.001	2597.287	0.595092	194.000000
25 RAW Si	32185.60	125655.360	19254.575544		5900	484.00	280.00	193421.200	142.760736	46540.000000
26 RAW Se	10100.80	10203.380	1563.496782		260	.001	.001	.001	12.085890	3940.000000
27 RAW Te	2739.20	3888.920	595.911738		.001	2.60	2.40	1247.060	0.530675	173.000000
28 RAW Tl	.001	.001	.001		.001	.001	.001	.001	.001	.001
29 RAW U	1198.40	1198.400	183.634692		.001	.001	.001	.001	.001	.001
30 RAW V	12412.00	12505.580	1916.270303		760	.001	.001	.001	4.386503	1438.000000
									17.822086	5810.000000

NO BLANK CORRECTIONS MADE

SFOM OUTLET SF-10

0 ITEM	22 SET 13 (tot. ug)	23 SET 13 (ug/SCF)	24 SET 33 ->	25 FLY	26 IMP 1 (ppm)	27 IMP 2 (ppm)	28 IMP (tot. ug)	29 PROBE (ppm)	30 PROBE (ug)	31 SET 33 (tot. ug)
1 RAW Al	23900.000000	1041.666667		270	.001	.001	.001	5.935294	856	1126.000
2 RAW B	155821.160000	9534.743724		3160	436.00	130.	111003.600	119.176471	20260	164423.600
3 RAW Ba	2890.000000	125.958856		68	.001	.001	.001	0.776471	132	200.000
4 RAW C	129164.170000	5629.540185		.001	300.00	126.00	104535.600	.001	.001	104535.600
5 RAW Ca	4865.900000	212.077132		19	.001	.001	.001	28.235294	4800	4848.000
6 RAW Ce	.001	.001		2	.001	.001	.001	.001	.001	2.000
7 RAW Cl	2480.383000	108.105954		.001	3.90	0.50	1126.990	0.652941	111	1235.990
8 RAW Cr	258.000000	41.753835		46	.001	.001	.001	0.352941	60	106.000
9 RAW Cs	1974.000000	86.035565		52	.001	.001	.001	0.988235	160	220.000
10 RAW F	.001	.001		.001	.001	.001	.001	.001	.001	.001
11 RAW Fe	56500.000000	2462.517434		1054	.001	.001	.001	25.529412	4340	5394.000
12 RAW K	54350.000000	2360.811014		1270	2.60	3.60	1421.620	56.411765	9590	12281.620
13 RAW La	.001	.001		.001	.001	.001	.001	.001	.001	.001
14 RAW Li	24154.300000	1052.750174		258	.001	.001	.001	11.176471	1900	2158.000
15 RAW Mg	10680.000000	465.481172		104	.001	.001	.001	7.056624	1200	1304.000
16 RAW Mn	5079.000000	218.793584		92	.001	.001	.001	1.200000	204	296.000
17 RAW N	.001	.001		.001	.001	.001	.001	.001	.001	.001
18 RAW Na	190652.760000	8369.482718		2874	.001	.001	.001	90.000000	15300	18174.000
19 RAW Ni	1830.000000	79.759434		26	.001	.001	.001	0.305882	52	78.000
20 RAW NO2	118364.140096	5158.829328		.001	245.40	140.30	93165.020	.001	.001	93165.020
21 RAW NO3	16715.969000	728.555134		.001	11.34	7.17	4446.366	2.423529	412	4858.366
22 RAW P	13020.000000	567.468619		148	.001	.001	.001	2.352941	400	548.000
23 RAW Rb	.001	.001		.001	.001	.001	.001	.001	.001	.001
24 RAW S	2791.287000	121.656512		180	11.52	0.38	3097.520	7.470588	1270	4547.520
25 RAW Si	245861.200000	10715.707810		1360	115.60	108.40	52585.800	61.764706	10500	64445.800
26 RAW Se	4200.000000	183.054393		64	.001	.001	.001	2.94235	508	572.000
27 RAW Te	1420.060000	61.892434		12	.001	.001	.001	3.647059	620	632.000
28 RAW Tl	.001	.001		.001	.001	.001	.001	.001	.001	.001
29 RAW U	1430.900000	62.325662		3	.001	.001	.001	2.482355	422	425.000
30 RAW V	6570.000000	286.349372		130	.001	.001	.001	3.847059	654	784.000

NO BLACK CORRECTIONS MADE

## SPCM OUTLET SF-10

0 ITEM	32 SET 33 (ug/SCF)	33 SET 36 ->	34 STAGE 1	35 STAGE 2	36 STAGE 3	37 STAGE 4	38 STAGE 5	39 STAGE 6	40 STAGE F	41 IMP 1 (ppm)
1 RAW Al	50.044444		8.8	4.8	.001	.001	.001	2.6	.001	.001
2 RAW B	7307.715556		138.8	148.4		154.4	422.0	668.8	582.2	1251.6
3 RAW Ba	8.888889	.001	.001	.001	.001	.001	2.2	2.4	2.8	.001
4 RAW C	4646.026667	.001	.001	.001	.001	.001	.001	.001	.001	340.0
5 RAW Ca	215.466667		4.0	.001		14.8	3.6	2.8	3.2	5.6
6 RAW Ce	0.088889	.001	.001	.001	.001	.001	.001	.001	.001	.001
7 RAW Cl	54.932889	.001	.001	.001	.001	.001	.001	.001	.001	.001
8 RAW Cr	4.711111	.001	.001	.001	.001	.001	3.6	2.0	23.2	.001
9 RAW Cu	9.777778	.001	.001	.001	.001	3.6	7.4	8.0	21.8	.001
10 RAW F	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
11 RAW Fe	219.733333		28.6	30.4	21.4	41.0	17.6	33.6	21.6	.001
12 RAW K	545.849778		23.8	18.8	28.0	125.0	199.8	196.4	335.2	.001
13 RAW La	.001	.001	.001	.001	.001	.001	.001	2.0	.001	.001
14 RAW Li	95.911111		10.2	9.0	9.4	22.4	24.2	24.8	3.2	.001
15 RAW Mg	57.955556		4.4	3.4	3.6	7.2	3.8	5.8	3.4	.001
16 RAW Mn	13.155556		5.6	5.2	2.8	6.8	3.0	5.8	2.2	.001
17 RAW N	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
18 RAW Na	807.733333		39.6	26.6	41.4	206.8	358.0	348.6	522.2	.001
19 RAW Ni	3.466667	.001	.001	.001	.001	.001	.001	.001	29.8	.001
20 RAW NO2	4140.667556	.001	.001	.001	.001	.001	.001	.001	.001	12.0
21 RAW NO3	215.927378	.001	.001	.001	.001	.001	.001	.001	.001	3.1
22 RAW P	24.355556		4.0	3.0	3.0	8.2	4.8	8.0	5.0	.001
23 RAW Ru	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
24 RAW S	202.112000	.001	.001	.001	.001	.001	11.6	6.6	41.4	.001
25 RAW Si	2864.257778		25.0	34.6	3.0	34.6	25.8	45.2	25.2	189.0
26 RAW Sr	25.422222		2.4	2.4	2.6	5.4	3.0	4.4	3.0	.001
27 RAW Ti	28.088889	.001	.001	.001	.001	.001	.001	.001	.001	2.2
28 RAW V	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
29 RAW Zn	18.888889	.001	.001	.001	.001	.001	.001	.001	.001	.001
30 RAW Zr	34.844444		3.8	3.6	3.2	5.8	2.2	3.6	2.2	.001

NO BLANK CORRECTIONS MADE

## SFCH OUTLET. SF-10

0 ITEM	42 IMP 2 (ppm)	43 IMP (tot. ug)	44 PROBE (ppm)	45 PROBE (ug)	46 SET 36 (tot. ug)	47 SET 36 (ug/SCF)	48	49 SF-10 mean	50 SF-10 ln. mean	51 BLANKS ->
1 RAW Al	.001	.001	48.60	14725.80	14741.200	1568.212766		3637.590531	992.937405	
2 RAW B	55.20	11630.640	347.40	103747.20	118744.040	12632.344681		19522.856292	14061.749258	
3 RAW Ba	.001	.001	6.40	2540.20	2552.600	171.553191		522.483624	150.413985	
4 RAW C	17.46	74534.822	.001	.001	74534.822	7929.236300		5608.252601	5441.712101	
5 RAW Ca	3.40	716.380	15.60	4726.80	5476.380	582.592617		742.673821	477.974603	
6 RAW Co	.001	.001	2.20	666.60	666.600	70.914894		83.527838	1.134827	
7 RAW Cl	.001	.001	3.50	1060.50	1060.500	112.819149		161.601642	122.524212	
8 RAW Cr	.001	.001	4.00	1212.00	1240.800	132.000000		117.361410	14281.41	
9 RAW Cs	.001	.001	7.00	2121.00	2161.800	229.978723		260.763125	108.474638	
10 RAW F	.001	.001	.001	.001	.001	.001		0.000000	0.001000	
11 RAW Fe	.001	.001	164.80	49934.40	50128.600	5332.829787		100.8344916	3170.072525	
12 RAW K	.001	.001	147.00	44541.00	45468.000	4837.021277		8802.515982	3620.046279	
13 RAW La	.001	.001	.001	.001	2.000	0.212766		45.961864	0.079061	
14 RAW Li	2.00	421.400	46.40	14059.20	14583.800	1551.468085		3337.962009	1136.124651	
15 RAW Mg	.001	.001	25.40	7696.20	7727.800	822.106383		1500.054121	546.831023	
16 RAW Mn	.001	.001	16.60	4423.80	4456.200	474.063830		837.840202	7.5.112718	
17 RAW N	.001	.001	.001	.001	.001	.001		14.403923	0.015493	
18 RAW Na	.001	.001	348.40	105545.20	107108.400	11394.510638		22976.375464	8146.061208	
19 RAW Ni	.001	.001	8.60	2605.80	2635.600	270.782979		419.255774	100.452751	
20 RAW NO2	107.00	25045.700	8.78	2660.34	27706.040	2947.451064		7495.911060	3807.116804	
21 RAW NO3	5.73	1853.351	11.49	3461.47	5334.821	747.530149		1213.451392	739.157959	
22 RAW P	.001	.001	23.20	7029.60	7065.600	751.659574		1653.843662	483.762138	
23 RAW Ru	.001	.001	.001	.001	.001	.001		39.350291	0.019918	
24 RAW S	.001	.001	11.90	3605.70	3665.300	389.925532		962.150143	410.373836	
25 RAW Si	218.00	55320.200	190.00	57570.00	143083.600	15221.659574		12014.050177	9738.839972	
26 RAW Sr	.001	.001	11.40	7454.20	3477.400	369.936170		535.477392	227.774113	
27 RAW Ti	3.40	1174.860	2.60	787.80	1962.660	208.793627		223.671669	121.274033	
28 RAW V	.001	.001	.001	.001	.001	.001		0.000000	0.001000	
29 RAW Zn	.001	.001	2.60	787.80	787.800	83.808511		87.144439	65.242267	
30 RAW Zr	.001	.001	16.20	4908.60	4933.000	524.787230		690.562839	316.495437	

NO BLANK CORRECTIONS MADE

POPULATION I PROBE (LOG) SF-10

0 ANALYSIS	1 SET 12	2 SET 13	3 SET 33	4 SET 36	5 MEAN	6 VARIANCE	7 t: I vs II (<1.943)	8 I/I: (ug/ug)	9 t: I vs III (<2.132)
1 Al	9.381826	6.927435	3.638755	7.356647	6.826166	5.660884	0.650935	0.407048	1.085368
2 B	10.896055	8.308373	6.802888	9.309003	8.806582	7.837787	0.206304	1.231256	2.048607
3 Ba	7.425921	4.764240	1.769287	5.601255	4.890176	5.563816	0.299213	0.665252	1.335092
4 C	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	0.178873	0.074962	5.459385
5 Ca	7.577837	5.178342	5.362856	6.220294	6.084832	1.196796	1.012456	0.544420	3.477405
6 Ce	5.569623	-6.907755	-10.021271	4.261480	-1.774481	61.576248	1.682412	0.061144	0.081594
7 Cl	5.914985	4.104003	1.596015	4.725786	4.085197	3.318286	2.947346	0.050394	2.079186
8 Cr	5.664934	3.386091	0.980829	4.859317	3.722793	4.231777	1.190529	0.115155	1.423087
9 Cs	6.562875	4.362485	2.010449	5.418933	4.588686	3.761736	0.590295	0.522269	1.381167
10 Cu	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	33.497134	1.537099e-10	849.076152
11 Fe	10.373644	7.720157	5.262114	8.577756	7.983418	4.513740	0.695232	0.419500	1.219891
12 K	10.216415	7.748757	6.054961	8.163456	8.120897	2.971708	0.349137	1.432178	2.241861
13 La	5.212948	-6.907755	-6.907755	-9.148465	-4.437757	42.509556	0.965230	0.020055	0.505117
14 Li	9.233185	6.775419	4.436094	7.310323	6.938755	3.897488	0.229483	0.772443	1.630016
15 Hg	8.443188	6.097007	3.976562	6.707772	6.306152	3.399641	0.152116	1.186123	2.138151
16 Mn	7.877196	5.309413	2.204605	6.154045	5.386315	5.641030	0.585368	0.448441	1.058800
17 Mo	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	514.873679	0.000010	485.427334
18 NO2	6.223250	3.273824	-10.021271	5.645500	1.280325	58.395785	1.646560	0.001667	0.868023
19 NO3	8.052445	6.116505	2.907508	5.914500	5.747739	4.514126	2.103792	0.071454	0.675604
20 Na	11.139874	8.663543	6.522093	9.326374	8.912971	3.430171	0.065129	0.931903	1.696530
21 Nd	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	15.234974	1.150552e-09	485.427334
22 Ni	7.179061	4.379015	0.837728	5.624785	4.505147	7.289759	0.631981	0.381721	1.056532
23 P	8.567853	6.308396	2.877949	6.617175	6.092843	5.594200	0.398160	0.588540	1.226156
24 S	8.050355	2.134802	4.033257	5.949562	5.041994	6.447743	1.866467	0.045068	0.368766
25 SO4	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	88.617720	2.174024e-12	984.909848
26 Si	8.503440	7.615011	6.145615	8.720047	7.746038	1.366978	1.863098	0.217334	1.486598
27 Sr	7.344576	5.145880	3.116966	5.906636	5.378514	3.104343	1.884550	7.535462	3.819209
28 Ti	5.039627	2.020235	3.316204	4.428535	3.951150	2.907074	0.328557	0.695536	2.289825
29 Zn	5.212948	4.132373	2.931490	4.428535	4.176337	0.896581	1.723226	0.250015	2.059843
30 Zc	7.550625	5.534279	3.369592	6.258034	5.678133	3.064189	1.279427	0.360663	1.055300

.10 SIGNIFICANCE LEVEL, TWO SIDED

POPULATION I PROBE (LOG) SF-10

0 ANALYSIS 10 I/III  
(ug/ug)

1 Al	6.936413
2 B	13.306885
3 Ba	10.610988
4 C	0.074962
5 Ca	17.344112
6 Co	1.616402
7 Cl	17.126366
8 Cr	8.985478
9 Cs	7.456653
10 Cu	1.48831e-09
11 Fe	6.985248
12 K	18.147661
13 La	11.822429
14 Li	11.172970
15 Mg	19.235737
16 Mn	6.593337
17 Mo	0.000010
18 NO2	0.006909
19 NO3	0.340763
20 Na	11.317048
21 Nd	0.000010
22 Ni	8.494728
23 P	8.802961
24 S	2.018371
25 SO4	5.76125e-11
26 Si	3.682467
27 Sr	155.533009
28 Ti	18.692996
29 Zn	4.318180
30 Zr	3.996697

.10 SIGNIFICANCE LEVEL, TWO SIDED

## POPULATION II PROBE (LOG) SF-10B (AIR ON)

0 ANALYSIS	1 SET 33	2 SET 34	3 SET 35	4 SET 38	5 MEAN	6 VARIANCE	7 c:II vs III ( $<2.132$ )	8 II/III (ug/ug)
1 Al	9.446204	6.682171	6.679623	8.091959	7.724989	1.759169	2.850590	17.040765
2 B	10.100686	7.762430	7.759883	8.771191	8.598547	1.229559	2.862085	10.807568
3 Ba	7.118797	4.255883	4.253335	5.563009	5.297756	1.854289	2.711717	15.950186
4 C	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
5 Ca	7.436202	6.436282	6.433734	6.465188	6.692851	0.245790	9.308412	31.857481
6 Co	7.371140	3.595672	3.593124	5.434836	4.998693	3.254271	5.361059	1412.866929
7 Cl	8.257682	6.368961	6.386414	7.259247	7.073076	0.792490	8.729578	339.847924
8 Cr	6.704597	3.912229	3.909681	6.510251	5.255189	2.429944	3.192134	41.752816
9 Cs	6.613384	4.433647	4.431099	5.474902	5.238258	1.081959	3.407967	14.277421
10 Cu	5.771441	3.058483	3.055936	4.815233	4.175273	1.819145	2.244355	9.682592
11 Fe	1.440485	7.771686	7.769138	9.427126	8.852109	1.731241	2.850025	16.651356
12 K	9.265910	6.903460	6.900913	7.976520	7.761701	1.262109	3.013721	12.670951
13 La	4.765399	0.015462	0.012915	-6.907755	-0.528495	23.103097	1.769595	589.491692
14 Li	8.600528	6.349203	6.346655	7.491423	7.196952	1.166141	3.298727	14.460463
15 Hg	7.816028	5.139740	5.137192	6.448886	6.135462	1.636847	2.903524	16.217315
16 Mn	7.928580	5.099097	5.096549	6.628944	6.188292	1.867608	2.623001	14.702792
17 Mo	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
18 NO2	9.056190	6.465923	6.463375	8.723794	7.677320	1.979179	1.347802	4.145847
19 NO3	9.673625	7.415720	7.413172	9.043225	8.386435	1.325920	1.808811	4.768957
20 Na	10.327435	8.182222	8.179675	9.244656	8.983497	1.054182	3.242403	12.144014
21 Nd	6.151604	1.170935	1.168387	0.158448	2.162343	7.300211	4.475925	869.481439
22 Ni	6.999475	4.267337	4.264789	6.341246	5.468212	1.999093	2.925723	22.253739
23 P	8.211526	5.661833	5.659285	6.959174	6.622954	1.496338	2.948629	14.957297
24 S	11.351205	7.023165	7.020617	7.171305	8.141573	4.583511	2.367750	44.784861
25 SO4	9.337602	8.174032	8.171484	8.051924	8.433761	0.366326	7.219239	26.500397
26 Si	10.677028	8.335998	8.333450	9.742963	9.272360	1.317628	3.267083	16.943835
27 Sr	4.983851	2.421003	2.418455	3.612268	3.358894	1.489583	3.307120	20.640143
28 Y	6.178352	3.228809	3.226261	4.623467	4.314222	2.977465	3.120608	26.875658
29 Zn	7.173880	4.508089	4.505541	6.062775	5.562571	1.691922	2.920444	17.271685
30 Zr	8.488938	6.089260	6.086713	7.425726	7.022659	1.353222	3.129053	15.332807

.10 SIGNIFICANCE LEVEL, TWO-SIDED



## POPULATION III PROBE (LOG), SF-10B (AIR OFF)

0 ANALYSIS	1 SET 36	2 SET 37	3 MEAN	4 VARIANCE
1 Al	4.884076	4.894685	4.889381	0.000056
2 B	6.212996	6.223605	6.218301	0.000056
3 Ba	2.522981	2.533590	2.528286	0.000056
4 C	-6.907755	-6.907755	-6.907755	0.000000
5 Ca	3.226275	3.236884	3.231579	0.000056
6 Ce	-2.259988	-2.249379	-2.254683	0.000056
7 Cl	1.239273	1.249883	1.244578	0.000056
8 Cr	1.521878	1.532488	1.527183	0.000056
9 Cs	2.574274	2.584884	2.579579	0.000056
10 Cu	1.899639	1.910248	1.904944	0.000056
11 Fe	6.034313	6.044922	6.039617	0.000056
12 K	5.217084	5.227693	5.222389	0.000056
13 La	-6.907755	-6.907755	-6.907755	0.000000
14 Li	4.519953	4.530562	4.525258	0.000056
15 Mg	3.344078	3.354687	3.349382	0.000056
16 Mn	3.494950	3.505560	3.500255	0.000056
17 Mo	-6.907755	-6.907755	-6.907755	0.000000
18 NO2	6.249909	6.260518	6.255213	0.000056
19 NO3	6.819003	6.829612	6.824308	0.000056
20 Na	6.481356	6.491965	6.486661	0.000056
21 Nd	-6.907755	-6.907755	-6.907755	0.000000
22 Ni	2.360397	2.371006	2.365702	0.000056
23 P	3.912450	3.923060	3.917755	0.000056
24 S	4.334398	4.345008	4.339703	0.000056
25 SO4	5.151296	5.161906	5.156601	0.000056
26 Si	6.437151	6.447760	6.442455	0.000056
27 Sr	0.326352	0.336961	0.331656	0.000056
28 Ti	1.017697	1.028306	1.023001	0.000056
29 Zn	2.708158	2.718807	2.713503	0.000056
30 Zr	4.287360	4.297969	4.292664	0.000056

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION I FILTERS (LOG). SP-10

0 ANALYSIS	1 SET 12	2 SET 13	3 SET 33	4 SET 36	5 MEAN	6 VARIANCE	7 t:I vs II (<1.943)	8 I/II (ug/ug)	9 t:I vs III (<2.752)
1 Al	2.984041	3.081552	2.484907	0.493718	2.261104	1.456270	5.474868	0.022750	1.013753
2 B	5.695715	5.461098	4.944812	5.880830	5.495614	0.164335	8.002468	0.085047	4.239787
3 Ba	1.523501	2.165261	1.105992	-0.238689	1.139016	1.033390	5.457948	0.043550	1.854703
4 C	-6.837639	-10.040812	-10.021271	-7.202555	-8.525569	3.044186	1.854179	0.198332	1.236322
5 Ca	1.818073	-10.040812	0.757686	1.261870	-1.550796	32.223275	2.178325	0.002002	1.076062
6 Ce	-0.257397	-6.907755	-2.420368	-7.202555	-4.197019	11.686150	3.913512	0.001091	2.369275
7 Cl	-6.837639	-10.040812	-10.021271	-7.202555	-8.525569	3.044186	1.854179	0.198332	1.236322
8 Cr	0.880729	2.501733	0.715126	1.119805	1.304348	0.664808	5.773490	0.078906	1.292583
9 Cs	1.995407	2.025999	0.837728	1.468046	1.581795	0.311655	11.085680	0.025371	3.541524
10 Cu	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	93.374675	3.600779e-10	91.703975
11 Fe	4.295865	5.343315	3.846832	3.028179	4.128548	0.931276	6.154074	0.028310	2.588700
12 K	4.699839	3.914461	4.033257	4.591244	4.309700	0.154734	11.255272	0.031784	5.515222
13 La	-6.837639	-6.907755	-6.907755	-1.544567	-5.549429	7.129502	3.952938	0.093197	2.730397
14 Li	3.226393	4.244702	2.439444	2.395959	3.076625	0.752047	6.056562	0.048300	2.066745
15 Mg	2.428271	3.040730	1.530876	1.212447	2.053081	0.698527	5.348055	0.067135	1.228772
16 Mn	2.183614	2.807115	1.408273	1.237449	1.909113	0.527910	5.626231	0.062211	1.136511
17 Mo	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	106.921800	2.866907e-10	132.450785
18 NO2	-6.837639	-10.040812	-10.021271	-7.202555	-8.525569	3.044186	1.854179	0.198332	1.236322
19 NO3	-6.837639	-10.040812	-10.021271	-7.202555	-8.525569	3.044186	1.854179	0.198332	1.236322
20 Na	5.314229	6.208312	4.849945	5.100904	5.368347	0.349579	8.240851	0.051258	3.504719
21 Nd	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	107.097496	1.038141e-09	134.778493
22 Ni	0.552895	-10.040812	0.144581	1.154000	-2.047334	28.569969	2.658021	0.000771	1.434109
23 P	2.490611	2.907198	1.883697	1.342809	2.156079	0.470564	7.613889	0.032913	3.235376
24 S	-6.837639	-10.040812	2.079442	1.847013	-3.237999	37.789398	3.397224	0.000029	1.685367
25 SO4	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	514.873679	0.000010	485.427334
26 Si	4.533986	5.549651	4.101725	3.024051	4.302353	1.094572	4.939262	0.039099	1.064665
27 Sr	2.754849	2.427625	1.045368	0.903443	1.782821	0.892585	0.515047	0.758065	2.051633
28 Ti	-6.837639	-10.040812	-0.628609	-7.202555	-6.177404	15.733965	4.422381	0.000134	2.054699
29 Zn	-6.837639	-10.040812	-2.014903	-7.202555	-6.523977	11.086242	6.313997	0.000023	3.467930
30 Zr	2.663044	3.500262	1.754019	0.953873	2.217800	1.218518	5.491666	0.028609	1.882702
31 AIR M	5.845517	6.436635	5.288043	5.628005	5.799550	0.233019	9.724855	0.045728	4.168746
32 AIR E	3.632472	3.712824	2.535459	2.317421	3.049544	0.526678	5.857220	0.069715	1.634921
33 Ref:ac	4.852113	5.743215	4.360702	3.219799	4.543957	1.106719	5.179733	0.035204	1.322294
34 Trans.M	4.459301	5.472148	4.003690	3.412565	4.336926	0.756398	6.685254	0.028678	2.869603
35 Ca+Mg	2.862157	3.040732	1.910365	1.930611	2.435966	0.359673	7.264968	0.051246	2.601056

## POPULATION I FILTERS (LOG). SF-10

0 ANALYSIS 10 I/III  
(ug/ug)

1 Al	0.188669
2 B	0.253964
3 Ba	0.238979
4 C	0.198332
5 Ca	0.010232
6 Co	0.002280
7 Cl	0.198332
8 Cr	0.443636
9 Cs	0.199044
10 Cu	1.328361e-09
11 Fe	0.153402
12 K	0.156949
13 La	0.004204
14 Li	0.255867
15 Mg	0.458888
16 Mn	0.523540
17 Mo	1.060573e-09
18 NO2	0.198332
19 NO3	0.198332
20 Na	0.195676
21 Nd	2.460238e-09
22 Ni	0.003088
23 P	0.192317
24 S	0.000414
25 SO4	0.000010
26 Si	0.445136
27 Sr	4.371763
28 Ti	0.002166
29 Zn	0.000172
30 Zr	0.208450
31 Alk.M	0.196526
32 Alk.C	0.404711
33 Refrac	0.344713
34 Trans.M	0.152102
35 Ca+Mg	0.303039

POPULATION II FILTER (LOG). SF-10B (AIR ON)

0 ITEM	1 TE-816	2 TE-819	3 TE-821	4 TE-827	5 MEAN	6 VARIANCE	7 t:II vs III (<2.132)	8 II/III (ug/ug)
1 Al	6.816749	6.376792	5.344563	5.639032	6.044284	0.453701	3.986752	8.293063
2 B	8.612369	7.901929	7.521754	7.804598	7.960162	0.215055	2.999436	2.986153
3 Ba	4.939904	4.392389	3.670475	4.040679	4.272862	0.225342	4.071633	5.487460
4 C	-6.90775	-6.907755	-6.907755	-6.90775	-6.907755	0.001000	0.000000	1.000000
5 Ca	5.239711	4.814710	3.880041	4.71708	4.662886	0.323853	3.741961	5.111202
6 Ce	2.72251	2.139674	2.083133	3.550576	2.623973	0.465119	1.392021	2.096950
7 Cl	-6.90775	-6.907755	-6.907755	-6.90775	-6.907755	0.001000	0.000000	1.000000
8 Cr	4.2404	3.975463	3.49844	3.660986	3.843848	0.109083	6.001997	5.622351
9 Cs	5.618152	5.320393	4.762587	5.322596	5.255932	0.127731	6.378404	7.845239
10 Cu	3.864339	3.537156	2.832065	3.062519	3.324020	0.215925	3.160698	3.689094
11 Fe	8.329159	8.056703	6.880540	7.505932	7.693082	0.410685	3.511310	5.418624
12 K	8.341536	7.407809	7.348497	7.936163	7.758501	0.220861	4.123989	4.938031
13 La	0.736808	-1.455735	0.348734	1.154834	0.196160	1.321131	6.316482	1.315037
14 Li	6.741673	6.242856	5.600008	5.843217	6.106939	0.249296	4.273690	5.297403
15 Mg	5.409282	5.001546	4.118975	4.48673	4.754133	0.321788	4.410241	6.835316
16 Mn	5.370808	5.095228	3.908608	4.376681	4.686331	0.446731	4.035821	8.435516
17 Mo	4.124189	3.568526	3.221079	3.293952	3.551936	0.167924	3.804407	3.699383
18 NO2	-6.90775	-6.907755	-6.907755	-6.90775	-6.907755	0.001000	0.000000	1.000000
19 NO3	-6.90775	-6.907755	-6.907755	-6.90775	-6.907755	0.001000	0.000000	1.000000
20 Na	8.9123	8.325149	7.945682	8.173812	8.339236	0.170284	3.936632	3.817487
21 Nd	2.279868	2.316858	1.763123	2.700765	2.265154	0.148227	2.669775	2.369849
22 Ni	6.076227	5.245758	4.415383	4.746449	5.120954	0.522069	2.029779	4.007462
23 P	6.223479	5.796055	4.869665	5.390612	5.569953	0.333595	3.830765	5.539252
24 S	7.638456	7.168699	6.940939	7.11649	7.216146	0.088756	6.864873	14.373440
25 SO4	-6.90775	-6.907755	-6.907755	-6.90775	-6.907755	0.001000	0.000000	1.000000
26 Si	8.462953	7.911044	6.702216	7.099816	7.544007	0.628365	3.910952	11.384806
27 Sr	2.678645	2.229118	1.477819	1.853646	2.059807	0.264200	4.332335	5.767002
28 Ti	3.432419	3.245311	1.877465	2.405195	2.740097	0.530282	4.735082	16.161977
29 Zn	4.791896	4.482271	3.403012	3.970311	4.161872	0.370716	4.317378	7.528657
30 Zr	6.491134	6.093502	4.929079	5.573634	5.771837	0.456794	3.856386	7.286204
31 AIR.H	9.452471	8.778626	8.468989	8.838298	8.884596	0.169528	4.270037	4.297726
32 AIR.C	6.339316	5.891862	5.034198	5.586183	5.712890	0.300373	4.158979	5.805258
33 Refrac	8.753906	8.236717	7.070898	7.500652	7.890543	0.563022	3.896116	9.791784
34 Trans.M	8.541639	8.228199	7.104464	7.679891	7.888548	0.400072	3.477074	5.303788
35 Ca+Mg	6.021234	5.605633	4.699775	5.30167	5.407078	0.309333	4.161652	5.913375

.10 SIGNIFICANCE, TWO-SIDED

## POPULATION III FILTERS (LOG) SF-108 (AIR OFF)

0 ANALYSIS 1 TE-823 2 TE-825 3 MEAN 4 VARIANCE

0 ANALYSIS	1 TE-823	2 TE-825	3 MEAN	4 VARIANCE
1 Al	3.663824	4.193906	3.928865	0.140493
2 B	6.686847	7.045505	6.866176	0.064318
3 Ba	2.374938	2.765355	2.570397	0.076408
4 C	-6.907755	-6.907755	-6.907755	0.000000
5 Ca	2.886177	3.176725	3.031451	0.042209
6 Co	1.660353	2.112357	1.886355	0.102154
7 Cl	-6.907755	-6.907755	-6.907755	0.000000
8 Cr	1.878159	2.356638	2.117099	0.114185
9 Cs	2.901868	3.490183	3.196025	0.173057
10 Cu	1.656738	2.380540	2.018639	0.261944
11 Fe	5.963327	6.043153	6.003240	0.003186
12 K	5.899644	6.423421	6.161535	0.137169
13 La	-0.200784	0.045374	-0.077705	0.030297
14 Li	4.261104	4.618341	4.439722	0.063809
15 Hg	2.677634	2.986427	2.832030	0.047677
16 Mn	2.286545	2.825963	2.556254	0.145486
17 Mo	1.991963	2.495588	2.243776	0.126819
18 NO2	-6.907755	-6.907755	-6.907755	0.000000
19 NO3	-6.907755	-6.907755	-6.907755	0.000000
20 Na	6.768635	7.230653	6.999644	0.106730
21 Nd	1.165292	1.639352	1.402327	0.112371
22 Ni	3.051524	4.414064	3.732796	0.928263
23 P	3.678840	4.037332	3.858086	0.064259
24 S	4.032244	5.069284	4.550764	0.537726
25 SO4	-6.907755	-6.907755	-6.907755	0.000000
26 Si	4.813635	5.409822	5.111728	0.177719
27 Sr	0.108249	0.507060	0.307655	0.379525
28 Ti	-0.396857	0.311729	-0.042564	0.251047
29 Zn	1.979023	2.307288	2.143156	0.053879
30 Zr	3.637413	3.934296	3.785854	0.044070
31 Alk.D	7.188510	7.664510	7.426510	0.113288
32 Alk.E	3.791886	4.116365	3.954126	0.052643
33 Ref.C	5.344573	5.873427	5.609000	0.139843
34 Trans.M	6.102361	6.337892	6.220127	0.027737
35 Ca+Mg	3.480479	3.779243	3.629861	0.044630

## PCP. I PROBE + FILTER (LOG). SF-10

G ANALYSIS	1 SET 12	2 SET 13	3 SET 33	4 SET 36	5 MEAN	6 VARIANCE	7 t:I vs II (<1.943)	8 I/II (ug/ug)	9 t:I vs III (<2.132)
1 Al	9.383490	6.948577	3.912911	7.357692	6.900668	5.100753	0.832901	0.346878	0.991726
2 B	10.812081	8.364755	6.947830	9.346934	8.866400	2.647805	0.216216	0.818530	1.289081
3 Ba	7.428650	4.835955	2.184802	5.604160	5.013392	4.738295	0.542356	0.514513	1.081036
4 C	-6.704108	-9.347665	-9.328123	-7.069023	-8.112230	2.025261	2.666195	0.149925	1.777901
5 Ca	7.580984	5.178342	5.372806	6.227293	6.089857	1.195790	1.227245	0.480328	2.749331
6 Co	5.572566	-6.214608	-2.419868	4.261491	0.299895	31.110388	1.658580	0.007916	0.382900
7 Cl	5.914987	4.104003	1.596024	4.725793	4.085202	3.318277	2.947346	0.050394	2.078982
8 Cr	5.673260	3.731791	1.549924	4.882805	3.959445	3.215791	1.504176	0.193461	1.034642
9 Cs	6.573206	4.454761	2.280112	5.437988	4.686517	3.327932	1.343398	0.260435	0.764677
10 Cu	-17.727534	-17.727534	-17.727534	-17.727534	-17.727534	0.001000	43.956780	1.937488e-10	168.708604
11 Fe	10.375925	7.808939	5.479527	8.581637	8.061510	4.119174	1.001590	0.316354	0.884628
12 K	10.220427	7.770143	6.179326	8.484054	8.163488	2.808459	0.352890	0.719148	1.319341
13 La	5.212954	-6.214608	-6.214608	-1.544069	-2.190083	29.205300	1.367396	0.019213	0.521348
14 Li	9.235644	6.852011	4.563422	7.317636	6.992178	3.685855	0.511727	0.581405	1.257459
15 Mg	8.445627	6.143072	4.059676	6.711870	6.340062	3.270203	0.079040	0.919840	1.857703
16 Mn	7.880558	5.388129	2.576844	6.161342	5.501718	4.887257	0.775168	0.379307	1.004242
17 Mo	-17.727534	-17.727534	-17.727534	-17.727534	-17.727534	0.001000	103.551762	5.733641e-10	128.022098
18 NO2	6.223252	3.273825	-9.328123	5.645502	1.453614	53.293468	1.674264	0.001982	0.876976
19 NO3	8.052445	6.116505	2.907510	5.914502	5.747741	4.514122	2.183792	0.071454	0.675605
20 Na	11.142821	8.745900	6.694232	9.340887	8.980960	3.362523	0.467769	0.626186	1.092843
21 Nd	-17.727534	-17.727534	-17.727534	-17.727534	-17.727534	0.001000	23.003484	6.438449e-10	130.098908
22 Ni	7.180386	4.379015	1.243194	5.636159	4.609688	6.349541	1.107641	0.221897	0.319457
23 P	8.570144	6.341185	3.192760	6.622284	6.181593	4.952659	0.658359	0.447100	0.955874
24 S	8.050355	2.134807	4.165804	5.965957	5.079231	6.372615	2.314017	0.027583	0.050974
25 SO4	-17.727534	-17.727534	-17.727534	-17.727534	-17.727534	0.001000	86.330400	4.348047e-12	955.954881
26 Si	8.522187	7.734368	6.267411	8.723401	7.811842	1.242266	2.211545	0.187483	1.347533
27 Sr	7.354680	5.209783	3.235624	5.913330	5.428354	2.933925	1.768319	5.889138	3.429451
28 Ti	6.039630	2.020241	3.335374	4.428543	3.955947	2.899050	0.604186	0.531159	2.053702
29 Zn	5.212954	4.132374	2.938574	4.428543	4.178111	0.890720	2.309289	0.186861	1.429876
30 Zr	7.558136	5.657213	3.550894	6.262993	5.757309	2.792327	1.621788	0.206859	0.790187

.10 SIGNIFICANCE LEVEL, TWO SIDED

## POP. I PROBE + FILTER (LOG) SF-10

0 ANALYSIS	10 I/III (ug/ug)
1 Al	5.368281
2 B	4.835709
3 Ba	5.840416
4 C	0.149525
5 Ca	9.561777
6 Co	0.201369
7 Cl	17.121516
8 Cr	4.035062
9 Cs	2.855726
10 Cu	1.391842e-09
11 Fe	3.844405
12 K	5.287333
13 La	0.120818
14 Li	6.121969
15 Mg	12.435089
16 Mn	5.289853
17 Mo	2.120914e-09
18 NO2	0.008217
19 NO3	0.340763
20 Na	4.509403
21 Nd	4.919231e-09
22 Ni	1.845734
23 P	4.934773
24 S	0.907621
25 SO4	1.152243e-10
26 Si	3.088830
27 Sr	82.333513
28 Tl	13.808856
29 Zn	2.755516
30 Zr	2.693204

.10 SIGNIFICANCE LEVEL, TWO SIDED

## POP. II PROBE + FILTER (LOG). SF-10B (AIR ON)

0 ANALYSIS	1 SET 33	2 SET 34	3 SET 35	4 SET 38	5 MEAN	6 VARIANCE	7 t:II vs III (<2.132)	8 II/III (ug/ug)
1 Al	9.515840	7.234241	6.913226	8.174498	7.959451	1.363036	3.123826	15.476012
2 B	10.304240	8.527757	8.341037	9.093548	9.066646	0.783091	2.660225	5.907798
3 Ba	7.226006	5.019611	4.696930	5.769155	5.677926	1.266869	2.871511	11.366888
4 C	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
5 Ca	7.541636	6.616591	6.508651	6.625692	6.823142	0.232263	8.220231	19.906762
6 Co	7.380669	3.805258	3.792722	5.576285	5.138734	2.935876	2.504263	25.437409
7 Cl	8.257682	6.388963	6.386415	7.259248	7.073077	0.792488	8.729156	339.750421
8 Cr	6.786248	4.637493	4.418242	6.566525	5.602127	1.554769	3.231558	20.857291
9 Cs	6.927930	5.665396	5.303664	6.094793	5.997946	0.488956	4.391763	10.598954
10 Cu	5.909907	4.019339	3.643399	4.975056	4.636925	1.034440	2.544943	7.132132
11 Fe	10.554775	8.617462	8.113601	9.563781	9.212405	1.162249	3.088409	12.152242
12 K	9.600080	7.880246	7.842687	8.649692	8.493176	0.682851	3.163989	7.352222
13 La	4.78042	0.222193	0.888003	1.155149	1.762096	4.209947	1.193425	6.288440
14 Li	8.745365	6.990590	6.734603	7.667387	7.534486	0.806509	3.484030	10.529615
15 Mg	7.902305	5.766176	5.445587	6.580401	6.423617	1.199957	3.166361	13.518715
16 Mn	8.003202	5.790312	5.362636	6.728366	6.471129	1.368563	2.998818	13.946115
17 Mo	4.124205	3.568554	3.221119	3.293989	3.551967	0.167915	3.804338	3.699071
18 NO2	9.056190	6.465924	6.463376	8.723794	7.677321	1.979176	1.347802	4.145842
19 NO3	9.673625	7.415720	7.413172	9.043225	8.386436	1.325919	1.808811	4.768953
20 Na	10.544877	8.949384	8.762654	9.539353	9.449067	0.643266	3.246247	7.201374
21 Nd	6.172212	2.592921	2.202480	2.776506	3.436030	3.384715	1.465623	7.640397
22 Ni	7.333964	5.564869	5.036065	6.526023	6.115230	1.040519	2.542371	8.317977
23 C	8.339886	6.424341	6.033615	7.148425	6.986567	1.027295	3.150672	11.037298
24 S	11.375322	7.791724	7.674719	7.837421	8.669796	3.257969	2.559059	32.905430
25 SO4	9.337602	8.174032	8.171484	8.051924	8.433761	0.366325	7.219228	26.500250
26 Si	10.780716	8.839074	8.512172	9.811684	9.485911	1.049738	3.641063	16.475290
27 Sr	5.078923	3.022803	2.748032	3.771221	3.655245	1.087776	3.361479	13.980571
28 Ti	6.240565	3.930241	3.457018	4.726742	4.588641	1.487328	3.554701	25.997609
29 Zn	7.262227	5.188410	4.792245	6.179120	5.855500	1.219710	3.245314	14.746323
30 Zr	8.616128	6.784531	6.359963	7.571478	7.333025	0.983636	3.446191	13.019486

.10 SIGNIFICANCE LEVEL, TWO-SIDED



## POP. III PROBE + FILTER (LOG). SF-10B (AIR OFF)

0 ANALYSIS 1 SET 36 2 SET 37 3 MEAN 4 VARIANCE

0 ANALYSIS	1 SET 36	2 SET 37	3 MEAN	4 VARIANCE
1 Al	5.142707	5.297613	5.220160	0.011998
2 B	7.170877	7.409868	7.290372	0.028558
3 Ba	3.144844	3.349598	3.247221	0.020962
4 C	-6.214608	-6.214608	-6.214608	0.000000
5 Ca	3.763762	3.900404	3.832083	0.009336
6 Ce	1.679993	2.125032	1.902513	0.099030
7 Cl	1.239503	1.250169	1.244866	0.000056
8 Cr	2.408950	2.719897	2.564423	0.048344
9 Cs	3.444573	3.829802	3.637191	0.074203
10 Cu	2.478693	2.865937	2.672315	0.074979
11 Fe	6.692597	6.737185	6.714891	0.000994
12 K	6.308653	6.687694	6.498174	0.071836
13 La	-0.199562	0.046329	-0.076617	0.030231
14 Li	5.092020	5.268561	5.180294	0.015532
15 Mg	3.758523	3.880561	3.819542	0.007447
16 Mn	3.756294	3.915562	3.835922	0.012683
17 Mo	1.992100	2.495670	2.243885	0.126792
18 NO2	6.249911	6.260520	6.255215	0.000056
19 NO3	6.819004	6.82963	6.824309	0.000056
20 Na	7.328424	7.621167	7.474795	0.042849
21 Nd	1.165604	1.639556	1.402580	0.112315
22 Ni	3.457663	4.535959	3.996811	0.581362
23 P	4.495598	4.674975	4.585287	0.016088
24 S	4.887837	5.464480	5.176152	0.166258
25 SO4	5.151302	5.161911	5.156607	0.000056
26 Si	6.617140	6.750959	6.684050	0.008954
27 Sr	0.916382	1.118770	1.017576	0.020480
28 Ti	1.235252	1.426022	1.330637	0.018197
29 Zn	3.101798	3.227216	3.164507	0.007865
30 Zr	4.707433	4.825721	4.766577	0.006996

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION II NOISE (LOG). SF-10B (AIR ON)

0 ANALYSIS	1 SET 33	2 SET 34	3 SET 35	4 SET 38	5 MEAN	6 VARIANCE	7 t: II vs III ( $< 2.132$ )	8 II/III (ug/ug)
1 Al	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
2 B	-6.907755	2.930327	2.922049	-6.907755	-1.990784	32.235491	1.153682	0.007353
3 Ba	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
4 C	7.087033	4.855327	4.847048	-6.907755	2.470713	40.199808	0.733848	0.079371
5 Ca	-6.907755	0.979785	0.971506	-6.907755	-2.966055	20.716015	1.153430	0.019500
6 Ce	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
7 Cl	5.062941	3.954273	3.945994	-6.907755	1.513863	31.796824	0.575041	0.087867
8 Cr	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
9 Cs	-6.907755	0.479077	0.470798	-6.907755	-3.216409	18.168063	1.153344	0.025047
10 Cu	-6.907755	-2.151628	-2.159907	-6.907755	-4.531761	7.527141	1.152593	0.093326
11 Fe	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
12 K	-6.907755	3.206900	3.198621	-6.907755	-1.852497	34.074187	1.153710	0.006403
13 La	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
14 Li	-6.907755	0.718740	0.710462	-6.907755	-3.096577	19.366784	1.153386	0.022218
15 Mg	-6.907755	-0.453480	-0.461759	-6.907755	-3.682687	13.868094	1.153148	0.039926
16 Mn	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
17 Mo	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
18 NO2	8.068243	-6.907755	-6.907755	-6.907755	-3.163756	56.070131	0.666666	42.264701
19 NO3	-6.907755	5.219390	5.211112	-6.907755	-0.846252	48.989104	1.153874	0.002341
20 Na	-6.907755	3.726965	3.718687	-6.907755	-1.592465	37.669765	1.153758	0.004937
21 Nd	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
22 Ni	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
23 P	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
24 S	-6.907755	2.764933	2.756655	-6.907755	-2.073481	31.160291	1.153665	0.007987
25 SO4	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
26 Si	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
27 Sr	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
28 Ti	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
29 Zn	-6.907755	0.262892	0.254613	-6.907755	-3.324501	17.119623	1.153303	0.027906
30 Zr	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION III HOSE (LOG) SF-10B (AIR OFF)

0 ANALYSIS 1 SET 36 2 SET 37 3 MEAN 4 VARIANCE

	1	2	3	4
1 Al	-6.907755	-6.907755	-6.907755	0.000060
2 B	2.921195	2.922511	2.921853	9e-07
3 Ba	-6.907755	-6.907755	-6.907755	0.000000
4 C	7.148777	4.847511	5.998144	2.647914
5 Ca	0.970653	0.971969	0.971311	9e-07
6 Ce	-6.907755	-6.907755	-6.907755	0.000000
7 Cl	3.945141	3.946457	3.945799	9e-07
8 Cr	-6.907755	-6.907755	-6.907755	0.000000
9 Cs	0.469945	0.471261	0.470603	9e-07
10 Cu	-2.160759	-2.159444	-2.160102	9e-07
11 Fe	-6.907755	-6.907755	-6.907755	0.000000
12 K	3.197768	3.199084	3.198426	9e-07
13 La	-6.907755	-6.907755	-6.907755	0.000000
14 Li	0.709609	0.710925	0.710267	9e-07
15 Mg	-0.462612	-0.461296	-0.461954	9e-07
16 Mn	-6.907755	-6.907755	-6.907755	0.000000
17 Mo	-6.907755	-6.907755	-6.907755	0.000000
18 NO2	-6.907755	-6.907755	-6.907755	0.000000
19 NO3	5.210258	5.211574	5.210916	9e-07
20 Na	3.717034	3.719150	3.718492	9e-07
21 Nd	-6.907755	-6.907755	-6.907755	0.000000
22 Ni	-6.907755	-6.907755	-6.907755	0.000000
23 P	-6.907755	-6.907755	-6.907755	0.000000
24 S	2.755801	2.757117	2.756459	9e-07
25 SO4	-6.907755	-6.907755	-6.907755	0.000000
26 Si	-6.907755	-6.907755	-6.907755	0.000000
27 Sr	-6.907755	-6.907755	-6.907755	0.000000
28 Ti	-6.907755	-6.907755	-6.907755	0.000000
29 Zn	0.253760	0.254076	0.254418	9e-07
30 Zr	-6.907755	-6.907755	-6.907755	0.000000

.10 SIGNIFICANCE LEVEL, TWO-SIDED

POPULATION I IMPURERS (LOG). SF-10

0 ANALYSIS	1 SET 12	2 SET 13	3 SET 33	4 SET 36	5 MEAN	6 VARIANCE	7 t:I vs II (<1.943)	8 I/II (ug/ug)	9 t:I vs III (<2.132)
1 Al	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
2 B	-8.783549	8.357715	8.743025	7.120689	3.858220	71.506616	2.546286	47380.935247	0.068842
3 Ba	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
4 C	8.349533	8.635783	8.443768	8.978312	8.601849	0.077176	7.915602	0.003753	22.829690
5 Ca	-8.783549	3.546417	-10.021271	4.333501	-2.731225	59.698180	0.357077	5.199504	0.561369
6 Ce	-8.783549	-6.907755	-10.021271	-9.148465	-8.715260	1.721689	2.754267	0.164063	1.836710
7 Cl	-8.783549	3.861228	3.912014	-9.148465	-2.539693	55.085974	0.050623	1.322493	0.784706
8 Cr	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.134627	0.000114	18.335780
9 Cs	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
10 Cu	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	6.455146	1.467086e-07	485.427334
11 Fe	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
12 K	-8.783549	-10.040812	4.146037	-9.148465	-5.956697	45.641235	2.877912	0.000051	1.803358
13 La	-8.783549	-6.907755	-6.907755	-9.148465	-7.936881	1.434328	1.372859	0.029340	1.145732
14 Li	5.938735	4.672540	-10.021271	3.802873	1.098219	55.721522	2.145008	2998.821337	1.430017
15 Mg	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
16 Mn	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
17 Mo	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	514.873679	0.000010	485.427334
18 NO2	7.948854	8.543332	8.328612	7.887748	8.177139	0.097633	2.634454	0.533094	3.140595
19 NO3	5.307891	5.617780	5.286327	5.284041	5.37110	0.026526	14.285598	0.004147	24.323677
20 Na	7.777004	7.613135	-10.021271	-9.148465	-0.94119	99.663518	1.194577	388.718771	0.796388
21 Nd	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	514.873679	0.000010	485.427334
22 Ni	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	16.997415
23 P	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
24 S	-8.783549	4.729166	4.924842	-9.148465	-2.069502	63.444295	1.214840	126.242687	0.681871
25 SO4	-18.420681	-18.420681	-18.420681	-18.420681	-18.420681	0.001000	514.873679	0.000010	485.427334
26 Si	9.563076	9.039569	7.756686	9.113457	8.868197	0.602611	40.611305	7102462.842518	27.096645
27 Sr	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385
28 Ti	5.171480	3.995488	-10.021271	4.828195	0.993473	54.165832	2.147128	2700.596774	1.431431
29 Zn	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	2.224598	0.009440	5.459385
30 Zr	-8.783549	-10.040812	-10.021271	-9.148465	-9.498524	0.400357	8.178873	0.074962	5.459385

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION I IMPINGERS (LOG). SF-10

0 ANALYSIS 10 I/III  
(ug/ug)

1 Al	0.074962
2 B	0.646228
3 Ba	0.074962
4 C	0.008594
5 Ca	0.038656
6 Ce	0.164063
7 Cl	78.890606
8 Cr	0.000166
9 Cs	0.074962
10 Cu	0.000010
11 Fe	0.074962
12 K	0.000108
13 La	0.357319
14 Li	2998.821337
15 Mg	0.074962
16 Mn	0.074962
17 Mo	0.000010
18 NO2	0.479032
19 NO3	0.051243
20 Na	388.718771
21 Nd	0.000010
22 Ni	0.000314
23 P	0.074962
24 S	0.017019
25 SO4	0.000010
26 Si	7102462.842518
27 Sr	0.074962
28 Ti	2700.596774
29 Zn	0.074962
30 Zr	0.074962

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION II IMPINGERS (LOG). SF-10B (AIR ON)

0 ANALYSIS	1 SET 33	2 SET 34	3 SET 35	4 SET 38	5 MEAN	6 VARIANCE	7 t:II vs III ( $<2.132$ )	8 II/III (ug/ug)
1 Al	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
2 B	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	472.318010	0.000014
3 Ba	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
4 C	16.020808	13.117249	13.118090	14.491786	14.186983	1.914227	0.798346	2.289693
5 Ca	3.204111	-6.907755	-6.907755	-6.907755	-4.379789	25.562459	1.292636	0.007435
6 Ce	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.003600	1.000000
7 Cl	-6.907755	-6.907755	-6.907755	9.446420	-2.819212	66.864759	0.666666	59.652956
8 Cr	-6.907755	2.040912	2.040427	1.164540	-0.415469	18.903815	0.117069	1.464847
9 Cs	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
10 Cu	-6.907755	1.536055	1.536002	-6.907755	-2.685863	23.765829	1.154700	68.162322
11 Fe	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
12 K	5.289985	2.885565	2.886406	4.633906	3.923965	1.508277	0.806950	2.102807
13 La	3.090983	-6.907755	-6.907755	-6.907755	-4.408071	24.993693	0.666666	12.178653
14 Li	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
15 Mg	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
16 Mn	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
17 Mo	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
18 NO2	9.089901	8.454436	8.492984	9.137469	8.806198	0.130433	0.394770	0.898588
19 NO3	10.272385	11.508152	11.507653	10.149454	10.859411	0.563240	4.466808	12.357132
20 Na	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
21 Nd	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
22 Ni	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	230.861254	0.004139
23 P	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
24 S	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	375.730328	0.000135
25 SO4	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
26 Si	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
27 Sr	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
28 Ti	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000
29 Zn	-6.907755	-6.907755	-6.907755	1.380179	-8.835772	17.172462	0.666666	7.940557
30 Zr	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	0.001000	0.000000	1.000000

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION III IMPINGERS (LOG). SF-10B (AIR OFF)

0 ANALYSIS	1 SET 36	2 SET 37	3 MEAN	4 VARIANCE
1 Al	-6.907755	-6.907755	-6.907755	0.000000
2 B	4.295213	4.294433	4.294823	3.010784e-07
3 Ba	-6.907755	-6.907755	-6.907755	0.000000
4 C	13.358396	13.358734	13.358565	5.729731e-08
5 Ca	0.521654	0.521992	0.521823	5.729731e-08
6 Ce	-6.907755	-6.907755	-6.907755	0.000000
7 Cl	-6.907755	-6.907755	-6.907755	0.000000
8 Cr	-0.797389	-0.797050	-0.797220	5.729731e-08
9 Cs	-6.907755	-6.907755	-6.907755	0.000000
10 Cu	-6.907755	-6.907755	-6.907755	0.000000
11 Fe	-6.907755	-6.907755	-6.907755	0.000000
12 K	3.180733	3.180651	3.180692	3.383845e-09
13 La	-6.907755	-6.907755	-6.907755	0.000000
14 Li	-6.907755	-6.907755	-6.907755	0.000000
15 Mg	-6.907755	-6.907755	-6.907755	0.000000
16 Mn	-6.907755	-6.907755	-6.907755	0.000000
17 Mo	-6.907755	-6.907755	-6.907755	0.000000
18 NO2	8.913345	8.912911	8.913128	9.411111e-08
19 NO3	8.345281	8.345074	8.345178	2.135445e-08
20 Na	-6.907755	-6.907755	-6.907755	0.000000
21 Nd	-6.907755	-6.907755	-6.907755	0.000000
22 Ni	-1.432514	-1.432176	-1.432345	5.729731e-08
23 P	-6.907755	-6.907755	-6.907755	0.000000
24 S	2.004317	2.003538	2.003928	3.039756e-07
25 SO4	-6.907755	-6.907755	-6.907755	0.000000
26 Si	-6.907755	-6.907755	-6.907755	0.000000
27 Sr	-6.907755	-6.907755	-6.907755	0.000000
28 Tl	-6.907755	-6.907755	-6.907755	0.000000
29 Zn	-6.907755	-6.907755	-6.907755	0.000000
30 Zr	-6.907755	-6.907755	-6.907755	0.000000

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POP. II ROSE + IMPINGERS (LOG). SF-108 (AIR ON)

0 ANALYSIS	1 SET 33	2 SET 34	3 SET 35	4 SET 38	5 MEAN	6 VARIANCE	7 t:II vs III (<2.132)	8 II/III (ug/ug)
1 Al	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
2 B	-6.214608	2.930380	2.922102	-6.214608	-1.644183	27.851722	1.557520	0.002102
3 Ba	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
4 C	16.020940	13.117507	13.118345	14.491786	14.187145	1.914022	0.797480	2.287535
5 Ca	3.204151	0.980160	0.971885	-6.214608	-0.264603	16.837719	0.561931	0.177397
6 Ce	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
7 Cl	5.062948	3.954292	3.946013	9.446420	5.602418	6.842458	0.844404	5.241457
8 Cr	-6.214608	2.041042	2.040557	1.164852	-0.242039	16.024543	0.184180	1.738397
9 Cs	-6.214608	0.479696	0.471423	-6.214608	-2.869524	14.919459	1.153204	0.035470
10 Cu	-6.214608	1.560777	1.560524	-6.214608	-2.326979	20.151548	0.052130	0.839027
11 Fe	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
12 K	5.289990	3.752231	3.747796	4.633916	4.355983	0.561341	0.842179	1.605183
13 La	3.091029	-6.214608	-6.214608	-6.214608	-3.888199	21.648719	0.666666	10.241102
14 Li	-6.214608	0.719228	0.710953	-6.214608	-2.749759	16.006919	1.153256	0.031414
15 Hg	-6.214608	-0.451908	-0.460173	-6.214608	-3.335320	11.053711	1.152964	0.056419
16 Mn	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
17 Mo	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
18 NO2	9.404747	8.494436	8.492984	9.137469	8.882409	0.213356	0.088673	0.969748
19 NO3	10.272385	11.510008	11.509494	10.149454	10.860335	0.564839	4.386524	11.852590
20 Na	-6.214608	3.726989	3.718711	-6.214608	-1.245879	32.917705	1.153693	0.006982
21 Nd	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
22 Ni	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	201.812144	0.008342
23 P	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000900	1.000000
24 S	-6.214608	2.764995	2.756718	-6.214608	-1.726876	26.853002	1.252902	0.007678
25 SO4	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
26 Si	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
27 Sr	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
28 Ti	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000
29 Zn	-6.214608	0.263660	0.255388	1.380430	-1.078782	12.002199	0.513400	0.263428
30 Zr	-6.214608	-6.214608	-6.214608	-6.214608	-6.214608	0.001000	0.000000	1.000000

.10 SIGNIFICANCE LEVEL, TWO-SIDED



## POP. III ROSE + IMPINGERS (LOG). SF-10B (AIR OFF)

0 ANALYSIS 1 SET 36 2 SET 37 3 MEAN 4 VARIANCE

	1	2	3	4
1 Al	-6.214608	-6.214608	-6.214608	0.000000
2 B	4.520824	4.520468	4.520646	5e-08
3 Ba	-6.214608	-6.214608	-6.214608	0.000000
4 C	13.360404	13.358936	13.359670	0.000001
5 Ca	1.464292	1.465227	1.464759	4e-07
6 Ce	-6.214608	-6.214608	-6.214608	0.000000
7 Cl	3.945160	3.946476	3.945818	9e-07
8 Cr	-0.795172	-0.794834	-0.795003	6e-08
9 Cs	0.470570	0.471885	0.471228	9e-07
10 Cu	-2.152119	-2.150815	-2.151467	9e-07
11 Fe	-6.214608	-6.214608	-6.214608	0.000000
12 K	3.882434	3.883057	3.882746	2e-07
13 La	-6.214608	-6.214608	-6.214608	0.000000
14 Li	0.710101	0.711416	0.710758	9e-07
15 Mg	-0.461025	-0.459711	-0.460368	9e-07
16 Mn	-6.214608	-6.214608	-6.214608	0.000000
17 Mo	-6.214608	-6.214608	-6.214608	0.000000
18 NO2	8.913345	8.912911	8.913128	9e-08
19 NO3	8.387860	8.387717	8.387789	1e-08
20 Na	3.717858	3.719174	3.718516	9e-07
21 Nd	-6.214608	-6.214608	-6.214608	0.000000
22 Ni	-1.428334	-1.427997	-1.428165	6e-08
23 P	-6.214608	-6.214608	-6.214608	0.000000
24 S	3.142197	3.142841	3.142519	2e-07
25 SO4	-6.214608	-6.214608	-6.214608	0.000000
26 Si	-6.214608	-6.214608	-6.214608	0.000000
27 Sr	-6.214608	-6.214608	-6.214608	0.000000
28 Ti	-6.214608	-6.214608	-6.214608	0.000000
29 Zn	0.254536	0.255851	0.255193	9e-07
30 Zr	-6.214608	-6.214608	-6.214608	0.000000

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION I TRAIN (LOG). SF-10

0 ANALYSIS	1 SET 12	2 SET 13	3 SET33	4 SET 36	5 MEAN	6 VARIANCE	7 t; I vs II ( $<1.943$ )	8 I/II (ug/ug)	9 t; I vs III ( $<2.132$ )	10 I/III (ug/ug)
1 Al	9.383490	6.948577	3.912911	7.357692	6.900668	5.100753	0.832901	0.346878	0.991726	5.368281
2 B	10.812081	9.051901	8.896686	9.444016	9.552171	0.759666	0.777789	1.620111	3.346394	9.021473
3 Ba	7.428650	4.835955	2.184802	5.604158	5.013391	4.738294	0.542357	0.514513	1.081036	5.848414
4 C	8.349533	8.635783	8.443768	8.978312	8.601849	0.077176	7.916239	0.003753	22.830855	0.008592
5 Ca	7.580984	5.356951	5.372806	6.367490	6.169558	1.108815	1.135520	0.517522	2.842744	9.465933
6 Co	5.572563	-6.907755	-2.420368	4.261480	0.126480	34.241650	1.644079	0.006656	0.404485	0.169309
7 Cl	5.914985	4.683112	4.006112	4.725786	4.832499	0.629465	3.366338	0.056933	1.380966	2.274437
8 Cr	5.673257	3.731791	1.545924	4.882802	3.959443	3.215786	1.560271	0.185639	1.009234	3.898292
9 Cs	6.573206	4.454761	2.289112	5.437987	4.686516	1.322932	1.347723	0.268526	0.734285	2.738269
10 Cu	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	1.64346e-32	28.092622	0.000009	81.511674	0.000069
11 Fe	10.375935	7.808939	5.479527	8.581637	8.061510	4.119174	1.001590	0.316354	0.884628	3.844405
12 K	10.220427	7.770143	6.302344	8.484054	8.194242	2.649518	0.345068	0.729888	1.325368	5.075088
13 La	5.212948	-6.907755	-6.907755	-1.547563	-2.537531	33.082563	1.415384	0.013013	0.570134	0.085450
14 Li	9.271973	6.959161	4.563422	7.346957	7.035378	3.738605	0.469333	0.606419	1.270485	6.319619
15 Mg	8.445627	6.143072	4.059676	6.711870	6.340061	3.270203	0.080176	0.918759	1.847587	12.265215
16 Mn	7.880558	5.388129	2.576844	6.161342	5.501718	4.187257	0.775168	0.379367	1.004242	5.289853
17 Mo	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	1.64346e-32	51.049685	0.000029	59.347343	0.000106
18 NO2	8.112736	8.548465	8.328612	7.988696	8.244627	0.060756	2.624571	0.382924	3.982625	0.478907
19 NO3	8.114740	6.591063	5.374942	6.341301	6.605512	1.287363	7.019969	0.011749	2.317847	0.139121
20 Na	11.176773	9.025153	6.694232	9.340887	9.059261	3.385898	0.391563	0.675192	1.128930	4.764190
21 Nd	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	1.64346e-32	11.244715	0.000032	57.250276	0.000246
22 Ni	7.180385	4.379015	1.243194	5.636156	4.609687	6.349539	1.107641	0.221897	0.316881	1.836483
23 P	8.570144	6.341185	3.192760	6.622284	6.181593	4.952659	0.658359	0.447100	0.955874	4.934773
24 S	8.050355	4.801202	5.308822	5.965956	6.031584	2.038656	2.297542	0.071242	0.672907	2.071334
25 SO4	-6.907755	-6.907755	-6.907755	-6.907755	-6.907755	1.64346e-32	50.694949	2e-07	3713.93285	0.000006
26 Si	9.865504	9.279466	7.960065	9.630475	9.183577	0.723640	0.453613	0.739313	3.910152	12.180396
27 Se	7.354680	5.209783	3.235624	5.913330	5.428354	2.933925	1.768319	5.889138	3.429451	82.333513
28 Ti	6.390093	4.125398	3.335374	5.341346	4.798053	1.807217	0.230745	1.232952	3.433299	32.053802
29 Zn	5.212948	4.132373	2.938574	4.428535	4.178108	0.890715	2.323215	0.185646	1.355118	2.612917
30 Zr	7.558136	5.657213	3.550894	6.262993	5.757309	2.792327	1.621788	0.206859	0.790187	2.693203
31 Alk.M	11.610607	9.377301	7.285693	9.798848	9.518112	3.153623	0.394207	0.680550	1.200443	4.968500
32 Alk.C	9.196471	6.894236	5.729234	7.623734	7.360919	2.106171	0.249279	0.806553	2.323404	12.564990
33 Refrac	10.419540	9.396299	7.969302	9.763408	9.392137	1.053788	0.540470	0.671521	3.082087	10.767552
34 Trans.M	10.521577	7.981748	5.736251	8.781384	8.253740	3.954490	1.008635	0.319325	0.902759	3.845294
35 Ca+Mg	8.797130	6.518496	5.611017	7.247579	7.043556	1.814834	0.437879	0.714757	2.444792	11.844354

.10 SIGNIFICANCE LEVEL, TWO-SIDED

POPULATION II TRAIN (LOG), SF-10B (AIR ON)

0 ANALYSIS	1 SET 33	2 SET 34	3 SET 35	4 SET 38	5 MEAN	6 VARIANCE	7 t:II vs III (-2.132)	8 II/III (ug/ug)
1 Al	9.515840	7.224241	6.913226	8.174498	7.959451	1.159036	3.123826	15.476012
2 B	10.304240	8.531458	8.345459	9.093548	9.068676	0.779628	2.579048	5.568428
3 Ba	7.226006	5.019611	4.696930	5.769155	5.677926	1.266869	2.871511	11.366888
4 C	16.020940	13.117507	13.118345	14.491786	14.167145	1.914022	0.798351	2.289602
5 Ca	7.554620	6.620149	6.512581	6.625692	6.828260	0.237199	7.913469	18.290870
6 Ce	7.380669	3.805258	3.792722	5.576285	5.138734	2.935876	2.504263	25.437409
7 Cl	8.297842	6.472958	6.469950	9.552790	7.698385	2.269630	3.262675	39.949597
8 Cr	6.786248	4.709374	4.506942	6.571022	5.643397	1.443508	3.361776	20.999352
9 Cs	6.927930	5.670973	5.311596	6.094793	6.001322	0.484064	4.349031	10.197399
10 Cu	5.909907	4.101433	3.760801	4.975056	4.686799	0.926403	2.743253	7.436514
11 Fe	10.554775	8.617462	8.113601	9.563781	9.212405	1.162249	3.088409	12.152242
12 K	9.613423	7.896233	7.853207	8.667560	8.509106	0.680868	3.086755	6.953238
13 La	4.952059	0.222193	0.888003	1.154834	1.804272	4.557618	1.174095	6.566473
14 Li	8.745365	6.992477	6.737020	7.667387	7.535562	0.804537	3.473183	10.421206
15 Mg	7.902305	5.768164	5.448303	6.580401	6.424793	1.197317	3.154622	13.349770
16 Mn	8.003202	5.790312	5.362536	6.728366	6.471129	1.368563	2.998818	13.946115
17 Mo	4.124189	3.568526	3.221079	3.293952	3.551936	0.167924	3.804407	3.699363
18 NO2	9.938726	8.618008	8.616428	9.645019	9.204545	0.474315	0.433024	1.250658
19 NO3	10.710333	11.526538	11.525991	10.435237	11.049520	0.315658	5.865535	11.841373
20 Na	10.544877	8.954764	8.769082	9.539353	9.452019	0.638544	3.225915	7.056049
21 Nd	6.172212	2.592921	2.202480	2.776506	3.436030	3.384714	1.465801	7.642330
22 Ni	7.333934	5.564869	5.036065	6.526023	6.115230	1.040519	2.538162	8.276293
23 P	8.339886	6.424341	6.033615	7.148425	6.986567	1.027295	3.150672	11.037299
24 S	11.375322	7.798263	7.682005	7.817421	8.673253	3.249324	2.476187	29.074518
25 SO4	9.337602	8.174032	8.171484	8.051924	8.433761	0.366326	7.219239	26.500397
26 Si	10.780716	8.839074	8.512172	9.811684	9.485911	1.049738	3.641063	16.475290
27 Sr	5.078923	3.022803	2.748032	3.771221	3.655245	1.087776	3.361479	13.980571
28 Ti	6.240565	3.930241	3.457018	4.726742	4.588641	1.487328	3.554701	25.997609
29 Zn	7.262227	5.195643	4.802887	6.187324	5.862020	1.210741	3.201208	14.074718
30 Zr	8.616128	6.784531	6.359963	7.571478	7.333025	0.983636	3.446191	13.019486
31 Alk.M	11.006234	9.376750	9.217063	10.011817	9.902966	0.658805	1.229716	7.300709
32 Alk.E	8.723943	7.124404	6.938428	7.516844	7.575905	0.643903	4.550835	15.578521
33 Refrac	11.147684	9.130031	8.797023	10.086654	9.790348	1.117624	3.494542	16.034580
34 Trans.M	10.739365	8.787804	8.294788	9.755180	9.395284	1.169138	3.065136	12.041927
35 Ca+Mg	8.436445	6.975420	6.808957	7.296450	7.379368	0.537750	5.093083	16.571162

.10 SIGNIFICANCE LEVEL, TWO-SIDED

## POPULATION III TRAIN (LOG). SF-10B (AIR OFF)

0 ANALYSIS	1 SET 36	2 SET 37	3 MEAN	4 VARIANCE
1 Al	5.142707	5.297613	5.220160	0.011998
2 B	7.239140	7.463986	7.351563	0.025278
3 Ba	3.144844	3.349598	3.247221	0.020962
4 C	13.350597	13.358936	13.358766	6e-08
5 Ca	3.859356	3.984361	3.921858	0.007813
6 Ce	1.679993	2.125032	1.902513	0.099030
7 Cl	4.009816	4.011716	4.010766	0.000002
8 Cr	2.448655	2.749155	2.598905	0.045150
9 Cs	3.494379	3.864002	3.679190	0.068311
10 Cu	2.488309	2.872485	2.680397	0.073795
11 Fe	6.692597	6.737185	6.714891	0.000994
12 K	6.393335	6.746462	6.569898	0.062349
13 La	-0.200784	0.045374	-0.077705	0.030297
14 Li	5.104445	5.278994	5.191719	0.015234
15 Mg	3.773099	3.893489	3.833294	0.007247
16 Mn	3.756294	3.915562	3.835928	0.012683
17 Mo	1.991963	2.495588	2.243776	0.126819
18 NO2	8.980731	8.981020	8.980875	4e-08
19 NO3	8.577061	8.578779	8.577920	0.000001
20 Na	7.355100	7.641167	7.498134	0.040917
21 Nd	1.165292	1.639362	1.402327	0.112371
22 Ni	3.465755	4.538515	4.001835	0.576051
23 P	4.495598	4.674975	4.585287	0.016088
24 S	5.048708	5.558073	5.303391	0.129726
25 SO4	5.151296	5.161906	5.156601	0.000056
26 Si	6.617140	6.750959	6.684050	0.008954
27 Sr	0.916382	1.118770	1.017576	0.020480
28 Ti	1.235252	1.426022	1.330637	0.018197
29 Zn	3.158138	3.277142	3.217640	0.007081
30 Zr	707433	4.825721	4.766577	0.006996
31 Alk.M	7.766283	8.063706	7.914994	0.044230
32 Alk.C	4.759313	4.900710	4.830012	0.009997
33 Refrac	6.946148	7.085052	7.015600	0.009647
34 Trans.M	6.844916	6.968864	6.906890	0.007682
35 Ca+Mg	4.510304	4.633104	4.571704	0.007540

.10 SIGNIFICANCE LEVEL, TWO-SIDED

DF-SFCM. TRAIN VALUES

0 ANALYSIS	1 SF-10	2 SF-10B (AIR ON)	3 SF-10B (AIR OFF)	4 SF-10 FEED RATE	5 SF-10B FEED RATE	6 DF-SFCM POP. I	7 DF-SFCM POP. II	8 DF-SFCM POP. III
1 Al	992.937405	2862.71546	184.963767	1.02000	1.55000	42.802295	22.561851	349.167488
2 B	14061.149258	125847	1558.631168	0.84800	1.62000	2.512834	7.777281	43.307231
3 Ba	150.413986	292.342339	25.718766	0.13000	0.02950	36.011722	4.204546	47.792599
4 C	5441.77181	1450102.081215	633342.300184	0.00000	0.00000	0.000000	0.000000	0.000000
5 Ca	477.74663	923.582793	50.494196	0.09700	0.16800	8.455818	7.579180	138.629793
6 Ce	134827	170.499697	6.702715	0.03220	0.28100	1182.265621	68.670695	1746.804648
7 Cl	125.524212	2204.783979	55.189143	0.00000	0.00000	0.000000	0.000000	0.000000
8 Cr	52.428141	282.420353	13.449003	0.02580	0.04500	20.504256	6.639040	39.415538
9 Cs	108.474638	403.962946	39.614312	0.02190	0.04430	8.412105	4.569313	40.595113
10 Cu	0.001000	108.505308	14.590884	0.00000	0.02250	0.000000	8.640130	64.252446
11 Fe	3170.072525	10020.663763	824.593861	2.31000	3.97000	30.362081	16.507556	200.603806
12 K	3620.046279	4959.725986	713.297292	0.81300	1.26000	9.357615	10.585262	73.601850
13 La	0.079061	6.075547	0.925237	0.00989	0.01600	5212.197117	109.729492	720.535789
14 Li	1136.124651	1873.497221	179.777399	0.38700	0.66400	14.192985	14.767391	153.894021
15 Mg	566.831023	616.953217	46.214520	0.21300	0.25500	15.657223	17.221727	229.906096
16 Mn	245.112718	646.212774	46.336399	0.22700	0.36000	38.587689	23.212169	323.719586
17 Mo	0.001000	34.880792	9.428863	0.00000	0.01570	0.000000	18.754352	69.379166
18 NO2	3807.116804	9942.213995	7949.587430	0.09000	0.00000	0.000000	0.000000	0.000000
19 NO3	739.157959	62913.726910	5313.043258	0.00000	0.00000	0.000000	0.000000	0.000000
20 Na	8597.794968	12733.846973	1804.670952	2.26000	3.97000	10.952421	12.990314	91.660292
21 Nd	0.001000	31.063383	4.064648	0.03980	0.06850	1658333.333466	91.882030	702.192820
22 Ni	100.452751	452.700260	54.698433	0.05670	0.09230	22.688942	8.495319	70.309754
23 P	483.762138	1082.000542	98.031275	0.29900	0.48400	25.753014	18.638315	205.716661
24 S	416.373836	5844.478468	201.017207	0.00000	0.00000	0.000000	0.000000	0.000000
25 SO4	0.001000	4599.765500	173.573458	0.00000	0.00000	0.000000	0.000000	0.000000
26 Si	9738.839972	13172.824127	799.550375	6.21000	9.49000	26.568873	30.017608	494.548785
27 Sr	227.774113	38.676986	2.766481	0.12300	0.01190	22.590362	12.819855	179.228884
28 Ti	121.274033	98.360714	3.783452	0.16200	0.22500	55.659071	95.312443	2477.895647
29 Zn	65.242267	351.433407	24.969126	0.00000	0.00755	0.000000	0.895144	12.598692
30 Zr	316.495437	1530.002448	117.516348	0.43100	0.80000	56.741208	21.786458	283.648479
31 Alk.M	13603.905694	19989.566135	2738.030944	3.48000	5.94000	10.658704	12.381459	90.593427
32 Alk.E	1573.281297	1950.624085	125.212401	0.56300	0.46400	14.910451	9.911358	154.404301
33 Refrac	11993.708100	17860.518185	1113.875052	7.74000	12.20000	26.889099	28.461287	456.364771
34 Trans.M	3841.967381	12031.509275	999.134846	2.78000	4.69000	30.149484	16.242074	195.585879
35 Ca+Mg	1145.453046	1602.576873	96.708781	0.31000	0.42300	11.276479	10.997912	182.240187

LOG NORMAL MEAN VALUES

POPULATION I TRAIN (NORMALIZED DATA AF MEANS). SF-10

ANALYSIS	1 PROBE (%)	2 FILTER (%)	3 IMP (%)	4 TRAIN (ug/DSCF)
1 Al	98.97	1.03	0.00	931.23
2 B	95.82	3.50	0.68	6969.06
3 Ba	97.70	2.30	0.00	136.10
4 C	0.00	0.00	100	5141.71
5 Ca	99.94	0.05	0.01	439.42
6 Ce	91.77	8.14	0.09	0.18
7 Cl	99.87	0.00	0.13	59.53
8 Cr	91.82	8.18	0.00	45.07
9 Cs	95.29	4.71	0.00	103.23
10 Cu	33.33	33.33	33.33	3e-08
11 Fe	97.93	2.07	0.00	2994.02
12 K	97.84	2.16	0.00	3438.46
13 La	73.57	24.21	2.22	0.02
14 Li	97.66	2.05	0.28	1056.17
15 Mg	98.60	1.40	0.00	555.72
16 Mn	97.00	3.00	0.00	225.14
17 Mo	33.33	33.33	33.33	3e-08
18 NO2	0.10	0.00	99.90	3562.26
19 NO3	59.24	0.00	40.76	529.21
20 Na	97.19	2.81	0.01	7642.59
21 Nd	33.33	33.33	33.33	3e-08
22 Ni	99.86	0.14	0.00	90.61
23 P	98.09	1.91	0.00	451.32
24 S	99.89	0.03	0.08	154.94
25 SO4	33.33	33.33	33.33	3e-08
26 Si	24.37	0.78	74.85	9488.73
27 Sr	97.33	2.67	0.00	222.65
28 Ti	95.06	0.00	4.94	54.70
29 Zn	100.00	0.00	0.00	65.13
30 Zr	96.95	3.05	0.00	301.59
31 Alk.M	97.39	2.58	0.03	12240.45
32 Alk.E	98.73	1.26	0.00	1353.90
33 Refrac	32.89	0.86	66.24	10721.76
34 Trans.M	97.83	2.09	0.08	3474.67
35 Ca+Mg	99.19	0.80	0.01	995.15

A 25-1

## POPULATION II TRAIN (NORMALIZED DATA OF MEANS). SF-10B (AIR ON)

	ANALYSIS	1 PROBE (%)	2 FILTER (%)	3 HOSE (%)	4 IMP. (%)	5 TRAIN (ug/DSCF)
1	Al	84.30	15.70	0.00	0.00	2685.93
2	B	65.44	34.56	0.00	0.00	8288.45
3	Ba	73.59	26.41	0.00	0.00	271.62
4	C	0.00	0.00	0.00	100.00	1449879.82
5	Ca	86.30	11.61	0.01	0.00	912.62
6	Ce	91.49	8.51	0.00	0.00	162.01
7	Cl	99.61	0.00	0.38	0.01	1184.33
8	Cr	80.24	19.49	0.00	0.28	239.69
9	Cs	49.55	50.44	0.01	0.00	380.08
10	Cu	70.02	29.89	0.01	0.07	92.91
11	Fe	76.12	23.88	0.00	0.00	9182.24
12	K	49.54	49.39	0.00	1.07	4741.05
13	La	32.40	66.88	0.05	0.67	1.82
14	Li	74.84	25.16	0.00	0.00	1784.36
15	Mg	79.92	20.08	0.00	0.00	578.04
16	Mn	81.79	18.21	0.00	0.00	595.47
17	Mo	0.00	99.99	0.00	0.00	34.88
18	NO2	24.44	0.00	0.00	75.56	8834.36
19	NO3	7.78	0.00	0.00	92.22	56409.02
20	Na	65.57	34.43	0.00	0.00	12155.55
21	Nd	47.43	52.56	0.01	0.01	18.33
22	Ni	58.59	41.40	0.00	0.00	404.53
23	P	74.13	25.86	0.00	0.00	1014.59
24	S	71.61	28.38	0.00	0.00	4795.68
25	SO4	100.00	0.00	0.00	0.00	4599.77
26	Si	84.92	15.08	0.00	0.00	12529.22
27	Sr	78.56	21.43	0.00	0.00	36.60
28	Ti	82.84	17.16	0.00	0.00	80.25
29	Zn	80.22	19.77	0.01	0.00	324.73
30	Zr	77.74	22.26	0.00	0.00	1442.89
31	Alk.M	62.13	37.60	0.00	0.27	19061.05
32	Alk.E	83.23	16.76	0.00	0.00	1798.89
33	Refrac	84.22	15.78	0.00	0.00	16840.19
34	Trans.M	75.75	24.24	0.00	0.01	10964.70
35	Ca+Mg	85.10	14.89	0.01	0.00	1490.67

A 26-1

## POPULATION III TRAIN (NORMALIZED DATA OF MEANS). SF-10B (AIR OFF)

0 ANALYSIS	1 PROBE (%)	2 FILTER (%)	3 HOSE (%)	4 IMP. (%)	5 TRAIN (ug/DSCF)
1 Al	72.32	27.68	0.00	0.00	183.72
2 B	32.31	61.77	1.20	4.72	1553.02
3 Ba	48.94	51.05	0.00	0.00	25.61
4 C	0.00	0.00	0.06	99.94	633617.64
5 Ca	50.26	41.15	5.24	3.35	50.37
6 Ce	1.57	98.40	0.01	0.01	6.70
7 Cl	6.29	0.00	93.71	0.00	55.19
8 Cr	34.46	62.16	0.01	3.37	13.36
9 Cs	33.63	62.29	4.08	0.00	39.23
10 Cu	46.78	52.41	0.80	0.01	14.36
11 Fe	50.91	49.09	0.00	0.00	824.47
12 K	26.18	66.96	3.46	3.40	708.09
13 La	0.11	99.68	0.11	0.11	0.93
14 Li	51.54	47.32	1.14	0.00	179.11
15 Mg	61.80	36.84	1.37	0.00	46.10
16 Mn	71.99	28.01	0.00	0.00	46.01
17 Mo	0.01	99.97	0.01	0.01	9.43
18 NO2	6.55	0.00	0.00	93.45	7949.58
19 NO3	17.31	0.00	3.45	79.24	5313.03
20 Na	36.59	61.11	2.30	0.00	1793.77
21 Nd	0.02	99.93	0.02	0.02	4.07
22 Ni	20.22	79.37	0.00	0.45	52.69
23 P	51.49	48.51	0.00	0.00	97.66
24 S	39.42	48.68	8.09	3.81	194.55
25 SO4	100.00	0.00	0.00	0.00	173.58
26 Si	79.10	20.90	0.00	0.00	793.91
27 Sr	50.56	49.36	0.04	0.04	2.76
28 Ti	74.34	25.61	0.03	0.03	3.74
29 Zn	60.57	34.24	5.18	0.00	24.90
30 Zr	62.40	37.59	0.00	0.00	117.24
31 Alk.M	34.82	61.74	2.55	0.88	2720.20
32 Alk.E	54.26	41.77	2.62	1.35	124.83
33 Refrac	75.38	24.62	0.00	0.00	1106.56
34 Trans.M	49.82	49.97	0.14	0.07	988.97
35 Ca+Mg	55.77	39.09	3.39	1.75	96.47

A 27-1



## SFCM OFF-GAS. NORMALIZED DATA (SAMPLE BREAKDOWN). SF-10

0 ITEM	1 SET 12 ->	2 STAGE F	3 IMP (ug)	4 PROBE (%)	5 SET 12 (ug/DSCF)	6 SET 13 ->	7 FILT	8 IMP (tot. ug)	9 PROBE (ug)	10 SET 13 (ug/DSCF)	
1 Al			0.000001	99.833756	11890.438247		2.092050	0.000004	97.907950	1041.666667	
2 B			3e-07	99.400222	49616.621207		2.757618	49.699001	47.543381	8534.743724	
3 Ba			0.000009	99.727490	1683.533558		6.920415	0.000035	93.079585	125.958856	
4 C			0.000025	100.000000	0.000004		8e-07	100.000000	8e-07	5629.540175	
5 Ca			0.314195	0.000009	99.685805		0.000021	16.356686	83.643314	212.077232	
6 Ce			0.293820	0.000058	99.706472		100.000000	100.000000	100.000000	.001	
7 Cl			0.000289	0.000041	100.000000		0.000040	43.960267	56.039733	108.105954	
8 Cr			0.829147	0.000053	99.171117		29.227557	0.000104	70.772443	41.753835	
9 Cs			1.027749	0.000021	98.972251		8.814590	0.000051	91.185410	86.035565	
10 Cu	0.001		0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000	
11 Fe			0.228802	5e-07	99.771198		32078.299111	8.495575	0.000002	91.504425	2462.517434
12 K			0.430350	6e-07	99.599650		27458.381857	2.115915	0.000002	97.884085	2368.311018
13 La			0.000584	0.000083	100.000000		183.634692	100.000000	100.000000	.001	
14 Li			0.236831	3.567737	96.195434		10635.718164	6.624079	10.160924	83.214997	1052.750174
15 Mg			0.243610	0.000003	99.756390		4654.673013	4.494382	0.000009	95.505618	465.481172
16 Mn			0.335621	0.000006	99.664379		2645.347839	7.569721	0.000020	92.430279	218.793584
17 Mo	0.001		0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000	
18 NO2			0.000032	84.885062	15.114938		3336.696292	8e-07	99.488021	0.511979	5158.829328
19 NO3			0.000032	6.039501	93.960499		3343.386906	0.000006	37.784344	62.215956	728.555134
20 Na			0.284400	3.738100	96.377400		71451.391400	5.979457	24.365113	69.655430	8309.482218
21 Nd	0.001		0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000	
22 Ni			0.132378	0.000012	99.867699		1313.414036	0.000055	0.000055	100.000000	79.759414
23 P			0.228924	0.000003	99.771075		5271.890898	3.225806	0.000008	96.774194	567.468619
24 S			0.000034	0.000005	100.000000		3134.906528	0.000036	93.849801	6.950199	121.656512
25 SO4	0.001		0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000	
26 Si			0.483672	73.902140	25.614188		19254.575544	2.399728	78.670892	18.929380	10715.707810
27 Sr			1.905353	0.000010	98.994647		1563.496782	6.190476	0.000024	93.809524	183.054393
28 Ti			0.000180	29.563992	70.436008		595.911738	0.000070	87.817416	12.182584	61.892434
29 Zn			0.000584	0.000083	100.000000		183.634692	0.000070	0.000070	100.000000	62.325662
30 Zr			0.748322	0.000008	99.251694		1916.270303	11.56732	0.000015	88.432268	286.349372

NO PLANE CORRECTIONS MADE

## SFCM OFF-GAS. NORMALIZED DATA (SAMPLE BREAKDOWN). SF-10

0 IT *	11 SET 33 ->	12 FILT	13 IMP (tot. ug)	14 PROBE (ug)	15 SET 33 (ug/DSCF)	16 SET 36 ->	17 STAGE F	18 IMP (tot. ug)	19 PROBE (ug)	20 SET 36 (ug/SCF)
1 Al		23.978686	0.000089	76.021314	50.044544		0.104496	0.000007	99.895531	1568.212766
2 B		1.92145	85.756303	12.321832	7307.715556		2.834837	9.794715	87.370448	12632.344681
3 Ba		3.000000	0.000500	60.000000	8.888889		0.290057	0.000039	99.710100	271.553191
4 C		1e-06	100.000000	1e-06	4646.026667		0.000009	100.000000	0.000001	7929.236383
5 Ca		0.990099	0.000021	39.009901	215.466667		0.60658	13.081269	86.312491	582.593617
6 Ce		100.000000	0.050000	0.050000	0.088889		0.001050	0.000150	100.000000	70.914894
7 Cl		0.000081	91.019345	8.980655	54.932889		0.000660	0.000094	100.000000	112.819140
8 Cr		43.396226	0.000943	56.603774	4.711111		2.321406	0.000081	97.678917	132.000000
9 Cs		23.636364	0.000455	76.363636	9.777778		1.827455	0.000046	98.112684	229.978723
10 Cu	0.001	0.001000	0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000
11 Fe		19.540230	0.000019	80.59770	239.733333		0.387404	0.000002	99.612596	5332.829787
12 K		10.340655	11.575193	78.084162	545.849778		2.038797	0.000002	97.961203	4837.021277
13 La		100.000000	100.000000	100.000000	.001	100.300000	0.050000	0.050000	0.050000	0.212766
14 Li		11.955514	0.000046	88.044466	95.911111		0.707634	2.889508	96.402858	1551.468085
15 Mg		7.975460	0.000077	92.024543	57.955556		0.408913	0.000013	99.591087	822.106383
16 Mn		31.081081	0.000338	68.918919	13.155556		0.727077	0.000022	99.272973	474.063830
17 Mo	0.001	0.001000	0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000
18 NO2		0.000001	100.000000	0.000001	4140.667556		0.000025	90.397978	9.602022	2947.451064
19 NO3		0.000021	91.519783	8.480217	215.927378		0.000131	34.740641	65.259359	467.34149
20 Na		15.813800	0.000006	84.186200	807.733333		1.440703	9.336336e-07	98.559217	11.710638
21 Nd	0.001	0.001000	0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000
22 Ni		33.333333	0.001282	66.666667	3.466667		1.120900	0.000038	98.869328	332979
23 P		27.007299	0.000182	72.992701	24.355556		0.509511	0.000014	99.490485	751.659574
24 S		3.958201	68.114489	27.927310	202.112000		1.626170	0.000027	98.373939	389.925532
25 SO2	0.001	0.001000	0.001000	0.001000	0.001000	0.001	0.001000	0.001000	0.001000	0.001000
26 Si		2.110300	51.596939	16.292761	2864.257778		0.135166	59.629615	40.235219	15221.659574
27 Sr		11.188811	0.000175	88.811189	25.422222		0.667165	0.000029	99.332835	369.936170
28 Ti		1.898734	0.000158	98.101266	28.088889		0.000357	59.860597	40.139403	208.793617
29 Zn		0.705882	0.000235	99.294118	18.888889		0.000889	0.000127	100.000000	83.808511
30 Zr		16.581633	0.000128	83.418367	34.844444		0.494628	0.000020	99.505372	524.787234

NO BLANK CORRECTIONS MADE

SFPM OFF-GAS. NORMALIZED DATA (SAMPLE BREAKDOWN). SF-108

0 Analytes	1 SET 33 ->	2 PROBE (ug)	3 TE-816 (ug)	4 HOSE (ug)	5 IMP (ug)	6 SET 33 (ug/DSCF)	7 SET 34 ->	8 PROBE (ug)	9 TE-819 (ug)	10 ROSE (ug)
1 Al2O3	93.273337	9.726663	0.000000	0.000000	0.000000	13573.028294		57.575685	42.424315	0.000000
2 B2O3	81.582550	18.41745	0.000000	0.000000	0.000000	29858.962750		46.346365	53.284266	0.369369
3 BaO	89.833804	10.16619	0.000000	0.000000	0.000000	1374.721125		46.552625	53.407375	0.000000
4 C	0.000000	0	0.000000	0.000000	0.000000	9074144.680851		0.000000	0.000000	0.025810
5 CaO	88.832458	9.877518	0.000000	0.000000	1.290025	1909.544102		83.204620	16.440223	0.355157
6 CaO2	99.051609	0.948391	0.000000	0.000000	164.62741	4015.197568		81.091932	18.908008	0.000000
7 Cl	96.063588	0	3.936412	0.000000	0.000000	885.584305		91.943455	0.000000	8.056545
8 Cr2O3	92.159344	7.840658	0.000000	0.000000	0.000000	885.584305		45.061344	48.002775	0.000000
9 Cu2O	73.012019	26.98798	0.000000	0.000000	1020.379939	1020.379939		29.015905	70.427950	0.556145
10 CuO	87.069328	12.93067	0.000000	0.000000	368.671733	368.671733		37.241377	56.877155	0.192455
11 Fe2O3	89.199972	10.80902	0.000000	0.000000	38360.157065	38360.157065		42.922428	57.077572	0.000000
12 K2O	70.644334	28.03024	0.000000	1.325424	14964.37872	14964.37872		37.054799	61.359274	0.919282
13 La2O3	82.972609	1.478861	0.000000	15.550530	141.465896	141.465896		81.323943	18.676057	0.000000
14 La2O	86.516342	13.48365	0.000000	0.000000	6281.506204	6281.506204		52.556897	47.254586	0.188517
15 MgO	51.734028	8.265972	0.000000	0.000000	2703.506619	2703.506619		53.343208	46.458194	0.198598
16 MnO	92.809391	7.190609	0.000000	0.000000	2990.518826	2990.518826		50.096714	49.903286	0.000000
17 Mo	0.000000	100	0.000000	0.000000	61.817629	61.817629		0.000000	100.000000	0.000000
18 NO2	41.373239	0	15.404930	43.221831	20717.325228	20717.325228		11.624152	0.000000	0.000000
19 NO3	35.462737	0	0.000000	54.537263	44815.653495	44815.653495		1.639436	0.000000	0.182323
20 Na2O	80.457460	19.54254	0.000000	0.000000	37982.355909	37982.355909		46.183785	53.279683	0.536532
21 Na2O3	97.960253	2.039747	0.000000	0.000000	479.245072	479.245072		24.123441	75.876559	0.000000
22 NiO	71.570328	28.42967	0.000000	0.000000	1531.440755	1531.440755		27.326529	72.679471	0.000000
23 P2O5	87.953639	12.04636	0.000000	0.000000	4187.612749	4187.612749		46.649479	53.350521	0.000000
24 SO3	97.617133	2.382867	0.000000	0.000000	87144.372097	87144.372097		46.065874	53.282418	0.651707
25 SO4	100.000000	0	0.000000	0.000000	11357.142857	11357.142857		100.000000	0.000000	0.000000
26 SiO2	90.150631	9.849369	0.000000	0.000000	48084.534638	48084.534638		60.466793	39.533207	0.000000
27 SiO	90.930727	9.069273	0.000000	0.000000	160.601064	160.601064		54.782458	45.217542	0.000000
28 Ti	93.968326	6.031674	0.000000	0.000000	5.3.148177	5.3.148177		49.587455	50.412545	0.000000
29 Zn	91.544314	8.455686	0.000000	0.000000	1425.426835	1425.426835		50.280430	48.998905	0.720665
30 Zr	81.056633	11.94336	0.000000	0.000000	5519.969846	5519.969846		49.839959	50.06041	0.000000

## SPCM OFF-GAS. NORMALIZED DATA (SAMPLE BREAKDOWN). SF-10B

0 Analysis	11 IMP (ug)	12 SET 34 (ug/DSCF)	13 SET 35 ->	14 PROBE (ug)	15 TE-821 (ug)	16 ROSE (ug)	17 IMP (ug)	18 SET 35 (ug/DSCF)	19 SET 36 ->
1 Al2O3	0.000000	1384.008249		79.167635	20.832365	0.000000	0.000000	1005.485570	
2 B2O3	0.000000	5071.833191		55.678486	43.280307	0.441207	1.464107e-15	4211.014541	
3 BaO	0.000000	151.352381		64.172516	35.827483	0.000000	-8.881784e-16	109.610178	
4 C	99.974190	497577.827381		0.000000	0.000000	0.025575	99.974425	497995.048346	
5 CaO	0.000000	750.057132		92.418201	7.189568	0.392231	-1.31839e-16	673.562334	
6 CeO2	0.000000	44.936851		81.905998	18.094000	0.000000	0.000000	44.377048	
7 Cl	0.000000	647.395833		91.985803	0.000000	8.014197	0.000000	645.451230	
8 Cr2O3	6.935881	110.982704		55.031688	36.480297	0.000000	8.488014	90.644221	
9 Cs2O	0.000000	290.116964		41.457716	57.752208	0.790775	-1.179612e-15	202.673367	
10 CuO	7.689014	60.426806		49.417493	39.505264	0.273739	10.808911	42.982859	
11 Fe2O3	0.000000	5527.338913		70.860081	29.139919	0.0	-8.881784e-16	3339.583072	
12 K2O	0.666645	2687.139881		38.354632	60.006905	0.946091	0.692372	2589.467345	
13 La2O3	0.000000	1.248812		41.682518	58.317447	0.000000	0.000000	2.830272	
14 Li2O	0.000000	1088.413920		67.681001	32.077620	0.241379	1.661865e-15	843.044588	
15 HgO	0.000000	319.949642		73.263290	26.465508	0.271202	2.518818e-15	232.363474	
16 MnO	0.000000	327.114935		76.637267	23.362732	0.000000	4.440892e-16	213.286377	
17 Mo	0.000000	35.464286		0.000000	99.999997	0.000000	0.000000	25.055131	
18 NO2	88.375848	5530.357143		11.612903	0.000000	0.000000	88.387097	5521.628499	
19 NO3	98.178242	101370.535714		1.636159	0.000000	0.180919	98.182923	101315.104326	
20 Na2O	0.000000	7744.699121		55.465612	43.893707	3.640680	-1.304512e-15	6432.262747	
21 Nd2O3	0.000000	13.368763		35.554876	64.445115	0.000000	1.776357e-15	9.047421	
22 NiO	0.000000	261.090959		46.242264	53.757735	0.000000	-8.881784e-16	153.863414	
23 P2O5	0.000000	616.674495		68.774984	31.225016	0.000000	-4.440892e-16	417.220653	
24 SO3	0.000000	2436.366071		51.613442	47.660540	0.726018	1.332268e-15	2168.965055	
25 SO2	0.000000	3547.619048		100.000000	0.000000	0.000000	-0.060000	3538.592027	
26 SiO2	0.000000	6892.598197		83.633856	16.366144	0.000000	2.664535e-15	4974.955319	
27 SrO	0.000000	20.548810		71.922806	28.077189	0.000000	8.881784e-16	15.611874	
28 TiO2	0.000000	50.919264		79.393278	20.606719	0.000000	1.332268e-15	31.722230	
29 Zn	0.000000	180.884137		74.278676	24.662777	1.058546	5.273559e-16	121.861742	
30 ZrO2	0.000000	884.065035		76.090255	23.909745	0.000000	-8.881784e-16	578.224721	

SFCM OFF-GAS. NORMALIZED DATA (SAMPLE BREAKDOWN). SF-10B

0 Analyses	20 PROBE (ug)	21 TE-823 (ug)	22 HOSE (ug)	23 IMP (ug)	24 SET 36 (ug/DSCF)	25 SET 37 ->	26 PROBE (ug)	27 TE-825 (ug)	28 HOSE (ug)	29 IMP (ug)
1 Al2O3	77.210796	22.789204	0.000000	0.000000	171.178542		66.836065	33.163935	0.000000	0.000000
2 B2O3	35.838615	57.562811	1.332724	5.275850	1392.896148		28.927407	65.804588	1.065768	4.202237
3 BaO	53.694324	46.305676	0.000000	0.000000	23.216052		44.219354	55.780646	0.000000	0.000000
4 C	0.000000	0.000000	0.200960	99.579904	633235.048063		0.000000	0.000000	0.020116	99.979884
5 CaO	53.095332	37.787982	5.564837	3.551849	47.434781		47.355970	44.591098	4.917392	3.135540
6 CeO2	1.944859	98.055141	0.000000	0.000000	5.365518		1.259556	98.740444	0.000000	0.000000
7 Cl	6.262801	0.000000	93.737199	0.000000	55.136724		6.317580	0.000000	93.682420	0.000000
8 Cr2O3	39.582746	56.524464	0.000000	3.892790	11.572775		29.621584	67.495030	0.000000	2.883386
9 Cs2O	39.947751	55.293714	4.858535	0.000000	32.929818		27.828242	68.810117	3.361640	0.000000
10 CuO	55.506480	43.536470	0.957051	0.000000	12.040902		38.203756	61.143623	0.652621	0.000000
11 Fe2O3	51.773900	48.226100	0.000000	0.000000	806.413580		50.044255	49.955785	0.000000	0.000000
12 K2O	30.843297	61.037195	4.094331	4.025177	597.846944		21.898138	72.394450	2.880006	2.827405
13 La2O3	0.000000	100.000000	0.000000	0.000000	0.818089		0.000000	100.000000	0.000000	0.000000
14 Li2O	55.738877	43.027034	1.234090	0.000000	164.752649		47.310808	51.651393	1.037798	0.000000
15 MgO	65.114628	33.438420	1.446952	0.000000	43.514690		98.344642	40.370838	1.284519	0.000000
16 MnO	77.001663	22.998337	0.000000	0.000000	42.789537		66.364870	33.635130	0.000000	0.000000
17 Mo	0.000000	100.000000	0.000000	0.000000	7.329911		0.000000	100.000000	0.000000	0.000000
18 NO2	6.516570	0.000000	0.000000	93.483430	7948.436771		6.584160	0.000000	0.000000	93.415832
19 NO3	17.237936	0.000000	3.449978	79.312086	5308.479701		17.391875	0.000000	3.448589	79.159536
20 Na2O	41.738584	55.628996	2.632420	0.000000	1564.158024		31.682977	66.330912	1.980111	0.000000
21 Nd2O3	0.000000	100.000000	0.000000	0.000000	3.206861		0.000000	100.000000	0.000000	0.000000
22 NiO	33.129106	66.124498	0.000000	0.746396	31.981416		11.446240	88.298512	0.000000	0.255248
23 P2O5	55.813857	44.186143	0.000000	0.000000	89.621791		47.146287	52.853713	0.000000	0.000000
24 SO3	48.952988	36.187226	10.097254	4.762532	155.821027		29.728458	61.336878	6.075198	2.859466
25 SO4	100.000000	0.000000	0.000000	0.000000	172.655156		100.000000	0.000000	0.000000	0.000000
26 SiO2	83.527943	16.472057	0.000000	0.000000	747.803192		73.845202	26.154798	0.000000	0.000000
27 SrO	55.431048	44.568952	0.000000	0.000000	2.500229		45.757747	54.242253	0.000000	0.000000
28 TiO2	80.448315	19.551685	0.000000	0.000000	3.439745		67.185286	32.814714	0.000000	0.000000
29 Zn	63.766633	30.755081	5.472286	0.000000	23.526752		57.216100	37.913850	4.870050	0.000000
30 Zr	65.699843	34.300157	0.000000	0.000000	110.767506		58.992540	41.007060	0.000000	0.000000

## SF6M OFF-GAS. NORMALIZED DATA (SAMPLE BREAKDOWN). SF-10B

0 Analyses	30 SET 37 (ug/DSCF)	31 SET 38 -	32 PROBE (ug)	33 TE-827 (ug)	34 HOSE (ug)	35 IMP (ug)	36 SET 38 (ug/DSCF)
1 Al2O3	199.859135		92.077524	7.922476	0	0.000000	3549.273290
2 SiO2	1744.086321		72.444000	27.556	0	0.000000	6897.695170
3 BaO	28.491275		81.371472	18.628528	0	0.000000	320.266949
4 C	633449.570470		0.000000	0	0	100.000000	1966538.983051
5 CaO	53.750936		85.171397	14.828603	0	0.000000	754.226002
6 CeO2	8.373169		86.809962	13.190038	0	0.000000	264.088586
7 Cl	55.241611		10.090836	0	0	89.909164	14083.932203
8 Cr2O3	15.629413		94.103883	5.447377	0	0.448740	714.099339
9 Cs2O	47.655705		53.800298	46.199702	0	0.000000	443.542373
10 CuO	17.680893		85.229470	14.77053	0	0.000000	144.756864
11 Fe2O3	843.184009		87.227159	12.772841	0	0.000000	14239.581888
12 K2O	851.042282		50.105434	48.123616	0	1.770949	5811.305085
13 La2O3	1.045419		0.000000	100	0	0.000000	3.173495
14 Li2O	146.172342		83.864842	16.135158	0	0.000000	2137.488504
15 MgO	49.081859		87.676618	12.323382	0	0.000000	720.828595
16 MnO	50.177264		90.536089	9.463911	0	0.000000	835.780292
17 Mo	12.128859		0.000000	100	0	0.000000	26.949153
18 NO2	7950.738255		39.803124	0	0	60.196876	15444.661017
19 NO3	5317.610738		24.857451	0	0	75.142549	34038.152542
20 Na2O	2082.171700		74.475739	25.524261	0	0.000000	13895.951266
21 Nd2O3	5.151881		7.294439	92.705561	0	0.000000	16.062803
22 NiO	93.551784		83.128991	16.871009	0	0.000000	682.677483
23 P2O5	107.229847		82.757845	17.242155	0	0.000000	1272.101058
24 SO3	259.322624		51.370028	48.629972	0	0.000000	2533.661017
25 SO4	174.496644		100.000000	0	0	0.000000	3139.830508
26 SiO2	854.878407		93.358734	6.641266	0	0.000000	18245.682844
27 SrO	3.061087		85.303701	14.696299	0	0.000000	43.433051
28 Ti	4.162109		90.187839	9.812161	0	0.000000	112.927074
29 Zn	26.499930		87.289493	10.893402	0	0.817115	486.542546
30 ZrO2	124.676383		86.437258	13.562742	0	0.000000	1942.007612

## SFCM OUTLET. SF-10B

0 Analyses	1 SET 33 (ug/DSCF)	2 SET 34 (ug/DSCF)	3 SET 35 (ug/DSCF)	4 SET 38 (ug/DSCF)	5 AIR ON	6 SET 36 (ug/DSCF)	7 SET 37 (ug/DSCF)
1 Al	13573.028294	1386.088249	1005.485570	3549.273290	4878.468851	171.178542	199.859135
2 B	29858.962750	5071.833191	4211.014541	8897.695170	12009.876413	1392.896148	1744.086321
3 Ba	1574.721125	151.352381	109.610178	320.266949	488.987658	23.216052	28.491275
4 C	9074144.680851	497577.827381	497995.048346	1966538.983051	3009.64.134907	533235.048063	633449.570470
5 Ca	1909.544102	750.057132	673.562334	754.226002	1021.847393	47.434781	53.750936
6 Ce	1604.662741	44.936851	44.377048	264.088586	489.516396	5.365518	8.373169
7 Cl	4015.197568	647.395833	645.451230	14083.932203	484.994209	55.136724	55.241611
8 Cr	885.584305	110.982704	90.644221	714.099339	450.327642	11.572775	15.629413
9 Cs	1020.379939	290.316964	202.673367	443.542373	489.228161	32.929818	47.655705
10 Cu	368.671733	60.426806	42.982859	144.756864	154.209575	12.040902	17.680893
11 Fe	38360.157065	5527.338913	3339.583072	14239.581888	15366.665234	806.413580	843.184009
12 K	14964.297872	2687.139881	2589.467345	5811.305085	6513.052546	597.846944	851.042282
13 La	141.465896	1.248812	2.430272	3.173495	37.079619	0.818089	1.046419
14 Li	6281.506204	1088.413920	843.044588	2137.488504	2587.613304	164.752549	196.172342
15 Mg	2703.506619	319.949642	232.363474	720.828595	994.162082	43.514690	49.081859
16 Mn	2990.518826	327.114935	213.286377	835.780292	1091.675107	42.789537	50.177264
17 Mo	61.817629	35.464286	25.055131	26.949153	37.321550	7.329911	12.128859
18 NO2	20717.325228	5530.357143	5521.628499	15444.661017	11803.492972	7948.436771	7950.738255
19 NO3	44815.653495	101370.535714	101315.104326	34038.152542	70384.861519	5308.479701	5317.610738
20 Na	37982.355909	7744.699121	6432.262747	13895.951206	16513.817246	15.154024	2082.171700
21 Nd	479.245072	13.368763	9.047421	16.062803	129.431015	3.106861	5.151881
22 Ni	1531.440755	261.090959	153.863414	682.677483	657.268153	81416	93.551784
23 P	4187.612749	616.674495	417.220653	1272.101058	1623.402239	89.621791	107.229847
24 S	87144.392097	2436.366071	2168.965055	2533.661017	23570.848060	155.821027	259.322624
25 SO4	11357.142857	3547.619048	3538.592027	3139.830508	5395.796110	172.655156	174.496644
26 Si	48084.534638	6898.598197	4974.955319	18245.682844	19550.942750	747.803192	854.878407
27 Sr	160.601064	20.548810	15.611874	43.433051	60.048700	2.500219	3.061087
28 Ti	513.148177	50.919264	31.722230	112.927074	177.179186	3.439245	4.162109
29 Zn	1425.426835	180.484137	121.861742	486.542546	553.578815	23.526752	26.499930
30 Zr	5739.969846	884.065035	578.224721	1942.007612	7231.066804	110.767506	124.676383
31 Alkali	40249.539925	11810.569986	10067.448048	22288.287168	26103.711257	7359.683435	3177.042028
32 Alkali	6111.377909	1241.907965	1031.147861	1838.754597	2565.045833	116.665752	134.385157
33 Refrac	69462.906488	9228.305907	6614.520351	24020.288631	27316.505344	1039.139708	1193.985393
34 Trans	46136.765325	6553.822003	4018.999047	17243.314639	18488.225253	939.094119	1063.014261
35 Ca+Mg	0.000000						

SETS 1-37 BUBBLER OFF

## SFCM OUTLET. SF-108

C	Analyses	8 AIR OFF	9 LOG MN AIR ON	10 LOG MN AIR OFF	11 AIR ON/ AIR OFF	12 SBS DF AIR ON	13 SBS DF AIR OFF
1	Al	185.518838	2862.501546	184.963767	15.476012	1555.996743	184963.767399
2	B	1568.491235	8679.125847	1558.631168	5.568428	36.114533	21.935529
3	Ba	25.853664	292.342339	25.716766	11.266888	718.670713	49.276059
4	C	633342.309267	1450102.081215	633342.300184	2.289602	2.617629	2.100504
5	Ca	50.592858	923.582793	50.494196	18.290870	10.563178	3.485566
6	Ce	6.869343	170.499697	6.702715	25.437409	48753.031833	6702.714783
7	Cl	55.189167	2204.783979	55.189143	39.949597	2.335428	1.103871
8	Cr	13.601094	282.420353	13.449003	20.999352	3.472494	5.423537
9	Cs	40.292761	403.962946	39.614312	10.197399	159.479905	10.071847
10	Cu	14.860898	108.505308	14.590884	7.436514	3.081196	6.912835
11	Fe	824.798794	10020.663763	824.593861	12.152242	12.990199	18.648428
12	K	724.444613	4959.725986	713.297292	6.953238	11.987385	8.921104
13	La	0.932454	6.075547	0.975237	6.566473	1247.439471	15.703908
14	Li	180.462496	1873.497221	179.777399	10.421206	47.577385	24.501244
15	Mg	46.298275	616.953217	46.214520	13.349770	39.162831	32.443780
16	Mn	46.483401	646.212774	46.336399	13.946115	20.750251	105.612660
17	Mo	9.729385	34.880792	9.428863	3.699363	21.438120	9.426684
18	NO2	7949.587513	9942.213995	7949.587430	1.250658	9.095334	7949587.429670
19	NO3	5313.045220	62913.726910	5313.043258	11.841373	2.133845	0.295116
20	Na	1823.162862	12733.846973	1804.670952	7.056049	23.833828	12.992688
21	Nd	4.179371	31.063383	4.064648	7.642330	7546.710203	646.505046
22	Ni	62.766600	452.700260	54.698433	8.276293	3.041378	5.618690
23	P	98.25819	1082.000542	98.031275	11.037299	1253.591195	60.777285
24	S	207.571825	5844.478469	201.017207	29.074518	27.745707	9.849068
25	SO4	173.575900	4599.765500	173.573458	26.500397	38.226795	7.906228
26	Si	801.740800	13172.824127	799.550375	16.475290	2189.105055	799550.374655
27	Sr	2.780658	38.676986	2.766461	13.980571	605.767334	182.967719
28	Ti	3.400677	98.360714	3.783452	25.997609	1204.459203	3783.452307
29	Zn	25.013341	351.433407	24.969126	14.074718	3.996804	13.005957
30	Zr	117.721944	1530.002448	117.516348	13.019486	61633.381687	4108.946857
31	Alk.M	2768.372732	19989.566135	2738.030944	7.300709	19.490074	11.862488
32	Alk.E	125.515455	1950.624085	125.212401	15.578521	17.914393	7.590453
33	Refrac	1116.567550	17860.518185	1113.875052	16.034580	1636.552884	3707.320539
34	Trans.M	1001.054190	12031.509275	999.134846	12.041927	9.151190	15.722316
35	Ca+Mg						

SETS 34 37 BUBBLER OFF



## SBS OUTLET SF-108

0 Analysee	1 SET 33 (ug/DSCF)	2 SET 34 (ug/DSCF)	3 SET 35 (ug/DSCF)	4 SET 38 (ug/DSCF)	5 AIR ON	6 SET 36 (ug/DSCF)	7 SET 37 (ug,DSCF)	8 AIR OFF
1 Al	21.138934	22.101561	22.396589	.001	16.909521	.001	.001	0.001000
2 B	322.960254	257.800999	212.924052	494.199008	271.971078	78.576032	64.254030	71.415031
3 Ba	4.671590	2.504516	2.340230	.001	2.379334	0.714649	0.381185	0.547917
4 C	426805.100888	373400.764347	373424.142462	158251.914163	689042.480465	301563.318082	301475.101455	301519.209749
5 Ca	24.865566	80.373988	84.933260	347.088703	134.265379	14.481251	14.492036	14.486659
6 Ce	0.149585	.001	.001	.001	0.038146	.001	.001	0.001000
7 Cl	370.266344	522.489539	523.100968	7848.978541	2316.208860	49.970161	50.021893	49.996027
8 Cr	2179.562627	16.822208	17.996441	66.309967	570.172811	4.433487	1.386978	2.910232
9 Cs	23.356094	39.075872	44.467497	.001	26.865365	4.440924	3.484181	3.962102
10 Cu	55.181469	10.824259	17.254339	60.382403	35.860867	1.881202	2.368184	2.124693
11 Fe	7954.536879	274.784567	406.364559	411.580514	2259.659630	30.498627	64.108476	47.303552
12 K	538.591606	341.271759	389.180498	568.360515	421.851844	89.875472	71.131625	80.583549
13 La	0.562683	.001	.001	.001	0.141421	0.058880	0.058955	0.056938
14 Li	20.766063	41.929279	44.967939	61.409477	42.268190	9.668089	6.602623	8.135356
15 Mg	5.569825	12.189052	12.942276	70.095552	15.199176	1.696235	1.196212	1.446223
16 Mn	253.475104	15.056562	16.302508	15.117959	74.988033	0.532190	0.361698	0.446944
17 Mo	466.175948	3.603758	4.171508	.001	118.488054	1.439029	0.695234	1.067132
18 NO2	9.030886	1825.698324	1823.789765	47481.416309	12784.983821	.001	.001	0.001000
19 NO3	37947.118644	8720.006094	8777.056708	260187.124464	78907.471078	17997.278695	18009.216927	18003.247811
20 Na	276.404338	598.269685	562.197866	744.103943	570.173711	161.049480	119.795014	140.422247
21 Nd	0.287954	.001	.001	.001	0.071714	.001	0.039528	0.020264
22 Ni	1884.138400	56.801078	112.509946	40.760234	523.171727	6.353253	14.917069	10.635161
23 P	22.567964	5.078569	4.842302	.001	4.22460	2.548535	1.022518	1.785526
24 S	228.702809	289.932809	343.129184	83.531330	237.074033	21.950666	18.977039	20.463853
25 SO4	41.694915	93.905536	95.159059	562.660944	198.355114	21.881838	22.026432	21.954135
26 Si	121.642546	103.134117	104.510831	.001	82.322124	.001	.001	0.001000
27 Sr	0.284232	0.250797	0.233126	.001	0.192289	0.034907	0.006349	0.020728
28 Ti	1.543749	0.168613	0.170864	.001	0.471057	.001	.001	0.001000
29 Zn	65.529295	58.676240	59.814285	261.463272	111.307793	1.988872	1.853170	1.921021
30 Zr	2.811921	0.135052	.001	.001	0.77143	0.817967	.001	0.409483
31 Alk.M	657.118151	1071.110594	1140.813800	1373.874936	1061.41170	265.033066	201.013442	233.023254
32 Alk.C	35.191213	95.318354	100.448892	417.186255	162.036178	16.97072	16.075982	16.501527
33 Ref.M	148.592723	125.373730	126.911420	0.006000	100.22078	0.880345	0.102483	0.491665
34 Trans.M	12860.143471	427.910286	634.584449	855.622400	3694.565132	47.127460	85.691810	66.409735
35 Ca+Mg	0.000000	0.000000						

## SBS OUTLET. SP-10B

0 Analyses	9 LOG MN AIR ON	10 LOG MN AIR OFF	11 AIR ON/ AIR OFF	12 HEME D* AIR ON	13 HEME DF AIR OFF
1 Al	1.839658	0.001000	1839.657800	1839.657800	1.000000
2 B	240.322252	71.055097	3.382196	718.999807	212.583731
3 Ba	0.406782	0.521932	0.779377	200.269847	256.961441
4 C	553975.383922	301519.206542	1.837281	2782.779596	1514.618736
5 Ca	87.434175	14.486658	6.035497	291.707375	48.331958
6 Ce	0.803497	0.001000	3.497212	3.497212	1.000000
7 Cl	944.055738	49.996020	18.882618	6.691001	0.354347
8 Cr	81.330688	2.479748	32.797971	768.640222	24.045397
9 Cs	2.533002	3.933173	0.644010	29.607834	45.974189
10 Cu	27.956666	2.110695	13.245244	849.055906	64.102703
11 Fe	771.401855	44.217875	17.445475	798.356146	45.762934
12 K	413.745465	79.956165	5.174654	360.879513	71.285836
13 La	0.004870	0.058918	0.082665	4.870414	58.917653
14 Li	39.377894	7.989665	4.928604	745.966698	151.354565
15 Hg	25.753540	1.424449	11.059389	484.062774	43.769394
16 Mn	31.142407	0.438739	70.981615	708.528525	9.981860
17 Mo	1.627045	1.000231	1.626669	112.031364	68.871633
18 NO2	1093.111490	0.001000	1093111.489756	81.132620	0.000074
19 NO3	29483.740141	18003.246821	1.637690	1.170250	0.714940
20 Na	534.276200	138.898973	3.846509	527.021369	237.012891
21 Nd	0.004116	0.006287	0.654697	1.658092	2.532612
22 Ni	118.847093	9.735087	15.289755	1109.203482	72.545537
23 P	0.863121	1.614287	0.534676	1044.769738	1954.023695
24 S	210.644428	20.409769	10.320765	396.054636	38.374542
25 SO4	120.328305	21.954016	5.490925	615.242063	112.251510
26 Si	6.317447	0.001000	6017.447218	6017.447218	1.000000
27 Sr	0.063848	0.015120	4.222732	63.847922	15.120051
28 Ti	0.081664	0.001000	81.663799	1.628928	0.019947
29 Zn	88.059932	1.919822	45.868794	1209.674574	26.372496
30 Zr	0.024824	0.028600	0.867977	24.824250	28.600114
31 Alk M	1025.628046	230.814230	4.443522	451.076754	101.513345
32 Alk D	108.885858	16.496039	6.600727	324.733788	49.196666
33 Ref. ic	10.913499	0.300453	36.323499	1458.544172	40.154287
34 Trans M	1314.748027	63.548835	20.688782	927.255642	44.819247
35 Ca+Mg					

NUCLIDE	ANALOG	DF	uCi/mL Stack	%DCG Stack	%DCG Resident
H-3	H	1.0E+00	3.2E-09	3.20E+00	1.33E-05
C-14	C	1.0E+00	1.5E-09	2.43E+01	1.01E-04
Fe-55	Fe	1.7E+10	6.5E-17	1.31E-06	5.46E-12
Ni-59	Ni	2.9E+09	3.2E-17	8.03E-07	3.34E-12
Ni-63	Ni	2.9E+09	2.5E-15	1.27E-04	5.30E-10
Co-60	Ni	2.9E+09	4.7E-16	5.87E-04	2.45E-09
Se-79	P	2.4E+12	1.7E-20	1.70E-09	7.08E-15
Sr-90	Sr	4.9E+10	1.7E-13	1.86E+00	7.75E-06
Y-90	Sr	4.9E+10	1.7E-13	1.67E-02	6.98E-08
Zr-93	Zr	3.3E+12	7.7E-20	1.93E-07	8.06E-13
Nb-93m	Mo	4.5E+09	5.7E-17	1.43E-05	5.96E-11
Tc-99	Mn	3.4E+10	5.3E-17	2.63E-06	1.09E-11
Ru-106	Fe	1.7E+10	8.5E-18	2.84E-05	1.18E-10
Rh-106m	Ni	2.9E+09	5.1E-17	8.48E-08	3.54E-13
Pd-107	Ni	2.9E+09	4.7E-19	5.22E-08	2.18E-13
Sb-125	P	2.4E+12	2.1E-18	2.07E-07	8.61E-13
Te-125m	P	2.4E+12	4.6E-19	2.29E-08	9.56E-14
Sn-126	P	2.4E+12	1.8E-20	1.84E-08	7.65E-14
Sb-126m	P	2.4E+12	1.8E-20	4.59E-12	1.91E-17
Sb-126	P	2.4E+12	2.6E-20	2.57E-09	1.07E-14
I-129	I	1.0E+00	4.0E-10	5.76E+02	2.40E-03
Cs-134	Cs	2.2E+09	7.3E-15	3.65E-03	1.52E-08
Cs-135	Cs	2.2E+09	8.3E-17	2.78E-06	1.16E-11
Cs-137	Cs	2.2E+09	4.1E-12	1.02E+00	4.23E-06
Ba-137m	Ba	6.1E+10	1.4E-13	N.A.	N.A.
Ce-144	Ce	1.2E+12	1.3E-20	4.47E-08	1.86E-13
Pr-144	Ce	1.2E+12	1.3E-20	4.47E-12	1.86E-17
Pm-147	Ce	1.2E+12	3.0E-16	9.89E-05	4.12E-10
Sm-151	Ce	1.2E+12	2.0E-16	5.02E-05	2.09E-10
Eu-152	Ce	1.2E+12	4.0E-19	8.04E-07	3.35E-12
Eu-154	Ce	1.2E+12	1.2E-16	2.49E-04	1.04E-09
Eu-155	Ce	1.2E+12	2.2E-17	7.34E-06	3.06E-11
Rn-220	Rn	1.0E+00	4.2E-11	1.06E-02	4.41E-08
Th-232	Ce	1.2E+12	1.6E-21	2.32E-05	9.69E-11
U-233	Ce	1.2E+12	9.6E-21	1.06E-05	4.43E-11
U-234	Ce	1.2E+12	4.4E-21	4.89E-06	2.04E-11
U-235	Ce	1.2E+12	9.6E-23	9.57E-08	3.99E-13
U-236	Ce	1.2E+12	2.9E-22	2.87E-07	1.20E-12
U-238	Ce	1.2E+12	8.1E-22	8.14E-07	3.39E-12
Np-237	Ce	1.2E+12	1.1E-20	5.26E-05	2.19E-10
Np-239	Ce	1.2E+12	2.3E-18	4.59E-08	1.91E-13
Pu-238	Ce	1.2E+12	6.9E-18	2.30E-02	9.57E-08
Pu-239	Ce	1.2E+12	1.6E-18	8.14E-03	3.39E-08
Pu-240	Ce	1.2E+12	1.2E-18	6.22E-03	2.59E-08
Pu-241	Ce	1.2E+12	8.3E-17	8.33E-03	3.47E-08
Pu-242	Ce	1.2E+12	1.6E-21	8.14E-06	3.39E-11
Am-241	Ce	1.2E+12	6.9E-17	3.45E-01	1.44E-06
Am-242	Ce	1.2E+12	2.0E-20	1.00E-08	4.19E-14
Am-242m	Ce	1.2E+12	2.0E-20	1.00E-04	4.19E-10
Am-243	Ce	1.2E+12	2.3E-18	1.15E-02	4.79E-08
Cm-242	Ce	1.2E+12	2.1E-21	3.01E-07	1.25E-12
Cm-243	Ce	1.2E+12	1.6E-19	5.2E-04	2.26E-09
Cm-244	Ce	1.2E+12	2.1E-17	5.26E-02	2.19E-07
Cm-245	Ce	1.2E+12	9.6E-21	4.79E-05	1.99E-10
Cm-246	Ce	1.2E+12	4.1E-21	2.06E-05	8.58E-11