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ESTUDO DE CARACTERIZAÇÃO DOS AEROSSÓIS
CUBATÃO
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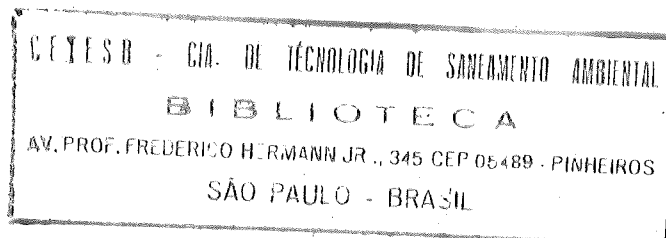
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1. INTRODUÇÃO

A caracterização física e química dos aerossóis tem se prestado tanto a verificar a agressividade deste poluente, em termos de saúde humana, bem como a identificar e quantificar a contribuição das diferentes fontes na composição da poluição atmosférica devido ao material particulado. A caracterização física basicamente se constitui na separação da poeira em suspensão, obtendo-se assim frações de concentrações mássicas em função de seu significado higiênico. A caracterização química permite verificar a presença de componentes considerados de alta toxicidade, como por exemplo chumbo, cádmio. É também através da caracterização química, tanto das amostras ambientais como das amostras de fontes, que se verifica qual a contribuição de cada fonte, com o uso de modelo matemático, no caso o Balanço de Massas Químicas.

Um primeiro trabalho de caracterização foi realizado, em 1984 em Cubatão, reunindo técnicos da CETESB e da NEA dos Estados Unidos (1). O estudo foi feito em conjunto uma vez que àquela época a CETESB não possuía os equipamentos necessários. Com o suporte do PROCOP, em 1987 se possuía toda a tecnologia implantada no laboratório da NPQA e um primeiro estudo foi realizado em S. Paulo (2). Outros estudos tem sido realizados em várias outras regiões, mostrando as boas qualidades da técnica (3,4).

O presente relatório refere-se à aplicação do modelo receptor em Cubatão e que por facilidade de organização será dividido em dois volumes; o primeiro volume se refere ao estudo de Vila Parisi e o segundo ao da área residencial (Cubatão Centro), cuja emissão será feita numa segunda etapa.

2. MODELO RECEPTOR

Os modelos receptores baseiam-se na conservação de massa e utilizam características do aerossol que são comuns tanto aos receptores quanto às fontes de emissão(5,6,7,8). Estas propriedades do aerossol podem ser tamanho de partícula, formato e cor, distribuição do tamanho de partícula, composição química, variações temporais e espaciais, etc. Podem ser agrupados basicamente em duas categorias: métodos químicos e métodos microscópicos.

O BMQ modelo utilizado neste estudo é baseado na conservação da composição química relativa do aerossol desde o momento em que ele é emitido até sua chegada no sítio receptor. Considerando p fontes contribuindo cada uma com uma massa M_j no sítio receptor, então o total de massa coletada no filtro receptor é:

$$m = \sum_{j=1}^p M_j \quad (1)$$

Assume-se então que a massa depositada no filtro é uma contribuição linear de massa de cada fonte.

Considerando a massa de um elemento m_i temos:

$$m_i = \sum_{j=1}^p M_{ij} = \sum_{j=1}^p F'_{ij} M_j \quad (2)$$

Onde M_{ij} é a massa da espécie i originária da fonte j e F'_{ij} é a fração de massa da espécie i na fonte j como coletada no receptor.

$$\text{Assume-se que } F_{ij} = F'_{ij} \quad (3)$$

Onde F_{ij} é a fração da espécie química i emitida pela fonte j como coletada na fonte.

O grau de validade desta hipótese depende das propriedades físicas e químicas das espécies e suas tendências para modificações atmosféricas como condensações, volatilizações, reações químicas, sedimentação, etc.

A validade desta hipótese é maior se as fontes e as amostras ambientais são classificadas por tamanho, e se as amostras das fontes são coletadas a temperaturas próximas ao ambiente.

Substituindo a equação (3) na equação (2) e dividindo a equação (2) por m , sendo m a massa coletada no sítio receptor tem-se:

$$\frac{m_i}{m} = \sum_{j=1}^p F_{ij} \frac{m_j}{m} \quad (4)$$

$$\text{ou } C_i = \sum_{j=1}^p F_{ij} S_j \quad (5)$$

Onde C_i é a concentração da espécie i medida no sítio receptor e S_j é a contribuição da fonte j .

Se são conhecidos C_i e F_{ij} , no receptor para as p fontes que são suspeitas de afetarem o sítio receptor e se $p < n$, onde n é o número de espécies químicas quantificadas, então, tem-se um conjunto de n equações simultâneas onde S_j pode ser calculada através do método dos mínimos quadrados(2).

3. PLANEJAMENTO E EXECUÇÃO

3.1. Localização das estações

Os dois pontos de amostragem coincidem aos das estações de monitoramento contínuo, ou seja, Vila Parisi (estação 25) e Cubatão Centro (estação 24).

3.2. Equipamentos de amostragem

Em cada local retirou-se amostras com os seguintes equipamentos:

1 amostrador de pequenos volumes (coletando simultaneamente com filtros de Teflon e de fibra de vidro).

1 amostrador dicotômico (com filtros de Teflon)

1 amostrador dicotômico (com filtros de fibra de vidro).

3.3. Duração e período de coleta

Cada amostra foi coletada durante 24 horas ininterruptas sendo que o início de amostragem sempre se deu as 0:00 horas.

O período de estudo foi de setembro de 1990 a Fevereiro de 1991. As coletas foram realizadas de forma aleatória e as datas de amostragem se encontram no Anexo juntamente com os valores de concentração mássica.

3.4. Análises realizadas

- Concentração mássica com microbalança (sensibilidade de 1 μ g) em filtros de Teflon.

- Concentração elementar por fluorescência de raio-X em filtros de Teflon - Analisados cerca de 30 elementos por filtro.

- Concentração de ânions por cromatografia iônica em extratos dos filtros de Teflon.

- Carbono orgânico e elementar com auxílio de analisador específico (Dorhman-Xertex) em filtros de fibra de vidro).

4. CARACTERIZAÇÃO DAS FONTES.

As características químicas das fontes "assinaturas" foram obtidas de amostras coletadas diretamente nas fontes de Cubatão, no trabalho efetuado no estudo anterior(1). Naquele momento coletou-se 87 amostras nos tamanhos de poeira de interesse, num total de 36 fontes analisadas. Como as fontes permanecem praticamente as mesmas uma vez que os processos de produção não foram alterados, e tal afirmação é verdadeira independentemente da instalação de equipamentos de controle, as assinaturas coletadas em 1984 permanecem válidas para o atual estudo.

As fontes ora utilizadas são apresentadas na tabela I, a seguir, onde se encontram os códigos das fontes, a sigla correspondente e os tamanhos das partículas que tiveram a composição química determinada. Sob o item descrição verifica-se quais as fontes associadas a cada sigla que quando não se referirem às poeiras fugitivas são associadas a fontes emissoras através de codificação numérica descrita na legenda.

Tabela I - Fontes de Cubatão consideradas no estudo.

Nº	CODIGO	SIGLA	TAM.	DESCRIÇÃO
01	5201	DCDUST	F	Poeira de rua pavimentada-Cub. Centro
02	5201	DCDUST	C	Poeira de rua pavimentada-Cub. Centro
03	5201	DCDUST	T	Poeira de rua pavimentada-Cub. Centro
04	5202	VPDST1	F	Poeira de rua pavimentada-V. Parisi
05	5202	VPDST1	C	Poeira de rua pavimentada-V. Parisi
06	5202	VPDST1	T	Poeira de rua pavimentada-V. Parisi
07	5203	VPDST2	F	Poeira de rua sem pavimentação-V. Parisi
08	5203	VPDST2	C	Poeira de rua sem pavimentação-V. Parisi
09	5203	VPDST2	T	Poeira de rua sem pavimentação-V. Parisi
10	5204	DCSOIL	F	Solo-Cubatão Centro
11	5204	DCSOIL	C	Solo-Cubatão Centro
12	5204	DCSOIL	T	Solo-Cubatão Centro
13	5205	HWDUST	F	Poeira de rua (estrada SP-55)
14	5205	HWDUST	C	Poeira de rua (estrada SP-55)
15	5205	HWDUST	T	Poeira de rua (estrada SP-55)
16	5206	TRVDST	F	Poeira de rua (acesso da Trevo)
17	5206	TRVDST	C	Poeira de rua (acesso da Trevo)
18	5206	TRVDST	T	Poeira de rua (acesso da Trevo)
19	5207	GSPDST	F	Poeira de rua (acesso da Gespa)
20	5207	GSPDST	C	Poeira de rua (acesso da Gespa)
21	5207	GSPDST	T	Poeira de rua (acesso da Gespa)
22	5208	PROCK1	F	Rocha fosfática (Araxá) 1,8,11,13,17,19
23	5208	PROCK1	C	Rocha fosfática (Araxá) 1,8,11,13,17,19
24	5209	PROCK2	F	Rocha fosfática (Goiás) 1,8,11,13,17,19
25	5209	PROCK2	C	Rocha fosfática (Goiás) 1,8,11,13,17,19
26	5210	GYPSM1	F	Gesso (Goiás) 10
27	5210	GYPSM1	C	Gesso (Goiás) 10
28	5211	GYPSM2	F	Gesso (Goiás) 10
29	5211	GYPSM2	C	Gesso (Goiás) 10
30	5212	GYPSM3	F	Gesso (Goiás) 10
31	5212	GYPSM3	C	Gesso (Goiás) 10
32	5213	SLAG	F	Escória 6
33	5213	SLAG	C	Escória 6
34	5214	DESULF	F	Desulfurador 7
35	5214	DESUFF	C	Desulfurador 7
36	5215	SNTORE	F	Minério de ferro-mat.bruto sinter 7
37	5215	SNTORE	C	Minério de ferro-mat.bruto sinter 7
38	5216	UFCC1	F	Catalizador 14
39	5216	UFCC1	C	Catalizador 14
40	5117	UFCC2	F	Catalizador 14
41	5117	UFCC2	C	Catalizador 14

Nº	CODIGO	SIGLA	TAM.	DESCRIÇÃO
42	5218	LIMEK	F	Calcinção de calcário 7
43	5218	LIMEK	F	Calcinção de calcário 7
44	5218	LIMEK	<15µm	Calcinção de calcário 7
45	5219	SINTER	F	Sinterização 7
46	5219	SINTER	C	Sinterização 7
47	5219	SINTER	<15µm	Sinterização 7
48	5220	COKEC	F	Calcinador e resfriador 15,7
49	5220	COKEC	C	Calcinador e resfriador 15,7
50	5220	COKEC	<15µm	Calcinador e resfriador 15,7
51	5221	BOILER	F	Caldeiras 1,2,3,4,5,7,9,12,16,20,14,19
52	5221	BOILER	C	Caldeiras 1,2,3,4,5,7,9,12,16,20,14,19
53	5221	BOILER	<15µm	Caldeiras 1,2,3,4,5,7,9,12,16,20,14,19
54	5222	GRANU	F	Granulação 1,8,11,13,17
55	5222	GRANU	C	Granulação 1,8,11,13,17
56	5222	GRANU	<15µm	Granulação 1,8,11,13,17
57	5223	SUPER	F	Super fosfato 1,13,11,8,17
58	5223	SUPER	C	Super fosfato 1,13,11,8,17
59	5223	SUPER	<15µm	Super fosfato 13,11,8
60	5224	PRILL	T	Nitrato de amônio(Tor.de Perolação)18,19
61	5225	AMSULF	T	Sulfato de amônio 11
62	5226	DAP	F	Fosfato de diamônio (corrida 2) 18
63	5226	DAP	C	Fosfato de diamônio (corrida 2) 18
64	5226	DAP	<15µm	Fosfato de diamônio (corrida 2) 18
65	5227	DAPR3	F	Fosfato de diamônio (corrida 3) 18
66	5227	DAPR3	C	Fosfato de diamônio (corrida 3) 18
67	5227	DAPR3	<15µm	Fosfato de diamônio (corrida 3) 18
68	5228	DAPAVE	F	Fosfato de diamônio (média) 18
69	5228	DAPAVE	C	Fosfato de diamônio (média) 18
70	5228	DAPAVE	<15µm	Fosfato de diamônio (média) 18
71	5229	CTRANS	F	Transporte Cubatão (veículos Cubatão)
72	5229	CTRANS	C	Transporte Cubatão (veículos Cubatão)
73	5229	CTRANS	<15µm	Transporte Cubatão (veículos Cubatão)
74	5230	SODIUM	F	Tripolifosfato de sódio 8
75	5230	SODIUM	C	Tripolifosfato de sódio 8
76	5231	COKDST	F	Coque - materia prima 15
77	5232	BLKDST	C	Negro de fumo - produto final 8
78	5233	CEMENT	T	Cimento 6,21,22
79	5234	BOF	F	Forno conversor aciaria 7
80	5234	BOF	<15µm	Forno conversor aciaria 7
81	5234	BOF	T	Forno conversor aciaria 7
82	5235	BLACK	F	Negro de fumo - reator 8
83	5235	BLACK	C	Negro de fumo - reator 8
84	5236	SULFUR	T	Enxofre - matéria prima
85	5237	NPK	T	Fertilizante NPK(2-10-18) 1,11,13,17

OUTRAS FONTES

Nº	CODIGO	SIGLA	TAM.	DESCRIÇÃO
86	5042	MARINE	F	Aerossol marinho (USA-1º estudo)
87	5042	MARINE	C	Aerossol marinho (USA-1º estudo)
88	5127	SORGNC	F	Carbono orgânico secundário
89	5118	GALVAN	T	Galvanoplastia
90	14	MAR	T	Aerossol marinho (Santos- este estudo)
91	27	VEICSP	F	Veículos (obtido em S.Paulo)
92	27	VEICSP	C	Veículos (obtido em S.Paulo)
93	27	VEICSP	T	Veículos (obtido em S.Paulo)

LEGENDA FONTES

1 - ADUBO TREVO	6 - CIMENTO STA.RITA
2 - ALBA	7 - COSIPA
3 - CARBOCLORO	8 - COPEBRAS
4 - CIA. BRAS. ESTIRENO	9 - ULTRAQUIMICA
5 - CIA. SANTISTA DE PAPEL	10 - GESPA
11 - INDAG	17 - SOLORRICO
12 - LIQUID QUIMICA	18 - ULTRAF. (SM)
13 - MANAH	19 - ULTRAF. (FAFER)
14 - PETROBRAS	20 - UNION CARBIDE
15 - PETRÓCOQUE	21 - CONCREBRAS
16 - RHODIA	22 - FABRICA/BLOCOS

LEGENDA TAMANHO DE PARTICULAS

F - <2,5 µm
C - >2,5 µm e <10 µm
T - PTS
<15 µm

5. ANALISE DE DADOS

5.1. Composição física da poeira

As amostras foram coletadas em diversas faixas de tamanho a saber:

Poeira fina	- PF	- d ₅₀ < 2,5 µm
Poeira grossa	- PG	- 2,5 < d ₅₀ < 10 µm
Poeira total	- PTS	- d ₅₀ < 30 µm

Observe-se que um dos padrões adotados pela legislação(9) refere-se à Poeira Inalável -PI- cujo $d_{50} < 10 \mu m$. Dessa forma na nossa análise de PI será a soma PF + PG.

Os dados individuais das diferentes amostras se encontram no Anexo. Um resumo destes dados são apresentados no Quadro I.

QUADRO I - RESUMO DOS VALORES DE POEIRA EM FUNÇÃO DE SUA FAIXA DE TAMANHO - VILA PARISI

	Media ($\mu g/m^3$)	Maxima ($\mu g/m^3$)	Minima ($\mu g/m^3$)
PF	36	92	13
PG	60	123	22
PI	96	200	35
PTS	215	381	64

No Quadro I pode ser observado que no período de estudo tanto a PI como a PTS ultrapassam os respectivos padrões. Assim, a PI com valor máximo de $200 \mu g/m^3$ ultrapassa o padrão diário de $150 \mu g/m^3$. Também a PTS com valor máximo de $381 \mu g/m^3$ ultrapassa seu padrão diário de $240 \mu g/m^3$. Uma estatística mais detalhada, tipo percentagem do tempo em que o padrão diário é ultrapassado, não teria muita consistência no presente estudo, visto que os dados não foram gerados de forma sistemática e basicamente correspondem ao fim da primavera e início de verão. Chama a atenção, no entanto, que neste período de boa ventilação dados altos são obtidos. Dados mais altos são obtidos durante o ano conforme pode ser visto no relatório anual (10) onde são reportados aqueles gerados diariamente. Os percentuais de cada fração são apresentados no Quadro II.

QUADRO II - COMPOSIÇÃO PERCENTUAL DAS POEIRAS POR FAIXA DE TAMANHO

TAMANHO	PTS	PI
%PI	44,7	---
%PF	16,7	37,5
%PG	27,9	62,5

No quadro II pode ser observado que a poeira inalável constitui 44,7% da PTS. É interessante também observar que 62,5% da poeira inalável é constituída da fração grossa $2,5\mu\text{m} < d_{50} < 10\mu\text{m}$, diferente do observado em São Paulo (2) onde o teor de poeira fina é maior que o da poeira grossa.

Uma comparação entre os dados atuais e os do estudo anterior (1984) só pode ser efetuado em termos de PF. A percentagem de PF em relação à PTS foi de 19,4% em 1984 e de 16,7% no presente, não podendo ser considerada de maior significancia as alterações observadas. Os dados de poeira inalável não podem ser comparados uma vez que no estudo de 1984 o diâmetro de corte do dicotômico utilizado foi de $15\mu\text{m}$ e hoje utiliza-se o preconizado por lei, ou seja, $10\mu\text{m}$. Deve-se ressaltar desde já que esta é uma dificuldade que irá impedir outras comparações dos dados atuais com os de 1984, inclusive na observação dos resultados do "Modelo Receptor".

Outro dado importante gerado no estudo é a correlação entre PTS e Beta. Antes da introdução da Poeira Inalável como padrão de qualidade do ar, uma correlação matemática era utilizada para converter os valores de Beta em PTS. Tal relação era:

$$\text{PTS} = 1,7 \text{ Beta} + 7,7$$

No presente estudo a correlação entre Beta e PTS se apresentou na forma:

$$\text{PTS} = 1,9 \text{ Beta} + 28,6.$$

Tal fato significa que caso hoje ainda estivesse sendo feita a correlação baseada na equação antiga, os valores de PTS estariam sendo subestimados.

O padrão de partículas inaláveis além de ter um significado higiênico mais consistente, facilita sobremaneira a interpretação dos dados gerados pelo monitor Beta. Tal monitor teve, no presente estudo, certificada a qualidade dos dados gerados utilizando-se como referência o amostrador dicotômico, que possui qualidade de selecionar partículas com $d_{50} < 10\mu\text{m}$ internacionalmente aceita. A correlação Beta com PI gerada pelo amostrador dicotômico obtida é:

$$\text{PI} = 1,04 \text{ Beta} + 3 \quad r^2 = 0,76$$

Tal relação é considerada bastante boa para estudos deste tipo e demonstra que os dados gerados via monitor Beta são bastante confiáveis como representativos da poeira inalável à que se refere o padrão legal.

5.2. Modelo Receptor - Balanço de Massas Químicas

5.2.1. Comentários iniciais

O balanço de massas químicas (BMQ) foi efetuado em todas as amostras coletadas e os resultados individuais se encontram no Anexo. Juntamente com os BMQ's individuais, se encontram os resultados das concentrações de todas as espécies analisadas. Observando-se principalmente os metais tóxicos tais como cádmio, chumbo, mercúrio, etc., não se nota a presença marcante de qualquer deles nas amostras, muito pelo contrário, em geral se encontram em níveis muito baixos ou mesmo abaixo do limite de detecção. O fluoreto é a única substância que chama a atenção pela sua alta concentração aliada a seu grau de fitotoxicidade. O quadro III apresenta um resumo do comportamento do fluoreto.

QUADRO III - CONCENTRAÇÕES DE FLUORETO ENCONTRADA NAS DIFERENTES FRAÇÕES DE POEIRA

TAMANHO	Concentração ($\mu\text{g}/\text{m}^3$)		
	Média	Máxima	Mínima
PF	nd	nd	nd
PG	0,612	1,474	0,112
PTS	1,712	6,698	0,230

Lamentavelmente no estudo de 1984 poucas análises de ânions foram efetuadas. Dessa forma não é possível realizar comparações da evolução do parâmetro fluoreto entre os dois estudos. Ressalte-se que o número reduzido de análises não só de ânions como também das espécies carbonáceas levou o estudo anterior a uma resolução menor que a do estudo atual. Tal deficiência já era reconhecida tanto que uma das recomendações daquele estudo era a de se intensificar a quantificação de ânions e de material carbonáceo, o que foi feito agora. Este refinamento dos procedimentos analíticos levou a resultados mais consistentes uma vez que a percentagem de material particulado inexplicado é atualmente bem menor. (A percentagem de material inexplicado significa a porção de poeira em suspensão à qual não foi possível associar uma fonte emissora).

5.2.2. Resultados do Balanço de Massas Químicas

Os resultados do BMQ são apresentados a seguir tanto na forma tabular (quadros IV, V, VI, VII) como em gráficos (figura 1,2,3) para as PF,PG,PI e PTS. A seguir serão comentados os resultados de cada fração individualmente.

5.2.2.1. Balanço de Massas Químicas-PTS

As principais fontes formadoras da PTS (contribuição maior que 10%) são pela ordem CEMENT (cimento) = 19,39%, HWDUST (poeira de rua) = 19,58%, AMSULF (sulfato de amônio) = 14,76%, PROCK (rocha fosfática) = 12,08% e VEICSP (veículos) = 9,81%.

Deve-se observar que em relação ao cimento que as fontes de emissão podem ser a Fábrica de Cimento Santa Rita (que possui sistema de controle), como poeiras fugitivas vindo tanto da fábrica de blocos recentemente instalada ao lado da estação amostradora como da Concrebrás. No entanto incertezas na atribuição desta fonte podem ocorrer devido à similaridade de sua "assinatura" com outras fontes ricas em Cálcio tais como manipulação de gesso e calcário. De qualquer forma, uma análise da localização amostradora em relação as fontes, bem como da estimativa de emissão nos leva a priorizar o cimento como fonte importante da região.

A poeira de rua (HWDUST) comparece também como fonte importante. O fato marcante é que enquanto em Cubatão ela significa apenas 19,58% da PTS média, tal valor em São Paulo chega a ficar entre 50 e 60%, diferença que caracteriza de forma marcante uma região altamente urbanizada como São Paulo e uma região de alta concentração industrial como Cubatão.

Sulfato de amônio (AMSULF) teve uma melhor resolução que a do estudo de 1984, uma vez que as análises do ânion sulfato foram efetuadas em todas as amostras. Não é possível com o uso do BMQ distinguir a fonte deste componente que fica distribuída entre a emissão direta feita por unidades industriais de fertilizantes e pelo sulfato de amônio secundário (produto final da reação do SO₂ na atmosfera). Eventualmente outra fonte de sulfato seria a granulação de NPK, que necessita de um melhor esclarecimento visto ser esta uma das únicas fontes que não se possui assinatura.

A rocha fosfática, matéria prima de fertilizantes, sempre foi um problema na área de Vila Parisi e se constitui num exemplo típico de emissão de poeira fugitiva. A atual contri-

QUADRO IV - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA FINA

V. PARISI

FINE PARTICLE FRACTION

NUMBER OF SAMPLES : 18

AVERAGE CHI-SQUARED : 1.08

SOURCE CONTRIBUTIONS TO MASS

SOURCE	MEAN	*A	*B	*C	MEAN	*A	#>MDC
----- (UG/M3) ----- (PERCENT) -----							
5205	HWDUST	3.95+-	.48	2.05	.67	11.60+-	.97 18
5208	PROCK1	.48+-	.17	.73	.18	1.82+-	.73 8
5221	BOILER	.98+-	.12	.53	.25	2.86+-	.29 17
5224	PRILL	.48+-	.18	.75	.11	1.19+-	.35 11
5225	AMSULF	14.19+-	2.82	11.96	2.00	37.45+-	2.74 18
5226	DAP	6.15+-	1.82	7.73	1.57	14.51+-	3.66 15
5235	BLACK	2.91+-	.44	1.85	.82	8.65+-	1.14 15
5233	CEMENT	.17+-	.12	.52	.06	.70+-	.55 2
5234	BOF	.64+-	.13	.55	.23	2.49+-	.63 14
5127	SORGNC	2.37+-	.59	2.51	1.02	6.85+-	1.78 10
5118	GALVAN	.05+-	.01	.05	.01	.20+-	.06 14
27	VEICSP	5.49+-	.74	3.14	1.55	18.37+-	2.76 18
14	MAR	.12+-	.07	.30	.09	.46+-	.26 3
	UNEXPL	-1.94+-	.69	2.94		-7.16+-	1.89

SUM	36.07	100.00
AVE. MASS	36.07 UG/M3	

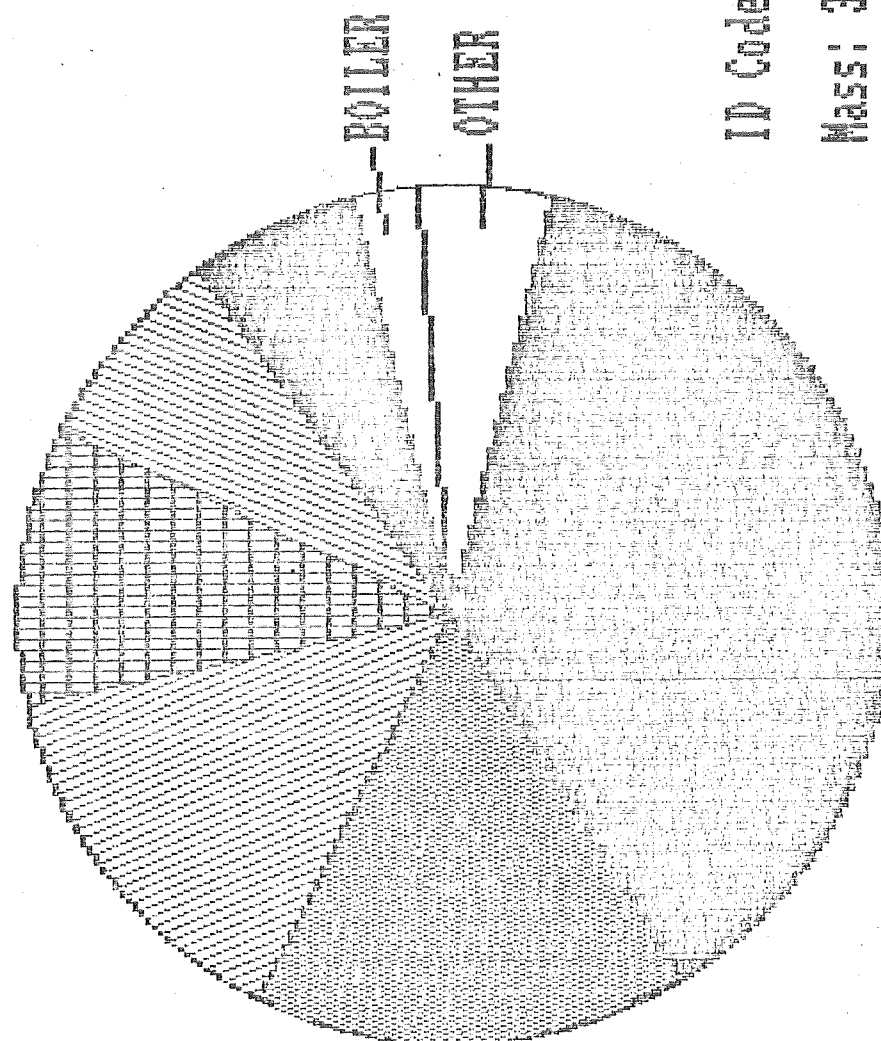
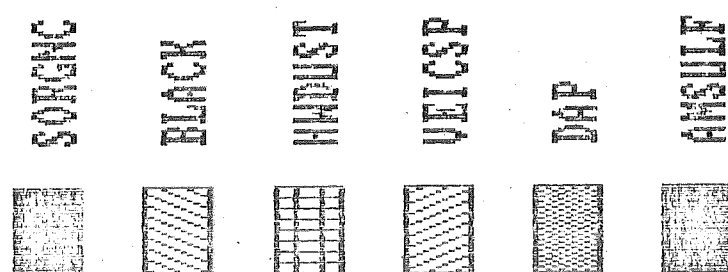
*A - STANDARD DEVIATION OF THE MEAN (STANDARD ERROR)

*B - STANDARD DEVIATION OF THE DISTRIBUTION

*C - AVERAGE SOURCE CONTRIBUTION UNCERTAINTY

CETESB - CIA DE TECNOLOGIA E SANEAMENTO AMBIENTAL
 BIBLIOTECA

FIGURA 1 - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA FINA



ID Code: VPF

Mass: 36 ug/m3

QUADRO V - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA GROSSA

V. PARISI

COARSE PARTICLE FRACTION

NUMBER OF SAMPLES : 19

AVERAGE CHI-SQUARED : 1.20

SOURCE CONTRIBUTIONS TO MASS

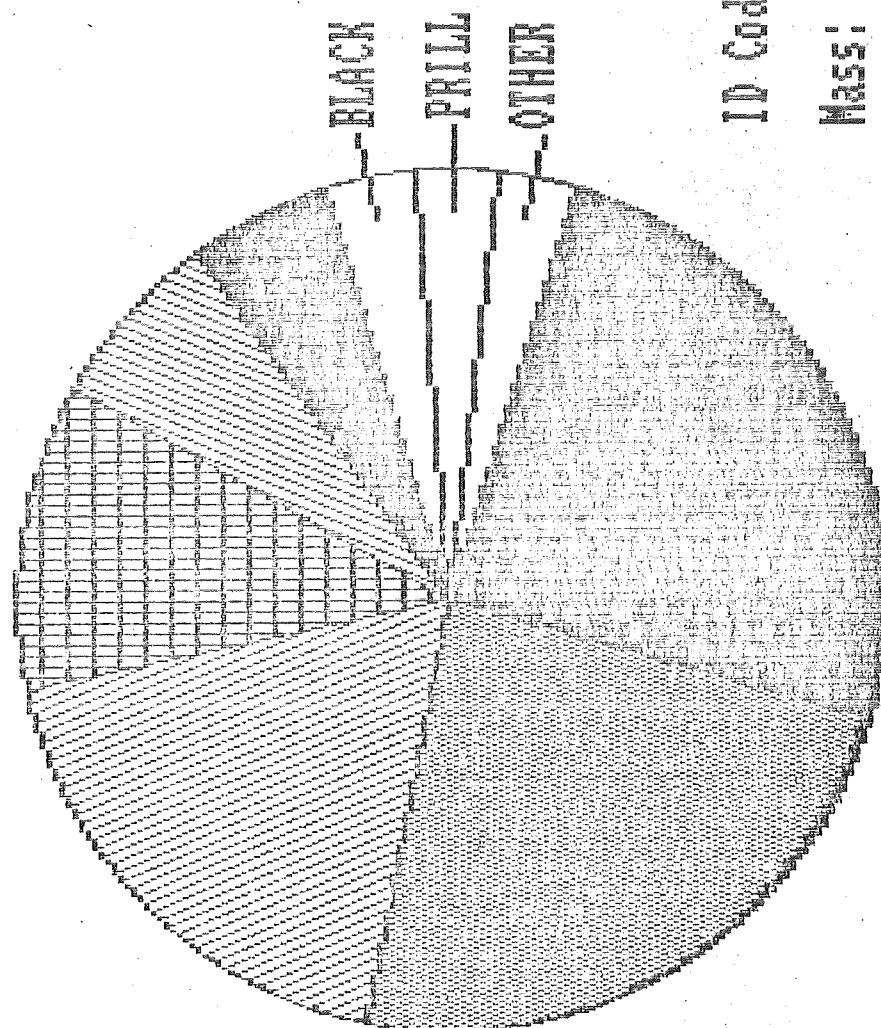
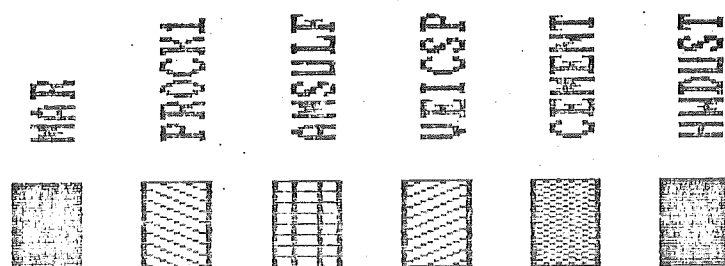
SOURCE	MEAN	*A	*B	*C	MEAN *A #>MDC		
					(UG/M3) (PERCENT)		
5205 HWDUST	16.08+-	2.47	10.75	3.04	24.91+-	2.51	18
5208 PROCK1	4.45+-	1.63	7.09	1.39	6.21+-	1.70	11
5221 BOILER	.35+-	.08	.37	.20	.53+-	.13	10
5223 SUPER	.89+-	.19	.82	.15	1.36+-	.26	14
5224 PRILL	2.07+-	.33	1.44	.36	3.51+-	.55	17
5225 AMSULF	7.46+-	1.66	7.22	1.24	11.19+-	2.08	17
5235 BLACK	2.22+-	.47	2.06	.80	4.35+-	.96	13
5233 CEMENT	15.33+-	2.11	9.19	4.81	26.40+-	2.59	19
5234 BDF	.50+-	.24	1.03	.21	1.01+-	.45	5
5118 GALVAN	.06+-	.03	.15	.01	.08+-	.06	3
27 VEICSP	11.92+-	.64	2.80	1.96	23.81+-	2.32	19
14 MAR	3.30+-	.53	2.32	.79	6.46+-	1.06	17
UNEXPL	-5.14+-	.52	2.28		-9.83+-	1.43	

SUM 59.50
AVE. MASS 59.50 UG/M3

100.00

- *A - STANDARD DEVIATION OF THE MEAN (STANDARD ERROR)
- *B - STANDARD DEVIATION OF THE DISTRIBUTION
- *C - AVERAGE SOURCE CONTRIBUTION UNCERTAINTY

FIGURA 2 - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA GROSSA



ID Code: VPG

Mass: 60 ug/m3

QUADRO VI - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA INALÁVEL

V. PARISI POEIRA INALAVEL NUMERO DE AMOSTRAS: 19 OBTIDO PELA SOMA DE POEIRA FINA + POEIRA GROSSA

FONTE	CONTRIBUICAO	
	MEDIA	
	($\mu\text{g}/\text{m}^3$)	(percentagem)
5205 HWDUST	20,03	20,96
5208 PROCK1	4,93	5,15
5221 BOILER	1,33	1,39
5223 SUPER	0,89	0,93
5224 PRILL	2,55	2,67
5225 ANSULF	21,65	22,65
5226 DAF	6,15	6,43
5235 BLACK	5,13	5,37
5233 CEMENT	15,50	16,22
5234 BOF	1,14	1,19
5127 SORGNC	2,37	2,48
5118 GALVAN	0,11	0,11
27 VEICSP	17,41	18,22
14 MAR	3,42	3,58
UNEXPL	-7,08	-7,40
SUM	95,57	100%

QUADRO VII - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA TOTAL

V. PARISI - 1990

TOTAL PARTICLE FRACTION

NUMBER OF SAMPLES : 24

AVERAGE CHI-SQUARED : .80

SOURCE CONTRIBUTIONS TO MASS

SOURCE	MEAN	*A	*B	*C	MEAN	*A	#>MDC	
		(UG/M3)			(PERCENT)			
5205	HWDUST	42.68+-	4.67	22.86	7.32	19.58+-	1.56	24
5208	PROCK1	26.21+-	4.27	20.92	7.33	11.32+-	1.25	22
5209	PROCK2	1.68+-	1.68	8.23	.36	.76+-	.76	1
5221	BOILER	2.05+-	.19	.90	.55	1.07+-	.12	23
5224	PRILL	6.08+-	.67	3.27	1.05	3.01+-	.29	24
5225	AMSULF	31.43+-	4.02	19.67	4.82	14.76+-	1.41	24
5230	SODIUM	2.58+-	2.01	9.87	1.35	1.54+-	1.12	2
5235	BLACK	10.16+-	.78	3.83	3.23	5.42+-	.54	24
5233	CEMENT	38.97+-	4.52	22.12	14.82	19.39+-	1.97	24
5234	BOF	8.51+-	1.22	5.99	3.08	4.24+-	.55	21
5118	GALVAN	.36+-	.10	.50	.08	.16+-	.05	20
27	VEICSP	18.93+-	1.14	5.59	4.01	9.81+-	.65	24
14	MAR	10.70+-	1.36	6.68	2.23	5.55+-	.68	24
5223	SUPER	3.25+-	.63	3.07	.56	1.35+-	.17	24
	UNEXPL	11.19+-	5.52	27.06		2.04+-	2.24	

SUM 214.75
AVE. MASS 214.75 UG/M3

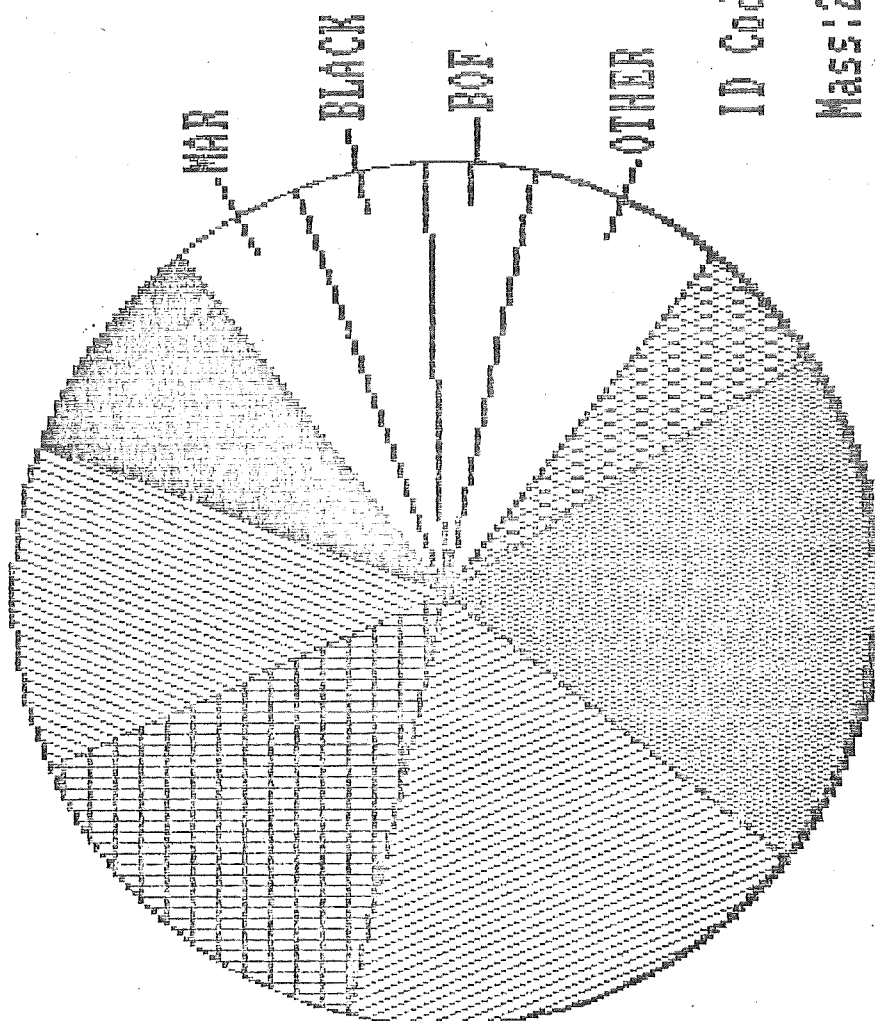
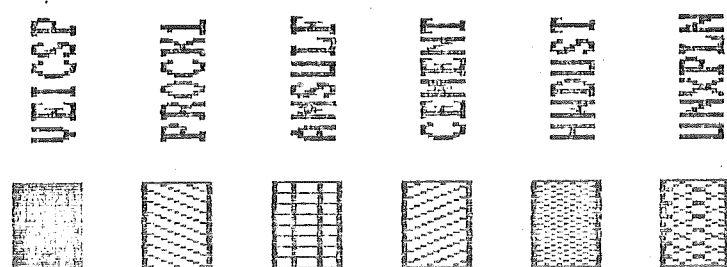
100.00

*A - STANDARD DEVIATION OF THE MEAN (STANDARD ERROR)

*B - STANDARD DEVIATION OF THE DISTRIBUTION

*C - AVERAGE SOURCE CONTRIBUTION UNCERTAINTY

FIGURA 3 - CONTRIBUIÇÃO MÉDIA DAS FONTES - POEIRA TOTAL



ID Code: VPT

Mass: 215 ug/m3

buição desta fonte -12,08%- está entre os valores observados em 1984 quando a contribuição variava entre 4,48% durante o dia e 16,20% durante a noite, com um valor médio de 13,78%.

Os veículos automotores se apresentam contribuindo em média com 9,81% do total de PTS medido. Duas comparações devem ser efetuadas com este valor. A primeira com o observado na Região Metropolitana de São Paulo onde se constatou que as emissões dos veículos contribuem com 23% no Parque Ibirapuera alcançando 38% no Parque D. Pedro. Estas diferenças mostram bem os perfis diferenciados entre uma área industrial e um grande conglomerado urbano. Uma segunda comparação deve ser feita com o estudo de 1984 quando era relatada uma contribuição de cerca de 0,5%. Não se pode em princípio, afirmar que de 1984 até hoje ocorreu um aumento da contribuição da fonte de veículos. Ocorre que, como já dito anteriormente, em 1984 poucas análises de material carbonáceo foram feitas e a massa de material inexplicável era bastante grande, cerca de 27%. No estudo atual todas amostras tiveram seu teor de material carbonáceo quantificado, reduziu-se assim um material inexplicado a de 2,04% e certamente esta redução é a responsável pelo "aumento" da contribuição de veículo na Vila Parisi.

Como comentário final deve-se destacar que foi possível realizar um balanço de massas de excelente qualidade com o uso de 24 amostras e um baixo valor de poeira inexplicável. O parâmetro estatístico que afere a qualidade do modelo é o CHI^2 (qui quadrado) com valores que são aceitáveis abaixo de 2. No presente caso foi obtido um valor médio de CHI^2 de 0,80 o que atesta a excelência da resolução.

5.2.2.2. Balanço de Massas Químicas - PG

A exemplo do observado na PTS, a PG tem como principais fontes formadoras pela ordem o cimento, a poeira de rua e os veículos (cada qual contribuindo com cerca de 25%) e ainda o sulfato de amônio com 11,19%. Outras fontes contribuem em proporções menores que 8%. Chamam a atenção as fontes cimento, sulfato de amônio e a rocha fosfática, quando os resultados atuais são comparados com os de 1984. O cimento teve seus valores bastante aumentados, se considerarmos as fontes de cálcio (manuseamento de gesso e calcário) consideradas no estudo anterior. Como já comentado, tal fonte distribui-se entre a Fábrica de Cimento Santa Rita, a Concrebrás e a fábrica de blocos instalada recentemente ao lado da estação amostradora. O sulfato de amônio ocorre também em proporções maiores, provavelmente devido a intensificação da análise de ânions. Quanto à rocha fosfática observou-se uma diminuição de sua contribuição

na fração grossa, sendo que os 6,21% hoje observados ficam bem abaixo dos 17,71% (média dia e noite) observados em 1984. Ressalte-se apenas que as considerações acima efetuadas são afetadas de uma incerteza impossível de quantificar uma vez que o diâmetro de corte do estudo atual (10 μ m) difere do anterior (15 μ m).

5.2.2.3. Balanço de Massas Químicas - PF

As principais fontes a serem comentadas dentre as formadoras de poeira fina são: Poeira de Rua (HWDUST)=11,60%, BLACK=8,65%, Sulfato de Amônio (AMSULF)=37,45%, Veículos=18,37% e Rocha Fosfática (PROCK1)=1,82%.

A poeira de rua aumentou sua participação de 3% em 1984 para 11,60% em 1990. Considerando-se a hipótese, bastante razoável, de que a emissão desta poeira se manteve constante durante todo o período, tal fato significa uma pequena redução relativa das outras fontes emissoras.

O sulfato de amônio, agora contribuindo com 37,45%, contribuía em 1984 com 13,44%. Em que pese a intensificação das análises de ânions efetuadas no presente estudo, o que possibilita uma melhoria na aplicação do modelo, o aumento verificado no teor de enxofre obtido nas análises por Raio-x efetuadas em ambos os estudos sugere que houve crescimento da contribuição desta fonte. De qualquer forma pode-se afirmar que nos dois estudos verificou-se a importância deste constituinte como formador da poeira fina. Aqui também vale a observação efetuada no BMQ da PTS e esclarecimento da fonte de granulação de NPK se faz necessário.

A fonte veículos hoje aparece contribuindo com 18,37% valor bastante razoável em função da proximidade da estação da principal via de transporte de Vila Parisi. Quando se compara o valor de Vila Parisi com os obtidos na Região Metropolitana de São Paulo, que varia de 27,98% no Ibirapuera até 54,26% no Parque D. Pedro, verifica-se novamente as diferenças de perfis das fontes que caracterizam área industrial e um grande centro urbano.

Finalmente comentários sobre a rocha fosfática devem ser feitos dada a importância que esta fonte sempre teve na área da Vila Parisi. Observa-se que na PF a redução desta contribuição (3,47% em 1984 e 1,82% em 1990) é pequena porém consistente com o observado em todas as outras frações.

Deve-se ressaltar ainda que a aplicação do modelo foi bastante satisfatória nas 18 amostras coletadas, mostrando um bom parâmetro estatístico $\text{CHI}^2 = 1,01$ e uma explicação de 100% da massa obtida (na realidade uma sobre-explicação dentro da variabilidade aceitável do método).

5.2.2.4. Balanço de Massas Químicas - PI

O balanço de massas químicas obtido para a PI é, na realidade, a somatória dos resultados obtidos para a PF e PG. Dessa forma, foram obtidos resultados apenas para os valores médios resultantes da soma das médias de PF+PG, não havendo portanto resultados individualizados para a PI nos anexos. De uma maneira geral, os comentários efetuados para PF e PG são também válidos para PI. Destacam-se como fontes formadoras desta fração (contribuição maior que 10%) a poeira de rua=20,96%, o sulfato de amônio=22,65% e o cimento=16,22%. Verifica-se a importância da fonte cimento na formação da poeira inalável, parâmetro que é medido na estação automática que determina o nível de poluição por material particulado em Vila Parisi. A interferência da fábrica de blocos, distorcendo positivamente os dados diários, não parece ser decisiva quando da determinação das médias anuais. Sendo a fonte cimento composta por material proveniente da Santa Rita, da Concrebrás e da fábrica de blocos, esta última contribuiria com valores menores que os 16,22% observados, desvio médio obtido. Em termos de interferência nos dados diários, é importante que se faça uma análise mais detalhada visto que estes determinam os estados críticos de poluição. Efetuou-se uma regressão linear tanto dos dados de concentração como da contribuição percentual da fonte cimento, em função das concentrações mássicas obtidas. Em ambos os casos os modelos obtidos apresentaram valores de r^2 quase nulos. Tais valores significam que não existe correlação estatisticamente adequada e que a melhor estimativa para o caso seria a própria média. Na faixa de concentração mássica estudada (35 a 200 $\mu\text{g}/\text{m}^3$) obteve-se para a contribuição percentual uma média de 16,22% com um desvio padrão de 7,84. Caso este modelo também seja válido na faixa do estado de alerta (420 $\mu\text{g}/\text{m}^3$) e utilizando-se o critério de um desvio padrão sobre a média, prevê-se que os dados estariam sendo afetados positivamente pela fábrica de blocos, num intervalo entre 8,38% a 24,06%. Obviamente tal modelo seria uma simplificação da realidade uma vez que a fonte cimento é composta tanto pela fábrica de blocos como também pela Santa Rita e Concrebras.

6. CONCLUSÕES E RECOMENDAÇÕES.

Este item leva em conta as conclusões do estudo anterior, acrescentando-se novas informações agora obtidas.

-O presente estudo caracterizou melhor o material particulado suspenso na atmosfera de Vila Parisi que o realizado em 1984 devido principalmente às análises de ânions e de material carbonáceo realizadas em todas as amostras. Isto permitiu uma melhor resolução do modelo, aperfeiçoando a contribuição atribuída a cada fonte, diminuindo assim a percentagem de material cuja origem não era explicada.

-A poeira ressuspensa de rua é ainda a maior formadora do material particulado. Ressalte-se apenas que esta contribuição é bem menor naquela área industrial do que a observada em centros urbanos como o da RMSP.

-A exemplo da poeira de rua, os veículos são responsáveis por parcela significativa das poeiras porém em termos bem menores do observados nas grandes áreas urbanas.

-O sulfato de amônio manifesta-se hoje com maior intensidade que em 1984. Apesar de que a melhoria nos procedimentos analíticos podem indicar uma maior fidelidade dos resultados do modelo, a observação dos valores de enxofre indicam que ocorreu um efetivo aumento deste material na atmosfera de Vila Parisi.

-Observa-se hoje uma contribuição um pouco menor da fonte rocha fosfática do que se observou em 1984 em todas as frações analisadas.

-O conjunto de contribuições da indústria de fertilizantes, principalmente a rocha fosfática, o superfosfato, a perolização e o DAP, podem individualmente contribuir com porções não muito grandes porém o grupo de atividades quando encarado conjuntamente deve merecer cuidados especiais em termos de controle. Acrescente-se a isso que um melhor esclarecimento da fonte de granulação pode atribuir às indústrias de fertilizantes uma parcela ponderável das altas concentrações de sulfato de amônio observadas.

-O cimento comparece como sendo a segunda fonte na PTS e como primeira fonte na PG porém, sua presença é praticamente nula na PF. Mostra os inconvenientes da instalação da fábrica de blocos ao lado da estação amostradora.

-O conjunto siderúrgico apesar de ser o maior emissor da área de Vila Parisi, o que por si só já mostra a necessidade de grande controle, não se manifesta com intensidade na estação de Vila Parisi provavelmente devido a posição da estação em relação à emissão e a direção dos ventos locais.

-RECOMENDA-SE para futuros trabalhos que somente se estude a área de forma bem mais complexa obedecendo os seguintes itens:

- a- esclarecimento da fonte de granulação com amostragem em chaminé.
- b- acompanhamento diário da produção das diferentes fontes de emissão.
- c- acompanhamento diário dos fatores meteorológicos.
- d- os itens b e c devem ser direcionados no sentido de gerar dados adequados para a aplicação de modelos de dispersão e sua aferição com o modelo receptor.
- e- estudo de viabilidade de se colocar outros pontos de amostragem na área com o fito de se verificar a efetiva contribuição do complexo siderúrgico.

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8. EQUIPE DE TRABALHO

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ANEXO

BALANÇO DE MASSAS QUIMICAS

POEIRA FINA

SAMPLE ID: DOV07 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901011 START TIME: 11.2 DURATION: 23.9 HOURS
 REDUCED CHI SQUARE: 1.159 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	F	5.323+- .916	9.739+- 1.940
5221	BOILER	F	1.303+- .299	2.384+- .597
5224	PRILL	T	2.864+- .622	5.240+- 1.253
5225	AMSULF	T	17.825+- 2.637	32.612+- 5.829
5226	DAP	F	12.897+- 3.833	23.595+- 7.401
5234	BOF	F	.313+- .215	.573+- .398
5118	GALVAN	T	.053+- .020	.097+- .038
27	VEICSP	F	13.575+- 1.898	24.836+- 4.275
14	MAR	T	1.096+- .933	2.004+- 1.718

TOTAL: 55.250+- 5.242 101.081+-13.959

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al	*	.821+- .117	1.501	.824+- .069	1.005+- .166
Si	*	4.606+- .653	8.426	4.518+- .675	.981+- .202
P	*	.504+- .113	.921	.371+- .051	.736+- .194
S	*	5.003+- .861	9.153	5.709+- .460	1.141+- .217
Cl	*	1.431+- .262	2.619	1.253+- .162	.875+- .196
K	*	.267+- .038	.488	.310+- .025	1.161+- .190
Ca	*	.566+- .080	1.036	.537+- .043	.948+- .154
Ti		.016+- .008	.030	.041+- .005	2.510+-1.339
V	*	.025+- .009	.046	.022+- .003	.851+- .315
Cr		.016+- .005	.029	.011+- .007	.687+- .512
Mn	*	.023+- .006	.043	.029+- .004	1.230+- .382
Fe	*	.689+- .098	1.261	.625+- .061	.906+- .156
Ni	*	.022+- .004	.041	.023+- .003	1.036+- .231
Cu		.004+- .003	.008	.013+- .002	3.186+-2.162
Zn	*	.093+- .014	.170	.093+- .007	1.000+- .163
Ga		< .002		.001+- .001	3.734+-*****
As		< .044		.017+- .009	.000+- .000
Se		< .002		.000+- .001	.000+- .000
Br	*	.011+- .003	.020	.015+- .002	1.348+- .364
Rb		.010+- .003	.018	.001+- .001	.088+- .117
Sr	*	.009+- .003	.017	.011+- .002	1.198+- .443
Zr		< .018		.003+- .007	.000+- .000
Cd		< .027		.007+- .011	.379+- .770
Sn		.099+- .042	.180	.005+- .015	.047+- .154
Sb		.133+- .054	.244	.009+- .020	.070+- .153
Ba		.288+- .171	.527	.017+- .069	.058+- .243
Hg		< .013		.001+- .004	.000+- .000
Pb		.026+- .008	.048	.078+- .013	2.970+- .975
NO3	*	2.707+- .383	4.953	2.707+- .254	1.000+- .170
PO4		.498+- .070	.910	.000+- .000	.000+- .001
F		< .107		.000+- .012	.000+- .000
SO4	*	15.109+- 2.137	27.642	13.563+- 1.301	.898+- .153
OC	*	8.072+- 1.142	14.768	8.673+- 1.210	1.074+- .213
EC	*	5.839+- .826	10.683	3.833+- .526	.656+- .129
NH4				6.972+- .612	

MASS 54.7 +- 5.5

* FITTING SPECIES

SAMPLE ID: DOV09 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V.PARISI
 SAMPLE DATE: 901012 START TIME: 11.2 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.126 DEGREES OF FREEDOM: 11

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST F	9.050+-	.971	17.309+-	2.542
5221	BOILER F	1.707+-	.347	3.265+-	.740
5225	AMSULF T	21.856+-	3.014	41.802+-	7.127
5226	DAP F	7.193+-	1.694	13.758+-	3.522
5235	BLACK F	5.014+-	1.316	9.589+-	2.694
5234	BOF F	.658+-	.310	1.258+-	.606
5127	SORGNC F	3.929+-	2.104	7.514+-	4.093
5118	GALVAN T	.057+-	.017	.108+-	.034
27	VEICSP F	4.253+-	2.333	8.135+-	4.537

TOTAL: 53.716+- 4.971 102.737+-14.020

---	SPECIES---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC./MEAS.---	---
Al	*	.933+-	.133	1.784	1.179+-	.108	1.264+-	.214	Al
Si	*	5.142+-	.728	9.835	3.777+-	.415	.734+-	.132	Si
P	*	.692+-	.155	1.324	.471+-	.081	.681+-	.192	P
S	*	6.177+-	1.047	11.814	6.194+-	.536	1.003+-	.191	S
Cl		<	.098		.515+-	.086	.000+-	.000	Cl
K	*	.385+-	.055	.737	.317+-	.025	.824+-	.135	K
Ca	*	.744+-	.106	1.422	.732+-	.069	.984+-	.167	Ca
Ti	*	.043+-	.012	.082	.052+-	.005	1.206+-	.346	Ti
V	*	.044+-	.011	.083	.026+-	.002	.588+-	.159	V
Cr		.005+-	.004	.009	.007+-	.003	1.497+-	1.286	Cr
Mn	*	.037+-	.008	.071	.040+-	.008	1.082+-	.313	Mn
Fe	*	.901+-	.128	1.724	.897+-	.112	.995+-	.188	Fe
Ni	*	.027+-	.005	.051	.030+-	.003	1.110+-	.235	Ni
Cu	*	.009+-	.003	.018	.008+-	.002	.899+-	.387	Cu
Zn	*	.077+-	.011	.148	.077+-	.005	1.000+-	.162	Zn
Ga		<	.002		.001+-	.001	.636+-	1.289	Ga
As		<	.043		.007+-	.005	.522+-	1.709	As
Se		<	.002		.003+-	.002	3.449+-	8.951	Se
Br	*	.010+-	.002	.019	.011+-	.002	1.094+-	.350	Br
Rb		.007+-	.003	.014	.001+-	.003	.149+-	.359	Rb
Sr	*	.016+-	.004	.031	.016+-	.003	.995+-	.315	Sr
Zr		<	.017		.004+-	.014	.000+-	.000	Zr
Cd		.029+-	.026	.055	.005+-	.018	.174+-	.648	Cd
Sn		<	.038		.007+-	.025	.304+-	1.249	Sn
Sb		.135+-	.052	.258	.003+-	.041	.024+-	.302	Sb
Ba		.338+-	.166	.646	.029+-	.110	.085+-	.327	Ba
Hg		<	.013		.001+-	.003	.000+-	.000	Hg
Pb	*	.033+-	.008	.063	.035+-	.008	1.063+-	.364	Pb
NO3	*	.190+-	.027	.363	.272+-	.068	1.434+-	.413	NO3
PO4		.700+-	.099	1.339	.000+-	.000	.000+-	.000	PO4
F		<	.107		.000+-	.007	.000+-	.000	F
SO4	*	16.154+-	2.284	30.895	16.121+-	1.590	.998+-	.172	SO4
OC	*	6.621+-	.936	12.663	6.621+-	.503	1.000+-	.161	OC
EC	*	5.895+-	.833	11.275	5.811+-	.479	.986+-	.161	EC
NH4					6.782+-	.630			NH4

MASS 52.3 +- 5.2

* FITTING SPECIES

CETESB - CIA. DE TECNOLOGIA E SANEAMENTO AMBIENTAL
BIBLIOTECA

SAMPLE ID: DOV11 PARTICLE SIZE: FINE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901013 START TIME: 11.4 DURATION: 23.3 HOURS
REDUCED CHI SQUARE: 1.716 DEGREES OF FREEDOM: 12

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	6.149+-	.988	12.196+- 2.311
5221	BOILER F	1.070+-	.302	2.122+- .635
5225	AMSULF T	6.916+-	1.373	13.718+- 3.052
5226	DAP F	31.985+-	4.745	63.443+-11.368
5235	BLACK F	2.792+-	.911	5.537+- 1.891
5118	GALVAN T	.040+-	.019	.078+- .038
27	VEICSP F	5.960+-	1.415	11.821+- 3.048
TOTAL: 54.910+- 5.319 108.916+-15.204				

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al *	.971+-	.138	1.925	1.106+-	.101 1.140+- .193
Si *	12.653+-	1.793	25.097	9.565+-	1.656 .756+- .169
P *	.637+-	.143	1.264	.523+-	.072 .821+- .215
S *	2.941+-	.534	5.833	3.639+-	.347 1.237+- .254
Cl *	1.719+-	.300	3.409	1.938+-	.376 1.127+- .294
K *	.364+-	.052	.721	.385+-	.042 1.059+- .190
Ca *	.868+-	.123	1.722	.672+-	.061 .774+- .130
Ti *	.025+-	.009	.049	.041+-	.004 1.657+- .647
V *	.036+-	.010	.072	.027+-	.003 .760+- .230
Cr	.018+-	.005	.035	.007+-	.003 .422+- .234
Mn *	.028+-	.007	.055	.026+-	.003 .927+- .247
Fe *	.775+-	.110	1.537	.650+-	.068 .839+- .148
Ni *	.021+-	.004	.042	.022+-	.002 1.039+- .240
Cu	.034+-	.006	.067	.013+-	.002 .400+- .092
Zn *	.086+-	.012	.170	.086+-	.007 1.000+- .169
Ga	<	.002		.001+-	.001 3.317+-*****
As	.093+-	.047	.184	.013+-	.005 .141+- .093
Se	<	.002		.001+-	.001 .000+- .000
Br	.020+-	.004	.041	.015+-	.002 .723+- .164
Rb	.006+-	.003	.012	.001+-	.002 .115+- .296
Sr *	.014+-	.004	.028	.015+-	.002 1.059+- .324
Zr	<	.018		.006+-	.011 .000+- .000
Cd	.028+-	.027	.055	.004+-	.014 .158+- .518
Sn	<	.039		.005+-	.019 .000+- .000
Sb	<	.050		.004+-	.031 .107+- .813
Ba	<	.166		.019+-	.086 .179+- .851
Hg	<	.013		.002+-	.003 .000+- .000
Pb *	.031+-	.008	.061	.060+-	.009 1.946+- .586
NO3 *	1.444+-	.204	2.865	1.209+-	.304 .837+- .241
PO4	.648+-	.092	1.284	.000+-	.000 .000+- .001
F	<	.109		.000+-	.029 .000+- .000
SO4 *	6.770+-	.958	13.428	6.058+-	.566 .895+- .152
OC *	5.903+-	.835	11.709	4.145+-	.532 .702+- .134
EC *	4.241+-	.600	8.413	4.230+-	.341 .997+- .162
NH4				5.512+-	.925

MASS 50.4 +- 5.1

* FITTING SPECIES

SAMPLE ID: DOV13 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901113 START TIME: 10.7 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.521 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	3.929+-	.509	13.834+- 2.270
5221	BOILER F	.657+-	.202	2.315+- .748
5225	AMSULF T	11.159+-	1.562	39.290+- 6.779
5226	DAP F	4.518+-	.931	15.907+- 3.648
5235	BLACK F	4.343+-	1.042	15.290+- 3.981
5234	BOF F	.337+-	.162	1.188+- .582
5127	SORGNC F	5.741+-	1.809	20.213+- 6.689
5118	GALVAN T	.036+-	.010	.126+- .039
27	VEICSP F	2.614+-	1.688	9.202+- 6.016

TOTAL: 33.335+- 3.293 117.365+-16.569

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---	---			
Al	*	.500+-	.072	1.760	.529+-	.047	1.058+-	.179	Al
Si	*	2.414+-	.342	8.500	2.003+-	.247	.830+-	.156	Si
P	*	.273+-	.061	.960	.217+-	.035	.795+-	.220	P
S	*	3.697+-	.641	13.017	3.173+-	.275	.858+-	.166	S
Cl	*	.089+-	.072	.314	.308+-	.054	3.456+-	2.844	Cl
K	*	.136+-	.020	.478	.156+-	.013	1.148+-	.191	K
Ca	*	.351+-	.050	1.236	.330+-	.033	.939+-	.163	Ca
Ti		<	.029		.023+-	.003	.000+-	.000	Ti
V		<	.014		.011+-	.001	.000+-	.000	V
Cr		.007+-	.004	.025	.004+-	.002	.538+-	.438	Cr
Mn	*	.018+-	.005	.063	.019+-	.004	1.064+-	.368	Mn
Fe	*	.460+-	.066	1.621	.432+-	.056	.938+-	.181	Fe
Ni	*	.012+-	.003	.042	.012+-	.002	1.010+-	.274	Ni
Cu	*	.004+-	.002	.014	.004+-	.002	1.053+-	.629	Cu
Zn	*	.047+-	.007	.164	.047+-	.004	1.000+-	.164	Zn
Ga		.006+-	.001	.020	.000+-	.001	.072+-	.189	Ga
As		<	.028		.004+-	.004	.702+-	3.295	As
Se		<	.001		.002+-	.002	3.768+-	8.060	Se
Br		.013+-	.002	.046	.008+-	.002	.604+-	.180	Br
Rb		.006+-	.002	.020	.000+-	.002	.088+-	.388	Rb
Sr		.008+-	.002	.029	.009+-	.003	1.078+-	.426	Sr
Zr		<	.011		.002+-	.012	.221+-	1.419	Zr
Cd		.030+-	.013	.106	.002+-	.015	.083+-	.512	Cd
Sn		.047+-	.019	.166	.003+-	.021	.062+-	.443	Sn
Sb		.095+-	.027	.334	.002+-	.035	.020+-	.365	Sb
Ba		.337+-	.089	1.188	.012+-	.093	.037+-	.275	Ba
Hg		.016+-	.008	.055	.000+-	.002	.021+-	.157	Hg
Pb	*	.025+-	.005	.087	.022+-	.007	.877+-	.331	Pb
NO3	*	.262+-	.037	.924	.171+-	.043	.651+-	.187	NO3
PO4		<	.204		.000+-	.000	.000+-	.000	PO4
F		<	.102		.000+-	.004	.000+-	.000	F
SO4	*	7.612+-	1.076	26.801	8.258+-	.812	1.085+-	.187	SO4
OC	*	6.927+-	.979	24.390	6.927+-	.532	1.000+-	.161	OC
EC	*	4.686+-	.662	16.499	4.669+-	.403	.996+-	.165	EC
NH4					3.558+-	.330			NH4

MASS 28.4 +- 2.9

* FITTING SPECIES

SAMPLE ID: DOV15 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901114 START TIME: 11.4 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.413 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	2.822+-	.681	8.264+- 2.160
5208	PROCK1 F	.935+-	.384	2.739+- 1.157
5221	BOILER F	.691+-	.208	2.024+- .643
5225	AMSULF T	11.870+-	1.700	34.756+- 6.085
5226	DAP F	7.843+-	1.733	22.964+- 5.575
5235	BLACK F	4.314+-	1.205	12.632+- 3.752
5234	BOF F	.999+-	.343	2.925+- 1.047
5127	SORGNC F	2.647+-	1.959	7.749+- 5.788
5118	GALVAN T	.149+-	.031	.436+- .101
27	VEICSP F	5.933+-	2.050	17.373+- 6.253

TOTAL: 38.204+- 4.020 111.862+-16.291

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al	*	.468+- .067	1.371	.472+- .038	1.007+- .165
Si	*	4.567+- .647	13.372	2.692+- .409	.590+- .122
P	*	.308+- .069	.901	.307+- .035	.996+- .250
S	*	3.949+- .681	11.562	3.610+- .301	.914+- .175
Cl		.101+- .073	.295	.516+- .094	5.114+-3.801
K	*	.169+- .024	.495	.193+- .016	1.139+- .188
Ca	*	.476+- .068	1.394	.475+- .033	.998+- .158
Ti		< .036		.034+- .003	.000+- .000
V		< .017		.014+- .002	.000+- .000
Cr	*	.016+- .005	.048	.008+- .003	.465+- .258
Mn	*	.024+- .005	.070	.035+- .012	1.482+- .591
Fe	*	.974+- .138	2.851	.823+- .153	.845+- .198
Ni	*	.013+- .003	.038	.013+- .002	1.010+- .255
Cu	*	.008+- .002	.024	.007+- .002	.876+- .332
Zn	*	.148+- .021	.432	.148+- .012	1.000+- .166
Ga		.004+- .001	.011	.001+- .001	.154+- .306
As		< .029		.008+- .006	.000+- .000
Se		.002+- .001	.007	.002+- .002	.967+- .897
Br	*	.012+- .002	.035	.011+- .002	.936+- .235
Rb		.006+- .002	.018	.001+- .002	.102+- .348
Sr	*	.013+- .003	.039	.014+- .003	1.074+- .307
Zr		< .011		.003+- .012	.000+- .000
Cd		.055+- .015	.162	.004+- .016	.066+- .286
Sn		.062+- .020	.181	.003+- .022	.048+- .349
Sb		.128+- .030	.375	.005+- .035	.043+- .275
Ba		.548+- .109	1.604	.024+- .096	.043+- .176
Hg		< .007		.001+- .003	.144+- .713
Pb	*	.040+- .007	.116	.042+- .008	1.052+- .281
NO3	*	.179+- .025	.524	.296+- .075	1.656+- .477
PO4		< .202		.000+- .000	.000+- .000
F		< .036		.000+- .007	.000+- .224
SO4	*	8.440+- 1.194	24.712	8.882+- .865	1.052+- .181
OC	*	6.452+- .912	18.890	6.452+- .575	1.000+- .167
EC	*	5.565+- .787	16.293	5.556+- .450	.998+- .163
NH4				4.129+- .393	

MASS 34.2 +- 3.4

* FITTING SPECIES

SAMPLE ID: DOV17 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901115 START TIME: 12.0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.558 DEGREES OF FREEDOM: 6

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	4.761+-	1.185	5.184+- 1.391
5208	PROCK1 F	.901+-	.579	.981+- .638
5221	BOILER F	2.035+-	.428	2.215+- .516
5224	PRILL T	1.158+-	.305	1.260+- .355
5225	AMSULF T	55.885+-	7.380	60.851+-10.080
5226	DAP F	8.251+-	2.945	8.984+- 3.330
5235	BLACK F	6.881+-	1.683	7.492+- 1.980
5234	BOF F	.610+-	.278	.664+- .310
5127	SORGNC F	5.047+-	2.436	5.496+- 2.708
5118	GALVAN T	.022+-	.012	.024+- .013
27	VEICSP F	4.468+-	2.647	4.865+- 2.923

TOTAL: 90.019+- 9.000 98.017+-13.862

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC. /MEAS.---
Al	*	.900+- .128	.980	.714+- .059	.793+- .131
Si	*	3.542+- .502	3.857	3.208+- .437	.906+- .178
P		.819+- .183	.892	.392+- .048	.478+- .122
S	*	13.538+- 2.229	14.740	14.446+- 1.356	1.067+- .202
Cl		< .089		.545+- .099	.000+- .000
K	*	.168+- .024	.183	.226+- .019	1.350+- .225
Ca	*	.654+- .093	.712	.606+- .046	.926+- .149
Ti		< .035		.041+- .004	.000+- .000
V		< .018		.028+- .003	9.999+-9.999
Cr	*	.006+- .005	.006	.007+- .003	1.219+-1.194
Mn	*	.029+- .006	.032	.032+- .008	1.082+- .350
Fe	*	.831+- .118	.905	.728+- .098	.876+- .171
Ni	*	.035+- .005	.038	.035+- .004	1.008+- .197
Cu	*	.007+- .002	.008	.008+- .003	1.100+- .541
Zn	*	.047+- .007	.052	.047+- .004	1.000+- .168
Ga		.006+- .001	.007	.001+- .002	.113+- .292
As		< .033		.008+- .007	.000+- .000
Se		.002+- .001	.002	.003+- .003	2.171+-2.302
Br		.021+- .003	.023	.013+- .003	.638+- .180
Rb		.006+- .002	.006	.001+- .003	.132+- .627
Sr	*	.012+- .002	.013	.018+- .005	1.483+- .478
Zr		< .012		.004+- .019	.000+- .000
Cd		.049+- .015	.053	.004+- .024	.074+- .502
Sn		.096+- .025	.105	.004+- .033	.042+- .344
Sb		.131+- .032	.143	.005+- .055	.036+- .419
Ba		.475+- .105	.518	.029+- .147	.061+- .310
Hg		.019+- .009	.021	.001+- .004	.033+- .208
Pb	*	.054+- .009	.059	.038+- .011	.702+- .233
NO3	*	1.209+- .171	1.316	1.209+- .119	1.000+- .172
PO4		.623+- .088	.679	.000+- .001	.000+- .001
F		< .104		.000+- .008	.000+- .000
SO4	*	43.290+- 6.120	47.136	40.894+- 4.063	.945+- .163
OC	*	7.910+- 1.118	8.613	7.910+- .583	1.000+- .159
EC	*	7.952+- 1.124	8.658	7.573+- .641	.952+- .157
NH4				16.452+- 1.544	

MASS 91.8 +- 9.2

* FITTING SPECIES

SAMPLE ID: DOV21 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901120 START TIME: 11.2 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.012 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	6.092+-	.807	13.837+- 2.302
5221	BOILER F	.816+-	.211	1.854+- .514
5224	PRILL T	.865+-	.212	1.966+- .521
5225	AMSULF T	21.654+-	2.943	49.188+- 8.318
5226	DAP F	5.006+-	1.952	11.371+- 4.579
5235	BLACK F	3.222+-	.901	7.320+- 2.176
5234	BOF F	.447+-	.220	1.015+- .510
5127	SORGNC F	6.014+-	1.902	13.660+- 4.535
27	VEICSP F	4.315+-	1.474	9.802+- 3.490

TOTAL:		48.431+-	4.457	110.012+-15.001

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---	---
Al	*	.689+-	.099	1.564	.796+-	.073 1.156+- .196 Al
Si	*	2.455+-	.348	5.578	2.585+-	.287 1.053+- .190 Si
P		.469+-	.105	1.065	.321+-	.054 .685+- .192 P
S	*	6.553+-	1.103	14.885	5.861+-	.528 .894+- .171 S
Cl		<	.068		.359+-	.060 .000+- .000 Cl
K	*	.243+-	.035	.551	.224+-	.017 .921+- .150 K
Ca	*	.703+-	.100	1.596	.499+-	.046 .710+- .120 Ca
Ti	*	.027+-	.008	.060	.036+-	.003 1.340+- .436 Ti
V		.036+-	.009	.081	.014+-	.002 .391+- .104 V
Cr		<	.005		.006+-	.003 1.340+-1.550 Cr
Mn	*	.024+-	.006	.055	.028+-	.006 1.149+- .353 Mn
Fe	*	.645+-	.092	1.465	.613+-	.076 .951+- .179 Fe
Ni	*	.015+-	.003	.033	.015+-	.002 .994+- .227 Ni
Cu	*	.005+-	.002	.012	.006+-	.001 1.216+- .524 Cu
Zn	*	.030+-	.005	.068	.025+-	.002 .825+- .150 Zn
Ga		.001+-	.001	.002	.001+-	.001 .606+-1.018 Ga
As		.033+-	.029	.074	.006+-	.004 .188+- .208 As
Se		.003+-	.001	.007	.002+-	.001 .516+- .452 Se
Br		.016+-	.003	.037	.008+-	.002 .506+- .127 Br
Rb		.005+-	.002	.011	.001+-	.002 .148+- .335 Rb
Sr	*	.009+-	.002	.021	.011+-	.002 1.164+- .372 Sr
Zr		<	.011		.003+-	.009 .000+- .000 Zr
Cd		.025+-	.013	.056	.004+-	.012 .160+- .490 Cd
Sn		.023+-	.018	.052	.005+-	.016 .198+- .725 Sn
Sb		.040+-	.024	.090	.003+-	.027 .079+- .671 Sb
Ba		<	.072		.019+-	.072 1.121+-6.346 Ba
Hg		<	.008		.000+-	.002 .059+- .332 Hg
Pb	*	.026+-	.005	.058	.030+-	.006 1.185+- .349 Pb
NO3	*	.860+-	.122	1.953	.860+-	.082 1.000+- .171 NO3
PO4		<	.210		.000+-	.000 .000+- .000 PO4
F		<	.105		.000+-	.005 .000+- .000 F
SO4	*	14.844+-	2.101	33.719	15.904+-	1.575 1.071+- .185 SO4
OC	*	8.123+-	1.150	18.451	8.123+-	.631 1.000+- .161 OC
EC	*	4.167+-	.590	9.465	4.144+-	.334 .995+- .162 EC
NH4					6.673+-	.608 NH4

MASS 44.0 +- 4.4 * FITTING SPECIES

SAMPLE ID: DOV25 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V.PARISI
 SAMPLE DATE: 901122 START TIME: 11.3 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: .547 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	3.543+-	.761	8.744+- 2.072
5221	BOILER F	1.663+-	.350	4.105+- .956
5225	AMSULF T	16.222+-	2.328	40.037+- 7.010
5226	DAP F	14.290+-	2.726	35.268+- 7.600
5235	BLACK F	3.469+-	.861	8.561+- 2.291
5233	CEMENT T	1.245+-	.528	3.071+- 1.339
5127	SORGNC F	7.019+-	1.823	17.322+- 4.823
27	VEICSP F	1.660+-	1.533	4.097+- 3.806

TOTAL:		49.111+-	4.499	121.206+-16.464

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---	---
Al	*	.627+- .090	1.548	.631+- .053	1.006+- .167	Al
Si	*	3.645+- .516	8.996	4.560+- .742	1.251+- .270	Si
P		.532+- .119	1.313	.272+- .038	.512+- .135	P
S	*	5.367+- .909	13.246	4.973+- .416	.927+- .175	S
Cl		< .074		.874+- .168	9.999+-9.999	Cl
K	*	.247+- .035	.611	.200+- .020	.808+- .141	K
Ca	*	.664+- .094	1.638	.658+- .056	.991+- .164	Ca
Ti	*	.021+- .007	.051	.025+- .002	1.198+- .429	Ti
V		.040+- .009	.098	.025+- .002	.623+- .154	V
Cr		< .003		.003+- .001	9.999+-9.999	Cr
Mn	*	.017+- .005	.043	.017+- .002	.963+- .277	Mn
Fe	*	.358+- .051	.885	.347+- .033	.968+- .166	Fe
Ni	*	.029+- .005	.072	.029+- .003	.997+- .190	Ni
Cu		.004+- .002	.009	.006+- .002	1.780+- .970	Cu
Zn	*	.024+- .004	.058	.025+- .003	1.052+- .212	Zn
Ga		< .001		.001+- .001	.467+- .931	Ga
As		< .028		.005+- .003	.253+- .369	As
Se		.002+- .001	.004	.002+- .001	1.040+-1.057	Se
Br		.012+- .002	.029	.008+- .002	.706+- .186	Br
Rb		.004+- .001	.010	.001+- .002	.121+- .418	Rb
Sr	*	.008+- .002	.019	.010+- .002	1.345+- .483	Sr
Zr		< .011		.003+- .010	.000+- .000	Zr
Cd		< .013		.002+- .013	.304+-2.006	Cd
Sn		.044+- .020	.109	.003+- .017	.059+- .394	Sn
Sb		< .025		.001+- .029	.000+- .000	Sb
Ba		< .077		.012+- .078	.575+-4.283	Ba
Hg		.008+- .007	.020	.001+- .002	.100+- .268	Hg
Pb	*	.024+- .005	.059	.024+- .006	1.019+- .325	Pb
NO3	*	.671+- .095	1.655	.540+- .136	.805+- .232	NO3
PO4		.378+- .054	.934	.000+- .000	.000+- .001	PO4
F		< .026		.000+- .013	.000+- .568	F
SO4	*	11.711+- 1.655	28.902	12.254+- 1.185	1.046+- .179	SO4
OC	*	7.385+- 1.043	18.227	7.385+- .602	1.000+- .163	OC
EC	*	3.792+- .536	9.360	3.711+- .318	.979+- .162	EC
NH4				6.048+- .600		NH4

MASS 40.5 +- 4.1

* FITTING SPECIES

SAMPLE ID: DOV27 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901123 START TIME: 11.0 DURATION: 23.7 HOURS
 REDUCED CHI SQUARE: 1.324 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	2.431+-	.725	7.796+- 2.453
5208	PROCK1 F	2.744+-	.613	8.800+- 2.157
5221	BOILER F	.823+-	.217	2.638+- .744
5224	PRILL T	.343+-	.125	1.099+- .416
5225	AMSULF T	8.887+-	1.308	28.497+- 5.082
5226	DAP F	4.806+-	1.349	15.412+- 4.595
5118	GALVAN T	.036+-	.014	.116+- .046
27	VEICSP F	11.926+-	1.351	38.244+- 5.799

TOTAL: 31.996+- 2.514 102.602+-13.108

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---	---
Al	*	.525+- .075	1.682	.453+- .032	.864+- .138	Al
Si	*	1.592+- .226	5.106	1.907+- .253	1.197+- .233	Si
P	*	.554+- .124	1.776	.483+- .066	.873+- .229	P
S	*	3.259+- .572	10.450	2.955+- .237	.907+- .175	S
Cl	*	.722+- .151	2.317	.334+- .063	.463+- .130	Cl
K	*	.163+- .024	.521	.175+- .015	1.078+- .182	K
Ca	*	.873+- .124	2.799	.802+- .058	.919+- .146	Ca
Ti		.021+- .007	.066	.052+- .005	2.511+- .904	Ti
V		.032+- .008	.103	.015+- .003	.476+- .145	V
Cr		.005+- .004	.017	.011+- .006	2.089+-1.963	Cr
Mn		.007+- .003	.024	.021+- .002	2.905+-1.315	Mn
Fe	*	.380+- .054	1.217	.439+- .027	1.158+- .181	Fe
Ni	*	.015+- .003	.047	.015+- .002	1.011+- .237	Ni
Cu		.012+- .003	.039	.010+- .001	.824+- .210	Cu
Zn	*	.066+- .010	.212	.066+- .005	1.000+- .163	Zn
Ga		.004+- .001	.014	.001+- .001	.156+- .161	Ga
As		< .032		.014+- .008	.000+- .000	As
Se		.002+- .001	.006	.000+- .001	.033+- .506	Se
Br	*	.009+- .002	.028	.011+- .001	1.200+- .283	Br
Rb		.003+- .001	.010	.001+- .001	.190+- .321	Rb
Sr		.010+- .002	.032	.021+- .002	2.129+- .508	Sr
Zr		< .011		.005+- .006	.000+- .000	Zr
Cd		.020+- .014	.066	.005+- .009	.267+- .467	Cd
Sn		.024+- .019	.077	.003+- .013	.145+- .537	Sn
Sb		< .026		.012+- .016	.685+-1.401	Sb
Ba		.085+- .080	.273	.050+- .058	.583+- .874	Ba
Hg		.018+- .008	.057	.000+- .003	.024+- .191	Hg
Pb	*	.063+- .010	.203	.066+- .011	1.043+- .239	Pb
NO3	*	.447+- .063	1.434	.447+- .053	1.000+- .184	NO3
PO4		.434+- .061	1.390	.000+- .000	.000+- .000	PO4
F		< .101		.000+- .004	.000+- .000	F
SO4	*	6.296+- .890	20.189	6.615+- .647	1.051+- .181	SO4
OC	*	8.058+- 1.139	25.840	7.591+- 1.063	.942+- .187	OC
EC	*	3.868+- .547	12.403	3.339+- .462	.863+- .171	EC
NH4				3.048+- .278		NH4

MASS 31.2 +- 3.1

* FITTING SPECIES



SAMPLE ID: DOV29 PARTICLE SIZE: FINE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901207 START TIME: .0 DURATION: 23.9 HOURS
REDUCED CHI SQUARE: .860 DEGREES OF FREEDOM: 9

--SOURCE----	SIZE----	UG/M3-----	PERCENT----
5205	HWDUST F	5.706+- .948	17.610+- 3.421
5208	PROCK1 F	.738+- .529	2.278+- 1.649
5221	BOILER F	1.580+- .346	4.877+- 1.177
5225	AMSULF T	10.067+- 1.456	31.067+- 5.477
5226	DAP F	3.827+- 1.583	11.812+- 5.029
5235	BLACK F	4.426+- 1.224	13.660+- 4.021
5118	GALVAN T	.182+- .037	.562+- .127
27	VEICSP F	7.285+- 1.389	22.481+- 4.848

TOTAL: 33.811+- 3.058 104.347+-14.130

SPECIES		MEAS.		UG/M3		%		CALC.		UG/M3		CALC./MEAS.		
Al	*	.657+-	.094	2.028	.772+-	.068	1.175+-	.197	Al					
Si	*	2.303+-	.326	7.107	2.250+-	.230	.977+-	.171	Si					
P		.705+-	.158	2.177	.388+-	.054	.550+-	.145	P					
S	*	3.692+-	.645	11.395	3.191+-	.254	.864+-	.166	S					
Cl		<	.082		.287+-	.049	4.111+-	4.871	Cl					
K	*	.277+-	.040	.855	.219+-	.018	.790+-	.130	K					
Ca	*	.781+-	.111	2.409	.619+-	.047	.793+-	.127	Ca					
Ti	*	.041+-	.011	.126	.043+-	.004	1.048+-	.288	Ti					
V		.044+-	.010	.136	.022+-	.002	.488+-	.128	V					
Cr	*	.006+-	.004	.017	.007+-	.004	1.256+-	1.165	Cr					
Mn		.057+-	.010	.176	.021+-	.003	.366+-	.080	Mn					
Fe	*	.410+-	.059	1.267	.431+-	.032	1.049+-	.169	Fe					
Ni	*	.027+-	.005	.083	.027+-	.003	1.004+-	.207	Ni					
Cu		.020+-	.004	.060	.008+-	.002	.416+-	.128	Cu					
Zn	*	.177+-	.025	.546	.177+-	.015	1.000+-	.166	Zn					
Ga		.002+-	.001	.007	.001+-	.001	.322+-	.547	Ga					
As		<	.032		.009+-	.006	2.022+-	*****	As					
Se		.003+-	.001	.009	.002+-	.002	.736+-	.650	Se					
Br	*	.010+-	.002	.031	.012+-	.002	1.162+-	.330	Br					
Rb		.006+-	.002	.018	.001+-	.002	.122+-	.385	Rb					
Sr	*	.012+-	.002	.037	.016+-	.003	1.336+-	.374	Sr					
Zr		<	.013		.003+-	.013	.000+-	.000	Zr					
Cd		.023+-	.015	.069	.005+-	.016	.213+-	.743	Cd					
Sn		.105+-	.026	.323	.005+-	.022	.044+-	.215	Sn					
Sb		.055+-	.029	.170	.006+-	.036	.112+-	.666	Sb					
Ba		.346+-	.101	1.068	.029+-	.100	.084+-	.291	Ba					
Hg		.020+-	.009	.063	.000+-	.003	.015+-	.154	Hg					
Pb	*	.037+-	.007	.114	.045+-	.009	1.226+-	.342	Pb					
NO3	*	<	.115		.145+-	.036	1.394+-	1.580	NO3					
PO4		.801+-	.113	2.472	.000+-	.000	.000+-	.000	PO4					
F		<	.109		.000+-	.004	.000+-	.000	F					
SO4	*	6.923+-	.978	21.365	7.442+-	.733	1.075+-	.185	SO4					
OC	*	5.495+-	.777	16.958	5.198+-	.651	.946+-	.179	OC					
EC	*	6.542+-	.925	20.188	6.104+-	.487	.933+-	.151	EC					
NH4					3.182+-	.295			NH4					

MASS 32.4 +- 3.3

* FITTING SPECIES

SAMPLE ID: DOV35 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901227 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: .942 DEGREES OF FREEDOM: 6

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	2.382+-	.515	12.105+- 2.896
5224	PRILL T	.203+-	.064	1.030+- .343
5225	AMSULF T	5.186+-	.778	26.356+- 4.794
5226	DAP F	1.587+-	.862	8.065+- 4.459
5235	BLACK F	2.114+-	.643	10.746+- 3.449
5233	CEMENT T	1.886+-	.544	9.587+- 2.937
5234	BOF F	.591+-	.216	3.003+- 1.139
5127	SORGNC F	4.249+-	1.397	21.593+- 7.440
27	VEICSP F	3.247+-	1.143	16.501+- 6.053
14	MAR T	.634+-	.345	3.224+- 1.785

TOTAL: 22.079+- 2.399 112.210+-16.779

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al *	.396+-	.057	2.011	.357+-	.031
Si *	1.071+-	.152	5.443	1.080+-	.105
P *	.142+-	.032	.722	.129+-	.021
S *	1.689+-	.336	8.584	1.576+-	.130
Cl *	.400+-	.120	2.033	.380+-	.035
K *	.100+-	.015	.511	.128+-	.009
Ca *	.699+-	.099	3.553	.664+-	.071
Ti	<	.043		.020+-	.002
V	<	.020		.003+-	.001
Cr	<	.005		.004+-	.002
Mn *	.021+-	.006	.106	.025+-	.007
Fe *	.574+-	.082	2.916	.474+-	.091
Ni *	.003+-	.003	.014	.001+-	.001
Cu	.008+-	.003	.040	.003+-	.001
Zn *	.017+-	.003	.085	.014+-	.001
Ga	<	.001		.000+-	.001
As	<	.036		.004+-	.003
Se	<	.002		.001+-	.001
Br	.009+-	.002	.047	.006+-	.001
Rb	.004+-	.002	.022	.001+-	.001
Sr	.009+-	.003	.047	.007+-	.001
Zr	<	.014		.001+-	.006
Cd	.075+-	.021	.381	.003+-	.008
Sn	.076+-	.030	.388	.002+-	.011
Sb	.147+-	.041	.747	.002+-	.017
Ba	.483+-	.134	2.456	.009+-	.047
Hg	.012+-	.010	.060	.000+-	.001
Pb *	.019+-	.006	.095	.020+-	.004
NO3 *	.217+-	.031	1.103	.217+-	.022
PO4	<	.225		.000+-	.000
F	<	.112		.000+-	.001
SO4 *	3.804+-	.539	19.333	3.931+-	.378
OC *	5.795+-	.820	29.452	5.795+-	.457
EC *	2.785+-	.394	14.155	2.786+-	.228
NH4				1.641+-	.149

MASS 19.7 +- 2.0

* FITTING SPECIES



SAMPLE ID: DOV37 PARTICLE SIZE: FINE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910108 START TIME: .0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .788 DEGREES OF FREEDOM: 8

--SOURCE----	SIZE----	UG/M3-----	PERCENT----
5205	HWDUST F	2.389+- .260	13.480+- 2.023
5221	BOILER F	.565+- .195	3.188+- 1.148
5225	AMSULF T	7.463+- 1.055	42.119+- 7.372
5235	BLACK F	2.741+- .812	15.472+- 4.853
5234	BOF F	1.411+- .393	7.961+- 2.367
5127	SORGNC F	1.418+- 1.368	8.004+- 7.764
5118	GALVAN T	.024+- .008	.138+- .048
27	VEICSP F	3.290+- 1.615	18.566+- 9.316

TOTAL: 19.301+- 2.552 108.928+-18.271

SPECIES		MEAS.		UG/M3	%	CALC.		UG/M3	CALC./MEAS.	
Al	*	.240+-	.035	1.353		.303+-	.028	1.263+-	.220	Al
Si	*	.622+-	.088	3.511		.539+-	.050	.866+-	.147	Si
P	*	.136+-	.030	.766		.120+-	.021	.881+-	.252	P
S	*	2.822+-	.512	15.927		2.059+-	.184	.730+-	.147	S
Cl		<	.081			.051+-	.015	.000+-	.000	Cl
K	*	.130+-	.019	.735		.123+-	.011	.947+-	.162	K
Ca	*	.230+-	.033	1.298		.203+-	.021	.881+-	.157	Ca
Ti	*	.017+-	.009	.094		.020+-	.002	1.186+-	.636	Ti
V		.036+-	.009	.204		.008+-	.001	.228+-	.066	V
Cr		<	.005			.005+-	.002	7.320+-	*****	Cr
Mn	*	.029+-	.007	.166		.037+-	.016	1.248+-	.621	Mn
Fe	*	.857+-	.122	4.838		.850+-	.215	.991+-	.287	Fe
Ni	*	.010+-	.003	.054		.010+-	.001	1.011+-	.326	Ni
Cu		.007+-	.003	.039		.003+-	.001	.473+-	.248	Cu
Zn	*	.033+-	.005	.184		.033+-	.003	1.000+-	.175	Zn
Ga		.002+-	.001	.010		.000+-	.001	.225+-	.447	Ga
As		<	.035			.004+-	.003	.163+-	.272	As
Se		.002+-	.001	.010		.001+-	.001	.789+-	.832	Se
Br		.009+-	.002	.053		.006+-	.001	.615+-	.197	Br
Rb		.003+-	.002	.018		.001+-	.001	.186+-	.439	Rb
Sr	*	.006+-	.002	.033		.006+-	.002	.967+-	.499	Sr
Zr		<	.014			.001+-	.008	.090+-	.643	Zr
Cd		.047+-	.019	.267		.003+-	.010	.056+-	.210	Cd
Sn		.028+-	.027	.155		.002+-	.013	.081+-	.496	Sn
Sb		.036+-	.034	.201		.003+-	.022	.072+-	.624	Sb
Ba		<	.109			.008+-	.060	.162+-	1.219	Ba
Hg		.010+-	.010	.058		.000+-	.002	.022+-	.168	Hg
Pb	*	.018+-	.006	.101		.020+-	.005	1.135+-	.466	Pb
NO3		<	.033			.000+-	.000	.000+-	.003	NO3
PO4		<	.227			.000+-	.000	.000+-	.000	PO4
F		<	.114			.000+-	.000	.000+-	.000	F
SO4	*	4.789+-	.677	27.028		5.426+-	.543	1.133+-	.196	SO4
OC	*	3.589+-	.507	20.256		3.589+-	.317	1.000+-	.167	OC
EC	*	3.408+-	.482	19.231		3.410+-	.277	1.001+-	.163	EC
NH4						2.037+-	.204			NH4

MASS 17.7 +- 1.8

* FITTING SPECIES

SAMPLE ID: DOV39 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910114 START TIME: .0 DURATION: 24.1 HOURS
 REDUCED CHI SQUARE: .890 DEGREES OF FREEDOM: 8

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	F	2.797+-	.308	8.647+-	1.291		
5221	BOILER	F	1.404+-	.288	4.341+-	.992		
5224	PRILL	T	1.211+-	.210	3.745+-	.751		
5225	AMSULF	T	14.861+-	2.019	45.948+-	7.775		
5235	BLACK	F	4.171+-	1.042	12.897+-	3.476		
5234	BOF	F	1.795+-	.541	5.549+-	1.765		
5127	SORGNC	F	3.060+-	1.625	9.460+-	5.114		
5118	GALVAN	T	.020+-	.008	.063+-	.026		
27	VEICSP	F	2.713+-	1.859	8.387+-	5.811		

TOTAL: 32.032+- 3.432 99.037+-14.571

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC./MEAS.	---
Al	*	.305+-	.044	.944	.361+-	.033	1.181+-	.203	Al	
Si	*	.710+-	.101	2.194	.642+-	.059	.905+-	.153	Si	
P	*	.217+-	.049	.671	.140+-	.025	.646+-	.184	P	
S	*	4.538+-	.785	14.030	3.956+-	.362	.872+-	.171	S	
Cl		.109+-	.096	.338	.060+-	.019	.553+-	.513	Cl	
K	*	.182+-	.026	.563	.143+-	.014	.785+-	.135	K	
Ca	*	.218+-	.031	.675	.235+-	.027	1.079+-	.198	Ca	
Ti	*	.017+-	.009	.053	.023+-	.003	1.347+-	.716	Ti	
V	*	.021+-	.007	.064	.017+-	.002	.834+-	.301	V	
Cr		<	.005		.006+-	.002	1.155+-	1.235	Cr	
Mn		.022+-	.006	.069	.046+-	.020	2.026+-	1.059	Mn	
Fe	*	.891+-	.127	2.754	1.064+-	.273	1.195+-	.350	Fe	
Ni	*	.022+-	.004	.069	.023+-	.003	1.045+-	.230	Ni	
Cu		.010+-	.003	.030	.004+-	.002	.377+-	.207	Cu	
Zn	*	.030+-	.005	.092	.030+-	.003	1.000+-	.177	Zn	
Ga		.002+-	.001	.007	.000+-	.001	.202+-	.455	Ga	
As		.045+-	.037	.141	.004+-	.004	.082+-	.111	As	
Se		.004+-	.002	.013	.002+-	.002	.516+-	.430	Se	
Br		.010+-	.002	.032	.007+-	.002	.675+-	.230	Br	
Rb		.006+-	.002	.018	.001+-	.002	.125+-	.353	Rb	
Sr	*	.007+-	.002	.022	.007+-	.003	.995+-	.499	Sr	
Zr		<	.014		.001+-	.011	.643+-	6.584	Zr	
Cd		.051+-	.020	.157	.003+-	.015	.053+-	.290	Cd	
Sn		.096+-	.031	.296	.003+-	.020	.027+-	.209	Sn	
Sb		.130+-	.041	.403	.002+-	.033	.018+-	.255	Sb	
Ba		.433+-	.132	1.339	.010+-	.089	.023+-	.205	Ba	
Hg		.016+-	.010	.049	.000+-	.002	.018+-	.149	Hg	
Pb	*	.015+-	.006	.048	.019+-	.007	1.252+-	.629	Pb	
NO3	*	.939+-	.133	2.903	.939+-	.094	1.000+-	.173	NO3	
PO4		<	.225		.000+-	.000	.000+-	.000	PO4	
F		<	.112		.000+-	.000	.000+-	.000	F	
SO4	*	9.985+-	1.411	30.872	10.804+-	1.080	1.082+-	.187	SO4	
OC	*	4.813+-	.680	14.882	4.813+-	.354	1.000+-	.159	OC	
EC	*	4.588+-	.648	14.186	4.607+-	.389	1.004+-	.165	EC	
NH4					4.330+-	.407			NH4	

MASS 32.3 +- 3.3

* FITTING SPECIES

SAMPLE ID: DOV41 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910120 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: .569 DEGREES OF FREEDOM: 7

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST	F	1.373+- .334	8.914+-	2.357
5208	PROCK1	F	.333+- .194	2.164+-	1.283
5221	BOILER	F	.491+- .199	3.185+-	1.332
5224	PRILL	T	.163+- .037	1.059+-	.267
5225	AMSULF	T	7.638+- 1.099	49.591+-	8.815
5226	DAP	F	.505+- .411	3.282+-	2.691
5234	BOF	F	1.341+- .369	8.707+-	2.564
27	VEICSP	F	5.853+- .695	37.999+-	6.007
14	MAR	T	.482+- .283	3.132+-	1.868

TOTAL: 18.179+- 1.506 118.033+-15.720

---	SPECIES---	MEAS.	UG/M3---	---	%---	---	CALC.	UG/M3---	---	CALC./MEAS.	---
Al	*	.202+-	.030	1.310	.203+-	.016	1.009+-	.170	Al		
Si	*	.478+-	.068	3.102	.482+-	.040	1.009+-	.166	Si		
P	*	.151+-	.034	.979	.122+-	.015	.809+-	.207	P		
S	*	2.575+-	.481	16.720	2.207+-	.191	.857+-	.176	S		
Cl	*	.265+-	.103	1.721	.263+-	.028	.993+-	.400	Cl		
K	*	.118+-	.017	.764	.116+-	.010	.985+-	.168	K		
Ca	*	.199+-	.029	1.293	.211+-	.015	1.060+-	.170	Ca		
Ti		<	.066		.020+-	.002	.000+-	.000	Ti		
V		<	.031		.008+-	.001	.000+-	.000	V		
Cr		.017+-	.007	.110	.007+-	.003	.393+-	.246	Cr		
Mn	*	.028+-	.007	.182	.035+-	.015	1.246+-	.629	Mn		
Fe	*	.855+-	.122	5.549	.804+-	.204	.940+-	.273	Fe		
Ni	*	.008+-	.003	.053	.008+-	.001	1.031+-	.403	Ni		
Cu		.011+-	.003	.069	.005+-	.001	.430+-	.142	Cu		
Zn	*	.018+-	.003	.118	.017+-	.002	.917+-	.193	Zn		
Ga		<	.002		.000+-	.000	.000+-	.000	Ga		
As		<	.039		.006+-	.004	.000+-	.000	As		
Se		<	.002		.000+-	.000	.154+-	1.433	Se		
Br		.010+-	.002	.062	.006+-	.001	.589+-	.170	Br		
Rb		.008+-	.002	.051	.001+-	.000	.072+-	.062	Rb		
Sr		.010+-	.003	.068	.005+-	.001	.484+-	.155	Sr		
Zr		<	.016		.001+-	.003	.000+-	.000	Zr		
Cd		.113+-	.028	.732	.003+-	.004	.029+-	.039	Cd		
Sn		.223+-	.046	1.450	.002+-	.006	.008+-	.027	Sn		
Sb		.172+-	.049	1.117	.005+-	.008	.027+-	.046	Sb		
Ba		1.026+-	.203	6.660	.010+-	.028	.010+-	.027	Ba		
Hg		.016+-	.011	.102	.000+-	.002	.016+-	.106	Hg		
Pb	*	.024+-	.007	.156	.031+-	.005	1.280+-	.430	Pb		
NO3	*	.145+-	.020	.945	.145+-	.014	1.000+-	.169	NO3		
PO4		<	.225		.000+-	.000	.000+-	.000	PO4		
F		<	.018		.000+-	.000	.000+-	.029	F		
SO4	*	5.260+-	.744	34.149	5.652+-	.556	1.075+-	.185	SO4		
OC	*	3.233+-	.458	20.991	3.733+-	.522	1.155+-	.230	OC		
EC	*	2.021+-	.286	13.120	1.646+-	.227	.815+-	.161	EC		
NH4					2.179+-	.209			NH4		

MASS 15.4 +- 1.6

* FITTING SPECIES



CETESB - CIA. DE TECNOLOGIA E SANEAMENTO AMBIENTAL
BIBLIOTECA

SAMPLE ID: DOV43 PARTICLE SIZE: FINE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910126 START TIME: .0 DURATION: 24.1 HOURS
REDUCED CHI SQUARE: .809 DEGREES OF FREEDOM: 7

--SOURCE----		SIZE----	UG/M3-----	PERCENT----	
5205	HWDUST F	1.699+-	.275	13.456+-	2.601
5208	PROCK1 F	1.349+-	.319	10.685+-	2.768
5221	BOILER F	.472+-	.189	3.738+-	1.551
5224	PRILL T	.160+-	.028	1.264+-	.257
5225	AMSULF T	5.143+-	.744	40.746+-	7.299
5235	BLACK F	1.275+-	.438	10.102+-	3.631
5234	BOF F	.319+-	.140	2.528+-	1.140
5118	GALVAN T	.120+-	.023	.954+-	.208
27	VEICSP F	3.198+-	.637	25.336+-	5.711

TOTAL: 13.735+- 1.177 108.809+-14.803

--SPECIES----		MEAS. UG/M3----	%-----	CALC. UG/M3----		CALC./MEAS.-----	
Al	*	.223+-	.033	1.766	.250+-	.020	1.123+- .188 Al
Si	*	.487+-	.069	3.855	.424+-	.035	.871+- .144 Si
P	*	.370+-	.083	2.930	.237+-	.034	.639+- .170 P
S	*	1.803+-	.356	14.283	1.469+-	.127	.815+- .176 S
Cl		.113+-	.080	.896	.030+-	.008	.270+- .205 Cl
K		.161+-	.023	1.275	.078+-	.006	.484+- .079 K
Ca	*	.401+-	.057	3.179	.409+-	.030	1.019+- .163 Ca
Ti	*	.018+-	.007	.144	.026+-	.002	1.450+- .592 Ti
V		.016+-	.007	.127	.008+-	.001	.488+- .212 V
Cr		<	.005		.004+-	.002	.000+- .000 Cr
Mn	*	.018+-	.005	.140	.017+-	.004	.944+- .349 Mn
Fe	*	.367+-	.052	2.905	.368+-	.050	1.004+- .199 Fe
Ni	*	.008+-	.003	.065	.008+-	.001	1.017+- .376 Ni
Cu		.010+-	.003	.080	.003+-	.001	.313+- .111 Cu
Zn	*	.108+-	.015	.856	.108+-	.010	1.000+- .169 Zn
Ga		<	.002		.000+-	.000	.248+- .492 Ga
As		<	.036		.004+-	.002	1.137+-***** As
Se		<	.002		.001+-	.001	.000+- .000 Se
Br	*	.004+-	.002	.034	.004+-	.001	.996+- .473 Br
Rb		.006+-	.002	.047	.000+-	.001	.057+- .116 Rb
Sr		.005+-	.003	.039	.011+-	.001	2.236+-1.152 Sr
Zr		<	.014		.002+-	.004	.000+- .000 Zr
Cd		.047+-	.021	.371	.002+-	.005	.042+- .110 Cd
Sn		.060+-	.030	.472	.002+-	.007	.033+- .118 Sn
Sb		.055+-	.039	.435	.004+-	.011	.074+- .207 Sb
Ba		.482+-	.141	3.818	.026+-	.031	.054+- .067 Ba
Hg		<	.010		.000+-	.001	.023+- .188 Hg
Pb	*	.021+-	.006	.166	.019+-	.003	.921+- .319 Pb
NO3	*	.124+-	.018	.980	.124+-	.012	1.000+- .174 NO3
PO4		.589+-	.083	4.667	.000+-	.000	.000+- .000 PO4
F		<	.107		.000+-	.000	.000+- .000 F
SO4	*	3.448+-	.488	27.313	3.739+-	.374	1.085+- .188 SO4
OC	*	2.147+-	.304	17.007	2.192+-	.285	1.021+- .196 OC
EC	*	2.061+-	.292	16.327	2.061+-	.169	1.000+- .163 EC
NH4					1.440+-	.140	NH4

MASS 12.6 +- 1.3

* FITTING SPECIES

SAMPLE ID: DOV45 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910201 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: .950 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST F	2.198+-	.477	11.613+- 2.788
5208	PROCK1 F	.469+-	.260	2.477+- 1.395
5221	BOILER F	.958+-	.255	5.064+- 1.445
5224	PRILL T	.238+-	.057	1.257+- .327
5225	AMSULF T	4.840+-	.741	25.570+- 4.716
5226	DAP F	.877+-	.634	4.632+- 3.383
5235	BLACK F	1.814+-	.893	9.586+- 4.822
5234	BOF F	.878+-	.308	4.639+- 1.695
5118	GALVAN T	.072+-	.017	.379+- .099
27	VEICSP F	8.154+-	1.345	43.081+- 8.376

TOTAL: 20.497+- 2.004 108.299+-15.374

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---	
Al	*	.288+-	.042	1.523	.319+- .026 1.105+- .185	Al
Si	*	.759+-	.108	4.012	.766+- .064 1.009+- .167	Si
P	*	.213+-	.048	1.125	.183+- .023 .860+- .220	P
S	*	1.638+-	.336	8.657	1.667+- .134 1.017+- .224	S
Cl		.206+-	.093	1.089	.102+- .023 .496+- .250	Cl
K	*	.196+-	.028	1.035	.141+- .011 .719+- .119	K
Ca	*	.296+-	.042	1.564	.302+- .021 1.021+- .162	Ca
Ti	*	.026+-	.009	.138	.026+- .003 .996+- .358	Ti
V		.035+-	.010	.186	.013+- .002 .358+- .111	V
Cr		<	.005		.008+- .004 .000+- .000	Cr
Mn		.048+-	.009	.252	.029+- .010 .606+- .244	Mn
Fe	*	.570+-	.081	3.010	.641+- .134 1.125+- .285	Fe
Ni	*	.016+-	.004	.085	.016+- .002 1.001+- .254	Ni
Cu	*	.009+-	.003	.045	.006+- .001 .753+- .280	Cu
Zn	*	.082+-	.012	.432	.082+- .006 1.000+- .164	Zn
Ga		<	.002		.001+- .001 .000+- .000	Ga
As		<	.039		.009+- .006 .834+-2.995	As
Se		<	.002		.001+- .001 9.999+-9.999	Se
Br	*	.005+-	.002	.027	.009+- .001 1.663+- .701	Br
Rb		.007+-	.002	.040	.001+- .001 .081+- .148	Rb
Sr	*	.008+-	.003	.045	.009+- .001 1.025+- .377	Sr
Zr		<	.015		.002+- .006 .000+- .000	Zr
Cd		.060+-	.022	.318	.004+- .009 .071+- .147	Cd
Sn		.088+-	.033	.467	.002+- .012 .028+- .138	Sn
Sb		.077+-	.042	.409	.006+- .018 .083+- .236	Sb
Ba		.287+-	.136	1.515	.015+- .055 .051+- .192	Ba
Hg		<	.010		.000+- .003 .000+- .000	Hg
Pb	*	.035+-	.008	.185	.044+- .008 1.252+- .358	Pb
NO3	*	.217+-	.031	1.149	.217+- .020 1.000+- .170	NO3
PO4		.363+-	.051	1.916	.000+- .000 .000+- .000	PO4
F		<	.114		.000+- .001 .000+- .000	F
SO4	*	3.574+-	.506	18.885	3.547+- .352 .992+- .172	SO4
OC	*	5.641+-	.798	29.808	5.416+- .727 .960+- .187	OC
EC	*	4.277+-	.605	22.596	3.945+- .355 .922+- .155	EC
NH4					1.474+- .135	NH4

MASS 18.9 +- 1.9

* FITTING SPECIES

SAMPLE ID: DOV47 PARTICLE SIZE: FINE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910207 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.319 DEGREES OF FREEDOM: 8

--SOURCE----		SIZE----	UG/M3-----	PERCENT----
5205	HWDUST	F	2.541+- .584	5.838+- 1.464
5208	PROCK1	F	1.183+- .396	2.719+- .949
5221	BOILER	F	.821+- .243	1.886+- .590
5224	PRILL	T	1.284+- .233	2.950+- .611
5225	AMSULF	T	21.379+- 2.866	49.128+- 8.230
5226	DAP	F	1.265+- .721	2.907+- 1.681
5235	BLACK	F	3.035+- .858	6.975+- 2.092
5234	BOF	F	1.368+- .409	3.143+- .991
5118	GALVAN	T	.036+- .010	.083+- .025
27	VEICSP	F	5.349+- .992	12.292+- 2.593

TOTAL: 38.262+- 3.351 87.921+-11.718

--SPECIES----		MEAS. UG/M3-----	%-----	CALC. UG/M3-----	CALC. /MEAS.-----	
Al	*	.398+- .057	.916	.373+- .030	.937+- .155	Al
Si	*	.909+- .129	2.088	.951+- .084	1.046+- .175	Si
P	*	.473+- .106	1.087	.274+- .035	.579+- .149	P
S	*	5.350+- .917	12.294	5.604+- .520	1.047+- .204	S
Cl	*	.182+- .096	.419	.134+- .023	.735+- .407	Cl
K	*	.139+- .020	.318	.152+- .012	1.094+- .182	K
Ca	*	.415+- .059	.954	.465+- .033	1.120+- .178	Ca
Ti		< .056		.035+- .003	.000+- .000	Ti
V		< .027		.013+- .002	.000+- .000	V
Cr		.006+- .006	.014	.008+- .003	1.297+-1.379	Cr
Mn	*	.038+- .008	.088	.041+- .016	1.080+- .470	Mn
Fe	*	1.038+- .148	2.385	.949+- .208	.914+- .239	Fe
Ni	*	.014+- .003	.032	.014+- .002	1.020+- .279	Ni
Cu	*	.012+- .003	.028	.005+- .001	.438+- .158	Cu
Zn	*	.049+- .007	.113	.049+- .004	1.000+- .165	Zn
Ga		< .002		.000+- .001	.000+- .000	Ga
As		< .039		.006+- .004	.000+- .000	As
Se		.002+- .002	.005	.002+- .001	.658+- .730	Se
Br	*	.007+- .002	.017	.008+- .002	1.094+- .358	Br
Rb		.008+- .002	.017	.001+- .002	.092+- .209	Rb
Sr		.009+- .003	.020	.013+- .002	1.497+- .507	Sr
Zr		< .015		.003+- .009	.000+- .000	Zr
Cd		.061+- .022	.141	.003+- .011	.057+- .185	Cd
Sn		.071+- .032	.164	.003+- .015	.041+- .218	Sn
Sb		.121+- .044	.279	.006+- .025	.045+- .207	Sb
Ba		.792+- .175	1.819	.027+- .069	.034+- .088	Ba
Hg		< .010		.000+- .002	.000+- .000	Hg
Pb	*	.045+- .009	.103	.033+- .007	.739+- .206	Pb
NO3	*	1.043+- .147	2.396	1.043+- .100	1.000+- .171	NO3
PO4		.546+- .077	1.255	.000+- .000	.000+- .000	PO4
F		< .015		.000+- .001	.000+- .085	F
SO4	*	16.165+- 2.285	37.144	15.584+- 1.554	.964+- .167	SO4
OC	*	3.317+- .469	7.623	3.764+- .478	1.135+- .216	OC
EC	*	4.365+- .617	10.030	4.260+- .342	.976+- .159	EC
NH4				6.269+- .585		NH4

MASS 43.5 +- 4.4

* FITTING SPECIES

BALANÇO DE MASSAS QUIMICAS

POEIRA GROSSA

SAMPLE ID: DOV04 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 900928 START TIME: 11.1 DURATION: 24.1 HOURS
 REDUCED CHI SQUARE: .577 DEGREES OF FREEDOM: 6

---	SOURCE---	SIZE---	UG/M3-----	PERCENT---
5205	HWDUST C	24.188+-	6.534	19.626+- 5.653
5208	PROCK1 C	28.609+-	5.482	23.213+- 5.017
5221	BOILER C	.637+-	.366	.517+- .302
5223	SUPER F	1.953+-	.339	1.585+- .318
5224	PRILL T	1.072+-	.186	.870+- .174
5225	AMSULF T	15.428+-	2.505	12.518+- 2.387
5235	BLACK C	3.360+-	1.181	2.726+- .996
5233	CEMENT T	31.862+-	13.327	25.853+-11.118
5234	BOF C	3.647+-	1.576	2.959+- 1.312
5118	GALVAN T	.316+-	.076	.257+- .067
27	VEICSP C	9.269+-	2.100	7.521+- 1.862
14	MAR T	7.438+-	1.605	6.035+- 1.435

TOTAL: 127.780+-16.364 103.680+-16.845

---	SPECIES---	MEAS. UG/M3---	%-----	CALC. UG/M3---	CALC./MEAS.-----
Al	*	4.108+- .589	3.333	3.809+- .307	.927+- .152
Si	*	7.817+- 1.197	6.343	8.619+- .879	1.103+- .203
P	*	4.137+- .939	3.357	3.349+- .557	.810+- .228
S	*	6.061+- 1.062	4.918	5.998+- .420	.990+- .187
Cl	*	3.325+- .522	2.698	3.330+- .329	1.002+- .186
K	*	1.051+- .164	.853	1.022+- .074	.973+- .167
Ca	*	16.762+- 2.381	13.600	16.075+- 1.337	.959+- .158
Ti		.220+- .085	.178	.504+- .032	2.297+- .901
V	*	.064+- .040	.052	.056+- .009	.869+- .556
Cr		.080+- .015	.065	.050+- .005	.622+- .132
Mn		.312+- .046	.253	.258+- .028	.829+- .152
Fe	*	5.782+- .828	4.692	5.649+- .299	.977+- .149
Ni	*	.021+- .004	.017	.021+- .003	1.000+- .256
Cu		.035+- .006	.029	.013+- .002	.379+- .076
Zn	*	.362+- .052	.293	.362+- .028	1.000+- .162
Ga		.003+- .002	.003	.002+- .002	.744+- .807
As		< .041		.065+- .025	.000+- .000
Se		< .002		.003+- .003	2.644+-5.166
Br		.009+- .002	.007	.018+- .002	2.025+- .588
Rb		.014+- .003	.012	.009+- .003	.624+- .252
Sr	*	.245+- .035	.199	.260+- .021	1.060+- .174
Zr		.041+- .019	.033	.032+- .022	.796+- .652
Cd		.079+- .028	.064	.027+- .028	.340+- .376
Sn		.047+- .037	.038	.013+- .041	.266+- .891
Sb		.142+- .051	.115	.000+- .052	.002+- .369
Ba		1.116+- .227	.905	.557+- .192	.499+- .200
Hg		< .012		.004+- .011	.000+- .000
Pb	*	.034+- .008	.027	.049+- .008	1.462+- .429
NO3	*	.832+- .118	.675	.832+- .083	1.000+- .173
PO4		2.864+- .405	2.324	.000+- .001	.000+- .000
F	*	1.040+- .147	.844	1.033+- .103	.994+- .172
SO4	*	12.425+- 1.756	10.082	12.496+- 1.148	1.006+- .170
OC	*	3.470+- .491	2.815	3.093+- .388	.891+- .168
EC	*	5.017+- .709	4.071	5.076+- .378	1.012+- .162
NH4				4.453+- .422	

MASS 123.2 +-12.3

* FITTING SPECIES



SAMPLE ID: DOV08 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901011 START TIME: 11.2 DURATION: 23.9 HOURS
REDUCED CHI SQUARE: 1.106 DEGREES OF FREEDOM: 10

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HWDUST	C	22.044+-	3.026	34.319+-	5.833
5208	PROCK1	C	5.562+-	1.668	8.659+-	2.738
5221	BOILER	C	.478+-	.364	.744+-	.571
5223	SUPER	F	.922+-	.160	1.436+-	.288
5224	PRILL	T	4.867+-	.843	7.578+-	1.517
5225	AMSULF	T	8.433+-	1.513	13.128+-	2.699
5235	BLACK	C	5.067+-	1.410	7.889+-	2.334
5233	CEMENT	T	5.974+-	3.582	9.301+-	5.655
27	VEICSP	C	11.122+-	1.820	17.316+-	3.323
14	MAR	T	6.729+-	1.441	10.476+-	2.478

TOTAL: 71.200+- 5.942 110.846+-14.460

SPECIES		MEAS.		UG/M3	%	CALC.		UG/M3	CALC./MEAS.	
Al	*	2.890+-	.416	4.499	2.483+-	.207	.859+-	.143	Al	
Si	*	4.865+-	.725	7.573	5.166+-	.443	1.062+-	.183	Si	
P	*	1.537+-	.354	2.394	1.076+-	.146	.700+-	.187	P	
S	*	3.374+-	.653	5.252	3.570+-	.239	1.058+-	.217	S	
Cl	*	2.840+-	.465	4.421	2.853+-	.303	1.005+-	.196	Cl	
K	*	.675+-	.100	1.051	.651+-	.052	.964+-	.162	K	
Ca	*	4.823+-	.687	7.509	4.434+-	.287	.919+-	.144	Ca	
Ti	*	.197+-	.033	.307	.249+-	.021	1.261+-	.235	Ti	
V		.053+-	.013	.083	.024+-	.007	.453+-	.170	V	
Cr	*	.017+-	.006	.027	.019+-	.006	1.091+-	.484	Cr	
Mn	*	.087+-	.015	.135	.099+-	.010	1.145+-	.224	Mn	
Fe	*	2.442+-	.351	3.802	2.183+-	.159	.894+-	.144	Fe	
Ni	*	.015+-	.004	.023	.015+-	.004	.989+-	.358	Ni	
Cu		.025+-	.005	.039	.011+-	.002	.449+-	.102	Cu	
Zn	*	.103+-	.016	.160	.106+-	.013	1.032+-	.201	Zn	
Ga		<	.002		.001+-	.002	1.770+-	6.669	Ga	
As		<	.042		.077+-	.029	4.649+-	*****	As	
Se		<	.002		.003+-	.004	1.597+-	2.459	Se	
Br		.004+-	.002	.006	.016+-	.002	4.350+-	2.404	Br	
Rb		.011+-	.003	.018	.004+-	.004	.395+-	.334	Rb	
Sr	*	.071+-	.010	.110	.073+-	.006	1.034+-	.173	Sr	
Zr		<	.017		.009+-	.023	.000+-	.000	Zr	
Cd		<	.026		.022+-	.033	.887+-	1.607	Cd	
Sn		.071+-	.040	.111	.004+-	.048	.061+-	.678	Sn	
Sb		.136+-	.053	.212	.000+-	.061	.000+-	.450	Sb	
Ba		.433+-	.173	.674	.108+-	.221	.249+-	.520	Ba	
Hg		<	.012		.003+-	.013	.000+-	.000	Hg	
Pb	*	.022+-	.007	.033	.039+-	.010	1.805+-	.757	Pb	
NO3	*	3.773+-	.534	5.874	3.773+-	.377	1.000+-	.173	NO3	
PO4		2.159+-	.305	3.361	.000+-	.000	.000+-	.000	PO4	
F	*	.489+-	.069	.762	.488+-	.049	.997+-	.173	F	
SO4	*	7.498+-	1.061	11.674	7.289+-	.652	.972+-	.163	SO4	
OC	*	5.453+-	.771	8.489	3.796+-	.466	.696+-	.130	OC	
EC	*	6.526+-	.923	10.160	6.740+-	.521	1.033+-	.166	EC	
NH4					3.397+-	.255			NH4	

MASS 64.2 $\pm$ 6.4

* FITTING SPECIES



CETESB

SAMPLE ID: DOV10 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901012 START TIME: 11.2 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .747 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST	C	34.692+- 4.995	37.774+- 6.623	
5208	PROCK1	C	8.608+- 2.595	9.373+- 2.977	
5221	BOILER	C	.788+- .475	.858+- .524	
5223	SUPER	F	.869+- .151	.946+- .190	
5224	PRILL	T	4.135+- .716	4.502+- .900	
5225	AMSULF	T	8.901+- 1.495	9.692+- 1.895	
5235	BLACK	C	2.683+- 1.405	2.921+- 1.558	
5233	CEMENT	T	18.542+- 6.974	20.189+- 7.857	
27	VEICSP	C	16.143+- 2.456	17.578+- 3.201	
14	MAR	T	2.598+- .799	2.829+- .915	

TOTAL:			97.961+- 9.589	106.663+-14.931	

---	SPECIES---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC./MEAS.---	---
Al	*	4.331+- .621	4.716	4.112+- .341	.949+- .157	Al			
Si	*	7.819+- 1.146	8.514	8.728+- .789	1.116+- .192	Si			
P	*	2.239+- .515	2.438	1.683+- .227	.752+- .200	P			
S	*	3.514+- .687	3.827	3.984+- .269	1.134+- .235	S			
Cl	*	1.423+- .252	1.550	1.424+- .174	1.000+- .215	Cl			
K	*	1.046+- .156	1.139	1.049+- .085	1.003+- .170	K			
Ca	*	9.797+- 1.391	10.667	9.043+- .733	.923+- .151	Ca			
Ti	*	.345+- .053	.375	.398+- .032	1.153+- .201	Ti			
V		.085+- .017	.093	.038+- .010	.452+- .149	V			
Cr		.044+- .009	.047	.030+- .008	.691+- .238	Cr			
Mn	*	.179+- .028	.195	.178+- .016	.991+- .177	Mn			
Fe	*	4.308+- .617	4.691	3.447+- .242	.800+- .128	Fe			
Ni	*	.021+- .004	.023	.021+- .006	1.002+- .334	Ni			
Cu		.043+- .007	.047	.016+- .002	.376+- .077	Cu			
Zn	*	.183+- .027	.200	.155+- .019	.848+- .161	Zn			
Ga		< .002		.002+- .004	.000+- .000	Ga			
As		< .039		.112+- .043	.000+- .000	As			
Se		.004+- .002	.004	.004+- .005	1.159+-1.518	Se			
Br		.005+- .002	.005	.011+- .003	2.249+-1.075	Br			
Rb		.012+- .003	.013	.008+- .005	.623+- .440	Rb			
Sr	*	.111+- .016	.121	.120+- .009	1.079+- .176	Sr			
Zr		< .016		.012+- .034	1.172+-3.734	Zr			
Cd		< .023		.034+- .048	2.446+-5.317	Cd			
Sn		< .034		.007+- .070	.000+- .000	Sn			
Sb		< .043		.000+- .088	.006+-5.062	Sb			
Ba		< .143		.173+- .320	2.449+-6.707	Ba			
Hg		< .011		.004+- .019	.000+- .000	Hg			
Pb	*	.041+- .008	.045	.058+- .014	1.409+- .448	Pb			
NO3	*	3.205+- .453	3.490	3.205+- .320	1.000+- .173	NO3			
PO4		2.353+- .333	2.562	.000+- .000	.000+- .000	PO4			
F	*	.461+- .065	.502	.460+- .046	.997+- .173	F			
SO4	*	7.354+- 1.040	8.007	6.918+- .653	.941+- .160	SO4			
OC	*	4.870+- .689	5.302	5.061+- .673	1.039+- .202	OC			
EC	*	5.980+- .846	6.512	5.897+- .484	.986+- .161	EC			
NH4				3.360+- .260		NH4			

MASS 91.8 +- 9.2

* FITTING SPECIES

SAMPLE ID: DOV12 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901013 START TIME: 11.4 DURATION: 23.3 HOURS
 REDUCED CHI SQUARE: .941 DEGREES OF FREEDOM: 11

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--SOURCE---SIZE---UG/M3-----PERCENT---
5205 HWDUST C 23.321+- 4.127 31.748+- 6.458
5208 PROCK1 C 9.081+- 2.378 12.363+- 3.467
5221 BOILER C .697+- .400 .948+- .553
5223 SUPER F 2.742+- .478 3.733+- .751
5224 PRILL T 1.626+- .282 2.214+- .444
5225 AMSULF T 7.311+- 1.290 9.952+- 2.020
5233 CEMENT T 16.502+- 6.311 22.464+- 8.882
27 VEICSP C 15.818+- 1.999 21.533+- 3.474
14 MAR T 4.466+- 1.115 6.080+- 1.635

TOTAL: 81.565+- 8.360 111.035+-15.924

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--SPECIES---MEAS. UG/M3---%-----CALC. UG/M3---CALC./MEAS.-----
Al * 3.313+- .477 4.510 3.035+- .241 .916+- .151 Al
Si * 6.044+- .961 8.228 6.900+- .592 1.142+- .206 Si
P * 2.041+- .470 2.779 1.471+- .203 .721+- .193 P
S * 3.187+- .599 4.338 3.345+- .235 1.050+- .211 S
Cl * 2.081+- .360 2.833 2.099+- .232 1.009+- .207 Cl
K * .899+- .135 1.224 .775+- .059 .861+- .145 K
Ca * 9.499+- 1.351 12.931 8.011+- .653 .843+- .138 Ca
Ti * .283+- .045 .385 .338+- .029 1.193+- .214 Ti
V .070+- .015 .096 .033+- .010 .467+- .172 V
Cr * .025+- .007 .035 .026+- .008 1.039+- .419 Cr
Mn * .124+- .020 .169 .149+- .014 1.203+- .226 Mn
Fe * 3.120+- .448 4.247 2.849+- .202 .913+- .146 Fe
Ni * .015+- .003 .021 .018+- .005 1.158+- .442 Ni
Cu .032+- .006 .044 .014+- .002 .434+- .099 Cu
Zn * .157+- .023 .214 .144+- .018 .915+- .179 Zn
Ga < .002 .001+- .004 2.093+-7.387 Ga
As < .041 .110+- .042 .000+- .000 As
Se < .002 .004+- .005 2.094+-3.378 Se
Br .008+- .002 .011 .014+- .003 1.650+- .601 Br
Rb .012+- .003 .017 .006+- .005 .463+- .427 Rb
Sr * .106+- .015 .144 .111+- .009 1.048+- .173 Sr
Zr < .017 .011+- .033 .711+-2.363 Zr
Cd .035+- .025 .047 .032+- .047 .915+-1.499 Cd
Sn .062+- .038 .084 .006+- .068 .095+-1.103 Sn
Sb .176+- .053 .239 .000+- .086 .001+- .490 Sb
Ba .511+- .171 .696 .181+- .312 .353+- .622 Ba
Hg < .012 .003+- .019 .000+- .000 Hg
Pb * .027+- .007 .037 .053+- .014 1.938+- .718 Pb
NO3 * 1.262+- .179 1.718 1.262+- .126 1.000+- .173 NO3
PO4 2.226+- .315 3.030 .000+- .000 .000+- .000 PO4
F * 1.474+- .209 2.006 1.451+- .145 .985+- .171 F
SO4 * 6.222+- .881 8.470 6.083+- .552 .978+- .164 SO4
OC * 5.028+- .712 6.845 4.700+- .659 .935+- .186 OC
EC * 4.110+- .582 5.595 3.488+- .418 .849+- .157 EC
NH4 2.362+- .203 NH4

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MASS 73.5 +- 7.4

* FITTING SPECIES



SAMPLE ID: D0V14 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 W. PARISI
SAMPLE DATE: 901113 START TIME: 10.7 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: 1.200 DEGREES OF FREEDOM: 8

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	C	14.268+-	2.445	27.312+-	5.420		
5208	PROCK1	C	2.901+-	1.166	5.553+-	2.300		
5221	BOILER	C	.496+-	.292	.949+-	.567		
5223	SUPER	F	1.261+-	.220	2.414+-	.485		
5224	PRILL	T	3.226+-	.559	6.176+-	1.235		
5225	AMSULF	T	6.987+-	1.198	13.374+-	2.655		
5233	CEMENT	T	10.793+-	3.776	20.661+-	7.518		
5118	GALVAN	T	.524+-	.109	1.004+-	.232		
27	VEICSP	C	11.599+-	1.697	22.202+-	3.937		
14	MAR	T	4.677+-	.940	8.952+-	2.010		

TOTAL: 56.732+- 5.220 108.596+-14.768

---	SPECIES	---	MEAS.	---	UG/M3	---	%	---	CALC.	---	UG/M3	---	CALC./MEAS.	---
Al	*	2.031+-	.292	3.888	1.850+-	.150	.911+-	.150	Al					
Si	*	3.543+-	.519	6.782	4.118+-	.372	1.162+-	.200	Si					
P	*	1.127+-	.257	2.158	.655+-	.086	.581+-	.153	P					
S	*	2.945+-	.558	5.637	2.821+-	.205	.958+-	.194	S					
Cl	*	2.278+-	.365	4.360	2.034+-	.222	.893+-	.173	Cl					
K	*	.456+-	.069	.872	.491+-	.037	1.078+-	.181	K					
Ca	*	5.236+-	.743	10.022	4.545+-	.410	.868+-	.146	Ca					
Ti		<	.029		.199+-	.020	9.999+-	9.999	Ti					
V		<	.014		.019+-	.007	.000+-	.000	V					
Cr		.023+-	.006	.043	.015+-	.006	.661+-	.316	Cr					
Mn	*	.089+-	.015	.170	.093+-	.010	1.052+-	.207	Mn					
Fe	*	2.266+-	.324	4.337	1.775+-	.138	.783+-	.128	Fe					
Ni	*	.011+-	.002	.022	.012+-	.004	1.048+-	.408	Ni					
Cu		.041+-	.006	.078	.009+-	.001	.232+-	.050	Cu					
Zn	*	.521+-	.074	.997	.521+-	.044	1.000+-	.166	Zn					
Ga		.009+-	.002	.016	.001+-	.003	.093+-	.303	Ga					
As		<	.033		.080+-	.031	.000+-	.000	As					
Se		.002+-	.001	.004	.003+-	.004	1.570+-	2.163	Se					
Br	*	.010+-	.002	.019	.012+-	.002	1.254+-	.335	Br					
Rb		.007+-	.002	.013	.003+-	.004	.493+-	.545	Rb					
Sr	*	.043+-	.006	.082	.051+-	.005	1.189+-	.205	Sr					
Zr		.015+-	.011	.029	.004+-	.024	.280+-	1.608	Zr					
Cd		.055+-	.014	.106	.022+-	.034	.403+-	.629	Cd					
Sn		.040+-	.018	.077	.003+-	.050	.073+-	1.233	Sn					
Sb		.078+-	.025	.149	.000+-	.063	.001+-	.807	Sb					
Ba		.300+-	.082	.575	.061+-	.228	.204+-	.762	Ba					
Hg		<	.007		.002+-	.014	.485+-	3.164	Hg					
Pb		.093+-	.014	.177	.036+-	.010	.392+-	.122	Pb					
NO3	*	2.501+-	.353	4.788	2.501+-	.250	1.000+-	.173	NO3					
PO4		1.618+-	.229	3.097	.000+-	.000	.000+-	.000	PO4					
F	*	.676+-	.096	1.295	.667+-	.067	.986+-	.171	F					
SO4	*	5.773+-	.816	11.051	5.884+-	.531	1.019+-	.171	SO4					
OC	*	3.097+-	.438	5.928	3.445+-	.483	1.112+-	.222	OC					
EC	*	2.689+-	.380	5.148	2.545+-	.306	.946+-	.176	EC					
NH4					2.633+-	.204			NH4					

MASS 52.2 +- 5.2

* FITTING SPECIES

SAMPLE ID: DOV16 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901114 START TIME: 11.4 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.326 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST	C	14.489+- 3.254	23.922+-	5.883
5208	PROCK1	C	1.555+- 1.234	2.568+-	2.054
5223	SUPER	F	1.802+- .313	2.976+-	.596
5224	PRILL	T	2.712+- .470	4.478+-	.896
5225	AMSULF	T	6.872+- 1.207	11.346+-	2.294
5233	CEMENT	T	19.866+- 5.418	32.802+-	9.531
5234	BOF	C	1.166+- .735	1.926+-	1.229
27	VEICSP	C	13.185+- 1.579	21.769+-	3.400
14	MAR	T	4.786+- .992	7.903+-	1.819

TOTAL: 66.433+- 6.874 109.690+-15.801

---	SPECIES---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC./MEAS.---	---
Al	*	2.404+- .345	3.969	2.095+- .186	.871+- .147	Al			
Si	*	4.661+- .694	7.695	5.029+- .541	1.079+- .198	Si			
P	*	1.074+- .247	1.773	.548+- .073	.510+- .135	P			
S	*	3.247+- .606	5.362	3.048+- .223	.939+- .188	S			
Cl	*	2.403+- .382	3.968	2.126+- .232	.885+- .171	Cl			
K	*	.531+- .082	.877	.594+- .044	1.118+- .191	K			
Ca	*	7.675+- 1.089	12.672	6.508+- .729	.848+- .153	Ca			
Ti		< .038		.221+- .023	.000+- .000	Ti			
V		< .019		.017+- .008	.000+- .000	V			
Cr		.026+- .007	.044	.018+- .007	.692+- .309	Cr			
Mn	*	.136+- .021	.224	.135+- .015	.992+- .190	Mn			
Fe	*	2.725+- .393	4.499	2.654+- .170	.974+- .154	Fe			
Ni		.010+- .002	.016	.005+- .004	.560+- .480	Ni			
Cu		.014+- .003	.022	.010+- .002	.721+- .185	Cu			
Zn	*	.105+- .016	.173	.114+- .015	1.090+- .223	Zn			
Ga		.004+- .001	.007	.001+- .003	.207+- .686	Ga			
As		< .026		.092+- .035	.000+- .000	As			
Se		.002+- .001	.003	.003+- .004	2.137+-2.932	Se			
Br	*	.010+- .002	.017	.013+- .003	1.264+- .338	Br			
Rb		.007+- .002	.011	.005+- .004	.665+- .635	Rb			
Sr	*	.043+- .006	.071	.051+- .005	1.190+- .212	Sr			
Zr		.015+- .011	.024	.004+- .027	.308+-1.894	Zr			
Cd		.040+- .013	.065	.026+- .039	.664+-1.008	Cd			
Sn		.079+- .021	.130	.003+- .057	.043+- .717	Sn			
Sb		.116+- .028	.192	.000+- .072	.000+- .614	Sb			
Ba		.540+- .108	.892	.042+- .259	.078+- .481	Ba			
Hg		< .007		.003+- .016	.509+-3.046	Hg			
Pb	*	.024+- .005	.040	.042+- .011	1.753+- .605	Pb			
NO3	*	2.103+- .298	3.472	2.103+- .210	1.000+- .173	NO3			
PO4		1.203+- .170	1.986	.000+- .000	.000+- .000	PO4			
F	*	.960+- .136	1.585	.953+- .095	.993+- .172	F			
SO4	*	5.673+- .802	9.367	5.819+- .524	1.026+- .172	SO4			
OC	*	4.395+- .622	7.257	3.885+- .549	.884+- .177	OC			
EC	*	2.903+- .411	4.794	2.441+- .345	.841+- .168	EC			
NH4				2.486+- .197		NH4			

MASS 60.6 +- 6.1

* FITTING SPECIES

SAMPLE ID: DOV18 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901115 START TIME: 12.0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .774 DEGREES OF FREEDOM: 10

--SOURCE---	SIZE---	UG/M3-----	PERCENT---
5205	HWDUST C	21.305+- 3.686	24.415+- 4.879
5221	BOILER C	.979+- .479	1.122+- .560
5223	SUPER F	1.851+- .321	2.121+- .425
5224	PRILL T	3.329+- .577	3.815+- .763
5225	AMSULF T	30.314+- 4.270	34.740+- 6.001
5235	BLACK C	2.866+- 1.490	3.284+- 1.739
5233	CEMENT T	18.386+- 4.861	21.070+- 5.956
27	VEICSP C	16.882+- 2.672	19.347+- 3.623

TOTAL: 95.913+- 8.091 109.915+-14.383

--SPECIES---	MEAS. UG/M3----	%-----	CALC. UG/M3----	CALC./MEAS.-----	
Al *	3.292+- .473	3.772	2.727+- .231	.829+- .138	Al
Si *	5.305+- .777	6.079	6.231+- .592	1.175+- .205	Si
P	1.797+- .418	2.060	.565+- .097	.314+- .091	P
S *	8.927+- 1.630	10.230	8.789+- .750	.985+- .199	S
Cl *	.565+- .133	.648	.334+- .139	.592+- .283	Cl
K *	.635+- .095	.728	.706+- .056	1.112+- .188	K
Ca *	6.921+- .984	7.931	6.272+- .683	.906+- .162	Ca
Ti	< .042		.262+- .029	.000+- .000	Ti
V	< .020		.026+- .010	.000+- .000	V
Cr *	.024+- .007	.028	.019+- .009	.776+- .412	Cr
Mn *	.113+- .018	.129	.136+- .015	1.208+- .236	Mn
Fe *	3.023+- .434	3.464	2.469+- .202	.817+- .135	Fe
Ni *	.022+- .004	.025	.022+- .006	1.008+- .318	Ni
Cu *	.014+- .003	.016	.014+- .002	.989+- .243	Cu
Zn	.056+- .009	.064	.147+- .020	2.616+- .530	Zn
Ga	.005+- .001	.005	.001+- .004	.231+- .814	Ga
As	< .028		.117+- .045	.000+- .000	As
Se	.003+- .001	.004	.005+- .005	1.330+-1.686	Se
Br	.008+- .002	.009	.006+- .003	.797+- .424	Br
Rb	.011+- .002	.012	.005+- .005	.502+- .519	Rb
Sr *	.052+- .008	.059	.048+- .006	.929+- .179	Sr
Zr	.016+- .011	.018	.005+- .035	.294+-2.250	Zr
Cd	.065+- .016	.074	.032+- .050	.501+- .781	Cd
Sn	.083+- .022	.095	.003+- .073	.042+- .878	Sn
Sb	.124+- .030	.143	.000+- .092	.001+- .738	Sb
Ba	.623+- .119	.714	.012+- .333	.019+- .534	Ba
Hg	.016+- .008	.019	.003+- .020	.214+-1.242	Hg
Pb *	.038+- .007	.044	.052+- .014	1.379+- .458	Pb
NO3 *	2.581+- .365	2.958	2.581+- .258	1.000+- .173	NO3
PO4	2.454+- .347	2.813	.000+- .000	.000+- .000	PO4
F *	.988+- .140	1.132	.979+- .098	.991+- .172	F
SO4 *	21.833+- 3.086	25.021	22.038+- 2.204	1.009+- .175	SO4
OC *	5.162+- .730	5.916	5.307+- .704	1.028+- .199	OC
EC *	6.370+- .900	7.300	6.342+- .511	.996+- .162	EC
NH4			9.025+- .831		NH4

MASS 87.3 +- 8.7

* FITTING SPECIES

CETESB - CIA. DE TECNOLOGIA E SANEAMENTO AMBIENTAL
BIBLIOTECA

SAMPLE ID: DOV22 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901120 START TIME: 11.2 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: 1.724 DEGREES OF FREEDOM: 12

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	C	13.053+- 3.430	20.152+- 5.668
5221	BOILER	C	.928+- .294	1.432+- .477
5223	SUPER	F	1.709+- .299	2.638+- .532
5224	PRILL	T	4.036+- .699	6.231+- 1.248
5225	AMSULF	T	10.879+- 1.718	16.795+- 3.142
5233	CEMENT	T	26.642+- 5.498	41.132+- 9.439
27	VEICSP	C	10.031+- 1.288	15.486+- 2.524
14	MAR	T	3.339+- .735	5.155+- 1.247

TOTAL: 70.616+- 6.914 109.021+-15.287

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al *	2.470+- .356	3.814	2.067+- .209	.837+- .147	Al
Si *	4.106+- .601	6.340	5.269+- .671	1.283+- .249	Si
P	1.646+- .378	2.542	.362+- .060	.220+- .062	P
S *	4.132+- .783	6.380	3.975+- .305	.962+- .197	S
Cl *	1.616+- .271	2.495	1.546+- .166	.957+- .190	Cl
K *	.566+- .089	.873	.583+- .047	1.031+- .182	K
Ca *	8.791+- 1.250	13.572	7.578+- .970	.862+- .165	Ca
Ti	< .030		.188+- .019	6.959+-7.725	Ti
V	< .015		.020+- .006	1.401+-1.498	V
Cr	.030+- .007	.046	.014+- .005	.467+- .205	Cr
Mn *	.101+- .016	.156	.125+- .013	1.235+- .241	Mn
Fe *	2.119+- .305	3.271	1.681+- .129	.793+- .130	Fe
Ni *	.016+- .003	.025	.018+- .004	1.137+- .317	Ni
Cu *	.011+- .002	.017	.009+- .001	.767+- .199	Cu
Zn *	.058+- .009	.089	.089+- .012	1.539+- .307	Zn
Ga	.003+- .001	.005	.001+- .002	.254+- .681	Ga
As	< .026		.070+- .027	.000+- .000	As
Se	.002+- .001	.002	.003+- .003	1.751+-2.348	Se
Br *	.009+- .002	.013	.010+- .002	1.127+- .333	Br
Rb *	.004+- .001	.007	.005+- .003	1.063+- .798	Rb
Sr *	.051+- .007	.078	.043+- .005	.849+- .157	Sr
Zr	.015+- .011	.023	.004+- .021	.280+-1.437	Zr
Cd	.051+- .014	.079	.021+- .030	.417+- .590	Cd
Sn	.063+- .020	.098	.003+- .043	.044+- .680	Sn
Sb	.064+- .024	.099	.000+- .054	.002+- .851	Sb
Ba	.331+- .085	.512	.017+- .198	.051+- .596	Ba
Hg	.008+- .007	.012	.002+- .012	.282+-1.544	Hg
Pb *	.021+- .005	.032	.033+- .009	1.581+- .552	Pb
NO3 *	3.129+- .443	4.830	3.129+- .313	1.000+- .173	NO3
PO4	1.661+- .235	2.565	.000+- .000	.000+- .000	PO4
F *	.922+- .130	1.423	.904+- .090	.981+- .170	F
SO4 *	8.333+- 1.179	12.865	8.483+- .799	1.018+- .173	SO4
OC *	5.008+- .709	7.732	3.008+- .418	.600+- .119	OC
EC *	2.862+- .405	4.418	2.601+- .273	.909+- .160	EC
NH4			3.878+- .311		NH4

MASS 64.8 +- 6.5

* FITTING SPECIES

SAMPLE ID: DOV26 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 W. PARISI
SAMPLE DATE: 901122 START TIME: 11.3 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: 1.083 DEGREES OF FREEDOM: 7

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST C	18.516+-	3.000	37.864+- 7.212
5221	BOILER C	.683+-	.363	1.397+- .756
5223	SUPER F	1.260+-	.218	2.576+- .515
5224	PRILL T	2.985+-	.517	6.104+- 1.221
5225	AMSULF T	3.690+-	.692	7.546+- 1.605
5235	BLACK C	1.429+-	1.021	2.921+- 2.107
5233	CEMENT T	13.194+-	3.596	26.981+- 7.834
27	VEICSP C	12.222+-	2.244	24.994+- 5.227
14	MAR T	2.353+-	.654	4.811+- 1.421

TOTAL: 56.333+- 5.419 115.194+-15.995

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al	*	2.978+- .426	6.090	2.253+- .191	.756+- .126
Si	*	4.817+- .708	9.851	5.066+- .469	1.052+- .183
P		1.415+- .326	2.894	.478+- .084	.338+- .098
S	*	1.922+- .414	3.931	2.083+- .148	1.084+- .246
Cl	*	1.170+- .207	2.393	1.163+- .143	.994+- .214
K	*	.526+- .079	1.076	.595+- .047	1.130+- .191
Ca	*	5.024+- .715	10.274	4.708+- .494	.937+- .166
Ti		< .035		.205+- .022	9.999+-9.999
V		< .017		.020+- .007	.000+- .000
Cr		.023+- .006	.048	.015+- .006	.624+- .309
Mn	*	.087+- .014	.177	.105+- .011	1.205+- .236
Fe	*	1.913+- .273	3.911	1.941+- .155	1.015+- .166
Ni	*	.015+- .003	.031	.015+- .004	1.007+- .345
Cu		.011+- .002	.023	.011+- .002	.943+- .240
Zn		.039+- .006	.081	.109+- .014	2.750+- .556
Ga		.001+- .001	.003	.001+- .003	.670+-2.101
As		< .026		.085+- .032	.000+- .000
Se		.002+- .001	.005	.003+- .004	1.326+-1.759
Br		.005+- .001	.011	.009+- .002	1.596+- .584
Rb		.009+- .002	.019	.004+- .004	.462+- .432
Sr	*	.044+- .007	.090	.037+- .004	.846+- .161
Zr		< .011		.003+- .025	.692+-6.275
Cd		.059+- .016	.121	.024+- .036	.404+- .621
Sn		.091+- .023	.186	.003+- .053	.032+- .578
Sb		.091+- .028	.186	.000+- .066	.001+- .732
Ba		.454+- .101	.929	.008+- .241	.018+- .530
Hg		.013+- .007	.026	.002+- .014	.192+-1.137
Pb	*	.024+- .005	.050	.039+- .010	1.598+- .551
NO3	*	2.314+- .327	4.732	2.314+- .231	1.000+- .173
PO4		1.184+- .167	2.422	.000+- .000	.000+- .000
F	*	.668+- .094	1.367	.666+- .067	.997+- .172
SO4	*	3.165+- .447	6.472	3.088+- .279	.976+- .164
OC	*	4.591+- .649	9.388	3.778+- .509	.823+- .161
EC	*	3.992+- .564	8.163	4.023+- .347	1.008+- .167
NH4				1.679+- .121	NH4

MASS 48.9 +- 4.9

* FITTING SPECIES

SAMPLE ID: DOV28 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V.PARISI
 SAMPLE DATE: 901123 START TIME: 11.0 DURATION: 23.7 HOURS
 REDUCED CHI SQUARE: 1.189 DEGREES OF FREEDOM: 9

--SOURCE----		SIZE----	UG/M3-----	PERCENT----	
5205	HWDUST C	16.671+-	3.155	28.186+-	6.034
5208	PROCK1 C	13.924+-	4.414	23.541+-	7.827
5223	SUPER F	.674+-	.116	1.140+-	.227
5224	PRILL T	2.413+-	.418	4.079+-	.816
5225	AMSULF T	2.410+-	.775	4.074+-	1.372
5233	CEMENT T	9.812+-	5.733	16.590+-	9.834
27	VEICSP C	12.844+-	1.736	21.716+-	3.654
14	MAR T	7.591+-	1.588	12.834+-	2.976

TOTAL:		66.338+-	8.284	112.160+-	17.955

--SPECIES----		MEAS. UG/M3-----	%-----	CALC. UG/M3-----	CALC. /MEAS.-----	
Al *	3.217+-	.460	5.439	2.282+-	.170	.709+- .114 Al
Si *	4.862+-	.700	8.221	4.596+-	.393	.945+- .158 Si
P *	2.432+-	.554	4.113	1.763+-	.277	.725+- .201 P
S *	1.959+-	.394	3.313	2.018+-	.150	1.030+- .221 S
Cl *	3.240+-	.508	5.477	3.213+-	.342	.992+- .188 Cl
K *	.534+-	.082	.903	.580+-	.042	1.086+- .185 K
Ca *	7.678+-	1.092	12.982	7.036+-	.492	.916+- .145 Ca
Ti	.179+-	.029	.303	.310+-	.025	1.733+- .316 Ti
V *	.033+-	.009	.056	.028+-	.008	.834+- .343 V
Cr *	.020+-	.005	.033	.026+-	.007	1.318+- .492 Cr
Mn *	.103+-	.017	.174	.119+-	.011	1.161+- .216 Mn
Fe *	1.876+-	.269	3.173	2.424+-	.165	1.292+- .205 Fe
Ni	.012+-	.003	.021	.006+-	.004	.516+- .361 Ni
Cu *	.011+-	.002	.019	.011+-	.002	.987+- .253 Cu
Zn	.043+-	.007	.073	.118+-	.015	2.729+- .552 Zn
Ga	<	.001		.001+-	.003	.000+- .000 Ga
As	<	.025		.088+-	.034	.000+- .000 As
Se	.002+-	.001	.003	.003+-	.004	1.584+-2.176 Se
Br	.006+-	.001	.010	.018+-	.003	2.883+- .804 Br
Rb	.008+-	.002	.014	.004+-	.004	.512+- .520 Rb
Sr	.042+-	.006	.071	.131+-	.011	3.125+- .533 Sr
Zr	<	.010		.014+-	.027	.000+- .000 Zr
Cd	<	.011		.026+-	.038	.000+- .000 Cd
Sn	<	.017		.006+-	.055	1.298+-***** Sn
Sb	<	.022		.000+-	.070	.000+- .000 Sb
Ba	<	.069		.267+-	.254	.000+- .000 Ba
Hg	.015+-	.007	.026	.003+-	.015	.180+-1.007 Hg
Pb	.018+-	.005	.030	.044+-	.011	2.458+- .903 Pb
NO3 *	1.870+-	.264	3.162	1.870+-	.187	1.000+- .173 NO3
PO4	1.441+-	.204	2.437	.000+-	.000	.000+- .000 PO4
F *	.356+-	.050	.601	.357+-	.036	1.003+- .173 F
SO4 *	3.089+-	.437	5.223	3.058+-	.306	.990+- .171 SO4
OC *	4.392+-	.621	7.425	3.784+-	.535	.862+- .172 OC
EC *	2.619+-	.370	4.428	2.378+-	.336	.908+- .182 EC
NH4				1.201+-	.085	

MASS 59.1 +- 5.9

* FITTING SPECIES

SAMPLE ID: DOV30 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901207 START TIME: .0 DURATION: 23.9 HOURS
 REDUCED CHI SQUARE: .495 DEGREES OF FREEDOM: 10

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST C	27.537+-	5.408	30.504+- 6.723
5224	FRILL T	1.019+-	.176	1.129+- .226
5225	AMSULF T	6.131+-	1.080	6.792+- 1.376
5235	BLACK C	4.911+-	1.424	5.440+- 1.668
5233	CEMENT T	38.142+-	8.732	42.251+-10.555
27	VEICSP C	14.309+-	2.215	15.850+- 2.921
14	MAR T	1.771+-	.634	1.962+- .729

TOTAL:		93.821+-10.679	103.928+-15.745	

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC. /MEAS.---
Al	*	4.523+- .646	5.011	3.723+- .352	.823+- .141
Si	*	7.405+- 1.065	8.202	8.515+- 1.032	1.150+- .216
P		5.453+- 1.233	6.041	.713+- .125	.131+- .037
S	*	3.081+- .585	3.413	3.601+- .264	1.169+- .238
Cl	*	1.070+- .197	1.185	1.070+- .142	1.000+- .227
K	*	1.006+- .152	1.114	1.028+- .081	1.022+- .174
Ca	*	11.969+- 1.698	13.258	11.321+- 1.394	.946+- .178
Ti	*	.274+- .043	.303	.311+- .029	1.137+- .208
V		.068+- .015	.075	.024+- .009	.355+- .149
Cr	*	.022+- .006	.024	.022+- .007	1.014+- .442
Mn		.120+- .020	.133	.196+- .020	1.635+- .313
Fe	*	3.025+- .431	3.351	2.837+- .210	.938+- .151
Ni	*	.015+- .003	.016	.009+- .005	.602+- .353
Cu	*	.013+- .003	.015	.013+- .002	.946+- .247
Zn	*	.122+- .019	.135	.135+- .017	1.111+- .220
Ga		.003+- .001	.003	.002+- .003	.566+-1.212
As		< .027		.099+- .038	9.999+-9.999
Se		.003+- .001	.003	.004+- .005	1.601+-1.866
Br		.006+- .002	.007	.009+- .003	1.547+- .593
Rb		.011+- .002	.012	.008+- .005	.788+- .461
Sr	*	.074+- .011	.081	.070+- .007	.949+- .170
Zr		< .011		.009+- .030	.000+- .000
Cd		.015+- .013	.016	.031+- .043	2.153+-3.486
Sn		< .019		.005+- .062	.352+-4.315
Sb		< .024		.000+- .078	.000+- .000
Ba		.146+- .081	.162	.024+- .283	.165+-1.943
Hg		.015+- .008	.017	.004+- .017	.256+-1.135
Pb		.021+- .005	.023	.050+- .012	2.369+- .827
NO3	*	.790+- .112	.875	.790+- .079	1.000+- .173
PO4		6.071+- .858	6.725	.000+- .000	.000+- .000
F		< .051		.000+- .000	.000+- .011
SO4	*	5.061+- .715	5.606	4.762+- .450	.941+- .160
OC	*	5.102+- .721	5.652	4.693+- .598	.920+- .175
EC	*	6.716+- .949	7.440	6.814+- .560	1.015+- .166
NH4				1.903+- .169	

MASS 90.3 +- 9.0

* FITTING SPECIES

SAMPLE ID: DOV34 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901219 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.340 DEGREES OF FREEDOM: 10

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	C	38.577+-	5.457	41.872+-	7.257		
5208	PROCK1	C	7.031+-	4.452	7.632+-	4.892		
5221	BOILER	C	.605+-	.416	.656+-	.457		
5223	SUPER	F	.212+-	.037	.230+-	.046		
5224	PRILL	T	1.467+-	.254	1.593+-	.319		
5225	AMSULF	T	7.283+-	1.211	7.905+-	1.535		
5235	BLACK	C	7.420+-	2.013	8.054+-	2.329		
5233	CEMENT	T	19.273+-	7.109	20.919+-	7.996		
5118	GALVAN	T	.291+-	.081	.316+-	.093		
27	VEICSP	C	13.521+-	2.968	14.676+-	3.541		
14	MAR	T	1.462+-	.591	1.587+-	.661		

TOTAL: 97.143+-10.727 105.441+-15.718

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC. /MEAS.	---
Al	*	5.059+-	.721	5.491	4.400+-	.375	.870+-	.144	Al	
Si	*	9.189+-	1.321	9.974	9.290+-	.860	1.011+-	.173	Si	
P	*	1.997+-	.454	2.168	1.610+-	.220	.806+-	.214	P	
S	*	3.601+-	.650	3.909	3.758+-	.235	1.044+-	.200	S	
Cl	*	1.082+-	.199	1.174	.973+-	.129	.900+-	.204	Cl	
K	*	1.121+-	.165	1.217	1.134+-	.093	1.011+-	.171	K	
Ca	*	9.910+-	1.407	10.756	8.977+-	.754	.906+-	.149	Ca	
Ti	*	.247+-	.058	.268	.387+-	.030	1.566+-	.387	Ti	
V	*	.041+-	.023	.044	.037+-	.009	.904+-	.555	V	
Cr	*	.029+-	.008	.032	.029+-	.007	.983+-	.352	Cr	
Mn	*	.160+-	.025	.173	.178+-	.015	1.113+-	.197	Mn	
Fe	*	4.329+-	.618	4.699	3.402+-	.240	.786+-	.125	Fe	
Ni	*	.020+-	.004	.021	.020+-	.005	1.001+-	.310	Ni	
Cu	*	.033+-	.005	.036	.015+-	.002	.465+-	.096	Cu	
Zn	*	.372+-	.054	.404	.372+-	.028	1.000+-	.163	Zn	
Ga		.008+-	.002	.008	.002+-	.003	.256+-	.400	Ga	
As		<	.032		.094+-	.036	.000+-	.000	As	
Se		.006+-	.001	.006	.004+-	.004	.712+-	.807	Se	
Br	*	.005+-	.001	.006	.009+-	.003	1.751+-	.705	Br	
Rb		.014+-	.003	.015	.009+-	.004	.622+-	.343	Rb	
Sr		.134+-	.019	.146	.112+-	.008	.836+-	.133	Sr	
Zr		.015+-	.013	.016	.014+-	.029	.938+-	2.133	Zr	
Cd		.059+-	.018	.065	.030+-	.041	.508+-	.701	Cd	
Sn		.055+-	.025	.060	.007+-	.059	.133+-	1.074	Sn	
Sb		.087+-	.033	.095	.000+-	.075	.001+-	.867	Sb	
Ba		.500+-	.123	.543	.144+-	.271	.288+-	.546	Ba	
Hg		.026+-	.009	.029	.004+-	.016	.153+-	.611	Hg	
Pb	*	.040+-	.008	.043	.052+-	.012	1.324+-	.394	Pb	
NO3	*	1.137+-	.161	1.234	1.137+-	.114	1.000+-	.173	NO3	
PO4		1.330+-	.188	1.443	.000+-	.000	.000+-	.000	PO4	
F	*	.112+-	.016	.122	.112+-	.011	1.000+-	.174	F	
SO4	*	5.647+-	.799	6.129	5.546+-	.532	.982+-	.168	SO4	
OC	*	6.237+-	.882	6.770	4.738+-	.568	.760+-	.141	OC	
EC	*	9.125+-	1.291	9.905	9.281+-	.724	1.017+-	.164	EC	
NH4					2.318+-	.202			NH4	

MASS 92.1 +-9.2

* FITTING SPECIES

SAMPLE ID: DOV36 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901227 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.738 DEGREES OF FREEDOM: 10

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST	C	5.910+- 1.470	22.488+-	6.044
5208	PROCK1	C	1.981+- .826	7.538+-	3.236
5224	PRILL	T	.483+- .084	1.840+-	.369
5225	AMSULF	T	1.288+- .294	4.900+-	1.224
5235	BLACK	C	2.619+- 1.030	9.965+-	4.049
5233	CEMENT	T	8.015+- 2.524	30.499+-	10.091
27	VEICSP	C	12.304+- 2.174	46.819+-	9.543
14	MAR	T	1.435+- .522	5.462+-	2.061

TOTAL: 34.036+- 3.920 129.510+-19.893

---	SPECIES---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC. /MEAS.---	---
Al	*	1.281+- .185	4.873	.991+- .080	.774+- .128	Al			
Si	*	2.284+- .333	8.691	1.920+- .218	.841+- .155	Si			
P	*	.501+- .115	1.906	.378+- .048	.754+- .198	P			
S	*	1.162+- .271	4.420	1.222+- .107	1.052+- .262	S			
Cl	*	.827+- .173	3.148	.717+- .118	.867+- .231	Cl			
K	*	.199+- .032	.757	.256+- .018	1.288+- .228	K			
Ca	*	3.451+- .494	13.130	3.178+- .303	.921+- .158	Ca			
Ti		< .059		.148+- .020	.000+- .000	Ti			
V		< .028		.011+- .007	.000+- .000	V			
Cr	*	.013+- .006	.048	.011+- .006	.906+- .656	Cr			
Mn	*	.065+- .012	.246	.069+- .010	1.068+- .247	Mn			
Fe	*	1.239+- .181	4.715	1.329+- .127	1.073+- .187	Fe			
Ni	*	.004+- .003	.015	.005+- .004	1.361+-1.361	Ni			
Cu	*	.004+- .002	.014	.008+- .001	2.259+-1.480	Cu			
Zn		.011+- .002	.043	.100+- .014	8.955+-2.258	Zn			
Ga		.002+- .001	.008	.000+- .003	.182+-1.282	Ga			
As		< .034		.085+- .033	.000+- .000	As			
Se		.003+- .001	.011	.003+- .004	1.146+-1.517	Se			
Br	*	.003+- .002	.012	.007+- .002	2.113+-1.373	Br			
Rb		.010+- .002	.037	.002+- .004	.200+- .407	Rb			
Sr	*	.030+- .005	.115	.035+- .004	1.173+- .240	Sr			
Zr		.024+- .015	.092	.005+- .026	.190+-1.070	Zr			
Cd		.093+- .023	.352	.022+- .036	.233+- .396	Cd			
Sn		.133+- .034	.507	.002+- .053	.012+- .397	Sn			
Sb		.246+- .051	.935	.000+- .067	.000+- .272	Sb			
Ba		.892+- .176	3.393	.042+- .242	.047+- .272	Ba			
Hg		.011+- .010	.044	.002+- .015	.208+-1.284	Hg			
Pb		.008+- .005	.029	.035+- .011	4.669+-3.557	Pb			
NO3	*	.375+- .053	1.426	.375+- .037	1.000+- .173	NO3			
PO4		.567+- .080	2.159	.000+- .000	.000+- .000	PO4			
F		< .114		.000+- .000	.000+- .002	F			
SO4	*	1.193+- .169	4.538	1.183+- .105	.992+- .166	SO4			
OC	*	6.199+- .878	23.590	3.879+- .513	.626+- .121	OC			
EC	*	4.537+- .642	17.265	4.499+- .391	.992+- .165	EC			
NH4				.460+- .037		NH4			

MASS 26.3 +- 2.7

* FITTING SPECIES



SAMPLE ID: DOV38 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910108 START TIME: .0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: 1.277 DEGREES OF FREEDOM: 8

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HWDUST	C	9.441+-	1.926	25.340+-	5.764
5223	SUPER	F	.440+-	.076	1.180+-	.236
5224	PRILL	T	1.424+-	.247	3.821+-	.766
5225	AMSULF	T	1.830+-	.557	4.912+-	1.576
5235	BLACK	C	2.705+-	.936	7.262+-	2.617
5233	CEMENT	T	9.098+-	2.457	24.420+-	7.038
5234	BOF	C	1.382+-	.595	3.709+-	1.641
27	VEICSP	C	9.712+-	2.017	26.069+-	6.018
14	MAR	T	5.112+-	1.100	13.722+-	3.259

TOTAL: 41.143+- 4.078 110.435+-15.604

SPECIES		MEAS. UG/M3			CALC. UG/M3			CALC./MEAS.	
			%						
Al	*	1.725+-	.247	4.631	1.262+-	.107	.731+-	.122	
Si	*	2.988+-	.428	8.021	2.748+-	.278	.920+-	.161	
P		.956+-	.217	2.567	.261+-	.044	.272+-	.077	
S	*	1.524+-	.337	4.090	1.543+-	.113	1.013+-	.236	
Cl	*	2.177+-	.355	5.842	2.138+-	.233	.982+-	.193	
K	*	.330+-	.050	.887	.378+-	.027	1.142+-	.190	
Ca	*	3.256+-	.463	8.739	3.139+-	.338	.964+-	.172	
Ti	*	.100+-	.019	.269	.139+-	.016	1.387+-	.311	
V		.025+-	.008	.067	.011+-	.006	.443+-	.274	
Cr	*	.013+-	.006	.035	.012+-	.005	.929+-	.552	
Mn	*	.094+-	.016	.251	.086+-	.012	.919+-	.200	
Fe	*	2.139+-	.310	5.743	2.095+-	.138	.979+-	.156	
Ni		.007+-	.002	.019	.005+-	.003	.709+-	.529	
Cu	*	.005+-	.002	.013	.007+-	.001	1.573+-	.841	
Zn		.023+-	.004	.061	.083+-	.011	3.639+-	.802	
Ga		<	.001		.001+-	.002	.539+-	2.333	
As		<	.031		.067+-	.026	.000+-	.000	
Se		.004+-	.002	.011	.003+-	.003	.654+-	.801	
Br		.007+-	.002	.018	.012+-	.002	1.848+-	.599	
Rb		.007+-	.002	.020	.003+-	.003	.377+-	.429	
Sr	*	.020+-	.004	.055	.024+-	.003	1.171+-	.261	
Zr		<	.013		.003+-	.020	.000+-	.000	
Cd		.048+-	.018	.130	.018+-	.029	.381+-	.611	
Sn		.051+-	.026	.137	.002+-	.042	.038+-	.817	
Sb		.105+-	.035	.283	.000+-	.053	.001+-	.502	
Ba		.313+-	.111	.840	.006+-	.191	.019+-	.612	
Hg		.016+-	.009	.043	.002+-	.011	.138+-	.730	
Pb		.009+-	.005	.025	.031+-	.008	3.227+-	1.853	
NO3	*	1.104+-	.156	2.962	1.104+-	.110	1.000+-	.173	
PO4		1.814+-	.256	4.870	.000+-	.000	.000+-	.000	
F	*	.232+-	.033	.622	.233+-	.023	1.004+-	.174	
SO4	*	2.218+-	.314	5.952	2.210+-	.215	.997+-	.171	
OC	*	4.180+-	.591	11.220	3.124+-	.406	.747+-	.143	
EC	*	4.044+-	.572	10.854	4.092+-	.343	1.012+-	.166	
NH4					.820+-	.059			

MASS 37.3 +- 3.8

* FITTING SPECIES



SAMPLE ID: DOV40 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910114 START TIME: .0 DURATION: 24.1 HOURS
REDUCED CHI SQUARE: 1.333 DEGREES OF FREEDOM: 7

--SOURCE----	SIZE----	UG/M3-----	PERCENT----
5205	HWDUST C	5.669+- 1.351	15.443+- 3.996
5208	PROCK1 C	3.850+- 1.493	10.488+- 4.202
5223	SUPER F	.570+- .099	1.553+- .313
5224	PRILL T	2.688+- .465	7.323+- 1.466
5225	AMSULF T	4.871+- .849	13.269+- 2.672
5235	BLACK C	2.377+- .789	6.477+- 2.245
5233	CEMENT T	5.835+- 2.429	15.896+- 6.807
5234	BOF C	2.571+- .690	7.004+- 2.006
27	VEICSP C	7.697+- 1.723	20.968+- 5.147
14	MAR T	3.048+- .675	8.304+- 2.021

TOTAL: 39.176+- 3.928 106.725+-15.159

SPECIES		MEAS.		UG/M3	%	CALC.		UG/M3	CALC./MEAS.	
Al	*	.937+-	.136	2.553	.886+-	.067	.945+-	.155	Al	
Si	*	1.620+-	.235	4.412	1.888+-	.175	1.168+-	.201	Si	
P	*	.546+-	.127	1.489	.534+-	.078	.977+-	.268	P	
S	*	2.149+-	.455	5.856	1.983+-	.139	.923+-	.206	S	
Cl	*	1.535+-	.264	4.182	1.318+-	.146	.859+-	.176	Cl	
K	*	.322+-	.049	.876	.268+-	.021	.834+-	.142	K	
Ca	*	3.013+-	.428	8.207	2.940+-	.236	.976+-	.159	Ca	
Ti		.063+-	.014	.171	.137+-	.013	2.187+-	.529	Ti	
V		.026+-	.008	.072	.013+-	.005	.492+-	.231	V	
Cr	*	.012+-	.005	.033	.015+-	.004	1.245+-	.641	Cr	
Mn	*	.083+-	.014	.226	.086+-	.017	1.042+-	.274	Mn	
Fe	*	2.672+-	.386	7.279	2.607+-	.177	.976+-	.156	Fe	
Ni		.009+-	.003	.024	.005+-	.003	.528+-	.331	Ni	
Cu		.003+-	.002	.007	.006+-	.001	2.499+-	2.089	Cu	
Zn		.014+-	.003	.039	.067+-	.009	4.702+-	1.104	Zn	
Ga		<	.001		.000+-	.002	9.999+-	9.999	Ga	
As		<	.031		.053+-	.020	.000+-	.000	As	
Se		.005+-	.002	.014	.002+-	.002	.408+-	.483	Se	
Br	*	.005+-	.002	.015	.008+-	.002	1.536+-	.532	Br	
Rb		.005+-	.002	.013	.002+-	.002	.459+-	.527	Rb	
Sr		.014+-	.003	.037	.044+-	.004	3.193+-	.739	Sr	
Zr		<	.012		.006+-	.016	2.559+-	*****	Zr	
Cd		.029+-	.017	.079	.015+-	.023	.521+-	.839	Cd	
Sn		.038+-	.025	.103	.003+-	.033	.070+-	.880	Sn	
Sb		<	.030		.000+-	.042	.000+-	.000	Sb	
Ba		<	.099		.076+-	.152	.887+-	2.042	Ba	
Hg		<	.008		.002+-	.009	.376+-	1.796	Hg	
Pb	*	.012+-	.005	.032	.026+-	.007	2.225+-	1.062	Pb	
NO3	*	2.084+-	.294	5.676	2.084+-	.208	1.000+-	.173	NO3	
PO4		.749+-	.106	2.040	.000+-	.000	.000+-	.000	PO4	
F	*	.306+-	.043	.833	.302+-	.030	.986+-	.171	F	
SO4	*	3.956+-	.559	10.777	4.066+-	.368	1.028+-	.172	SO4	
OC	*	3.194+-	.451	8.701	2.499+-	.322	.782+-	.150	OC	
EC	*	3.374+-	.477	9.191	3.441+-	.285	1.020+-	.167	EC	
NH4					1.935+-	.146			NH4	

MASS 36.7 +- 3.7

* FITTING SPECIES



SAMPLE ID: DOV42 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910120 START TIME: .0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: 1.464 DEGREES OF FREEDOM: 8

--SOURCE----	SIZE----	UG/M3-----	PERCENT----
5205	HWDUST C	2.103+- .700	10.161+- 3.540
5208	PROCK1 C	1.454+- .691	7.026+- 3.414
5235	BLACK C	3.171+- .976	15.319+- 4.967
5233	CEMENT T	3.018+- 1.262	14.578+- 6.278
5234	BOF C	.746+- .435	3.605+- 2.136
27	VEICSP C	9.675+- 1.907	46.739+-10.383
14	MAR T	3.504+- .785	16.929+- 4.168
TOTAL:		23.672+- 2.821	114.356+-17.970

SPECIES		MEAS. UG/M3		%	CALC. UG/M3		CALC./MEAS.		
Al	*	.538+-	.079	2.598	.463+-	.036	.862+-	.143	Al
Si	*	.766+-	.113	3.700	.757+-	.082	.988+-	.181	Si
P	*	.254+-	.060	1.229	.227+-	.031	.894+-	.244	P
S	*	.704+-	.221	3.401	.799+-	.086	1.134+-	.376	S
Cl	*	1.514+-	.261	7.315	1.457+-	.170	.962+-	.200	Cl
K	*	.126+-	.020	.611	.139+-	.009	1.098+-	.190	K
Ca	*	1.663+-	.237	8.035	1.562+-	.126	.939+-	.154	Ca
Ti	*	.050+-	.014	.239	.100+-	.015	2.013+-	.629	Ti
V		.016+-	.007	.077	.008+-	.006	.488+-	.424	V
Cr	*	.008+-	.006	.040	.009+-	.005	1.071+-	.926	Cr
Mn	*	.040+-	.008	.193	.049+-	.009	1.241+-	.337	Mn
Fe	*	1.487+-	.218	7.184	1.326+-	.107	.891+-	.149	Fe
Ni	*	.005+-	.002	.023	.005+-	.003	.985+-	.828	Ni
Cu	*	.008+-	.002	.037	.007+-	.001	.849+-	.309	Cu
Zn		.013+-	.003	.064	.077+-	.011	5.868+-	1.468	Zn
Ga		<	.001		.000+-	.002	.000+-	.000	Ga
As		<	.031		.067+-	.026	9.999+-	9.999	As
Se		<	.001		.003+-	.003	.000+-	.000	Se
Br		.002+-	.001	.008	.009+-	.002	5.294+-	4.587	Br
Rb		.006+-	.002	.027	.001+-	.003	.177+-	.549	Rb
Sr		.009+-	.002	.042	.022+-	.003	2.526+-	.805	Sr
Zr		<	.013		.004+-	.020	.000+-	.000	Zr
Cd		<	.018		.016+-	.029	1.506+-	3.599	Cd
Sn		.072+-	.029	.347	.001+-	.042	.013+-	.579	Sn
Sb		.041+-	.036	.198	.000+-	.053	.001+-	1.287	Sb
Ba		.296+-	.126	1.428	.029+-	.191	.099+-	.646	Ba
Hg		.013+-	.010	.064	.002+-	.011	.150+-	.871	Hg
Pb		<	.005		.027+-	.008	9.999+-	9.999	Pb
NO3		<	.112		.000+-	.000	.000+-	.000	NO3
PO4		<	.225		.000+-	.000	.000+-	.000	PO4
F		<	.112		.000+-	.000	.000+-	.000	F
SO4		<	.112		.603+-	.116	.000+-	.000	SO4
OC	*	4.401+-	.623	21.258	3.159+-	.404	.718+-	.137	OC
EC	*	4.401+-	.623	21.258	4.481+-	.369	1.018+-	.167	EC
NH4					.000+-	.000			NH4

MASS 20.7 +- 2.1

* FITTING SPECIES



SAMPLE ID: DOV44 PARTICLE SIZE: COARSE
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910126 START TIME: .0 DURATION: 24.1 HOURS
REDUCED CHI SQUARE: 1.336 DEGREES OF FREEDOM: 8

--SOURCE--		SIZE	--UG/M3--		--PERCENT--	
5235	BLACK	C	1.379+-	.562	6.210+-	2.611
5233	CEMENT	T	12.704+-	1.758	57.231+-	9.835
27	VEICSP	C	6.928+-	1.126	31.212+-	5.985
14	MAR	T	1.103+-	.367	4.970+-	1.728

TOTAL: 22.115+- 2.193 99.623+-14.164

SPECIES		MEAS. UG/M3		%	CALC. UG/M3		CALC./MEAS.		
Al	*	.868+-	.126	3.911	.439+-	.083	.506+-	.120	Al
Si	*	.932+-	.136	4.200	1.106+-	.296	1.186+-	.362	Si
P		2.443+-	.553	11.005	.040+-	.008	.016+-	.005	P
S	*	.610+-	.200	2.749	.661+-	.081	1.082+-	.378	S
Cl	*	.560+-	.127	2.525	.522+-	.074	.931+-	.250	Cl
K	*	.106+-	.021	.479	.138+-	.017	1.295+-	.305	K
Ca	*	3.412+-	.486	15.372	3.326+-	.462	.975+-	.194	Ca
Ti		<	.046		.072+-	.011	.000+-	.000	Ti
V		<	.022		.005+-	.004	.000+-	.000	V
Cr		<	.005		.006+-	.004	1.374+-	1.937	Cr
Mn		.013+-	.005	.060	.053+-	.007	3.938+-	1.474	Mn
Fe	*	.649+-	.095	2.923	.635+-	.073	.979+-	.182	Fe
Ni	*	.003+-	.003	.014	.003+-	.002	.973+-	1.054	Ni
Cu	*	.002+-	.002	.011	.004+-	.001	1.741+-	1.648	Cu
Zn		.030+-	.006	.134	.055+-	.008	1.841+-	.444	Zn
Ga		<	.001		.000+-	.002	.000+-	.000	Ga
As		<	.033		.048+-	.018	.000+-	.000	As
Se		<	.002		.002+-	.002	.000+-	.000	Se
Br	*	.003+-	.002	.015	.004+-	.001	1.300+-	.775	Br
Rb		.005+-	.002	.024	.001+-	.002	.254+-	.424	Rb
Sr		.011+-	.003	.050	.017+-	.003	1.500+-	.445	Sr
Zr		<	.014		.003+-	.014	.000+-	.000	Zr
Cd		.087+-	.023	.393	.013+-	.020	.144+-	.237	Cd
Sn		.144+-	.035	.647	.001+-	.030	.004+-	.207	Sn
Sb		.163+-	.044	.736	.000+-	.038	.000+-	.230	Sb
Ba		.518+-	.143	2.333	.008+-	.136	.015+-	.263	Ba
Hg		<	.009		.001+-	.008	.000+-	.000	Hg
Pb		.009+-	.005	.042	.019+-	.006	2.075+-	1.353	Pb
NO3		<	.107		.000+-	.000	.000+-	.000	NO3
PO4		<	.215		.000+-	.000	.000+-	.000	PO4
F		<	.107		.000+-	.000	.000+-	.000	F
SO4		<	.107		.190+-	.036	.000+-	.000	SO4
OC	*	2.147+-	.304	9.671	2.175+-	.289	1.013+-	.197	OC
EC	*	2.490+-	.352	11.219	2.452+-	.216	.985+-	.164	EC
NH4					.000+-	.000			NH4

MASS 22.2 $\pm$ 2.3

* FITTING SPECIES

SAMPLE ID: DOV48 PARTICLE SIZE: COARSE
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V.PARISI
 SAMPLE DATE: 910207 START TIME: .0 DURATION: 24.0 HOURS
 REDUCED CHI SQUARE: 1.865 DEGREES OF FREEDOM: 10

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	C	4.131+- 2.071	8.061+- 4.122
5223	SUPER	F	.673+- .117	1.314+- .263
5224	PRILL	T	1.039+- .180	2.027+- .406
5225	AMSULF	T	16.592+- 2.363	32.378+- 5.640
5235	BLACK	C	2.154+- 1.007	4.204+- 2.010
5233	CEMENT	T	15.884+- 3.796	30.996+- 8.034
27	VEICSP	C	13.578+- 2.131	26.497+- 4.936

TOTAL:			54.051+- 5.467	105.477+-15.026

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC. /MEAS.---
Al	*	1.415+- .204	2.761	1.012+- .113	.715+- .130
Si	*	2.029+- .295	3.960	2.378+- .379	1.172+- .253
P		2.585+- .587	5.044	.162+- .024	.063+- .017
S	*	5.569+- 1.005	10.868	5.003+- .421	.898+- .179
Cl		.441+- .117	.861	.192+- .112	.435+- .278
K	*	.251+- .043	.491	.275+- .024	1.092+- .210
Ca	*	5.818+- .826	11.353	4.559+- .581	.784+- .149
Ti	*	.092+- .018	.180	.146+- .022	1.580+- .391
V		.036+- .010	.070	.010+- .008	.281+- .234
Cr	*	.006+- .005	.012	.011+- .007	1.742+-1.776
Mn	*	.070+- .012	.137	.087+- .012	1.236+- .277
Fe	*	2.222+- .323	4.336	1.342+- .140	.604+- .108
Ni	*	.005+- .002	.010	.006+- .005	1.087+-1.008
Cu	*	.006+- .002	.012	.009+- .002	1.452+- .630
Zn		.019+- .003	.037	.109+- .016	5.738+-1.331
Ga		< .001		.000+- .003	.000+- .000
As		< .031		.094+- .036	.000+- .000
Se		< .001		.004+- .004	.000+- .000
Br		.003+- .001	.006	.005+- .002	1.626+-1.191
Rb		.007+- .002	.013	.002+- .004	.340+- .631
Sr	*	.024+- .004	.047	.028+- .005	1.151+- .276
Zr		< .013		.004+- .028	.000+- .000
Cd		.019+- .017	.038	.024+- .040	1.252+-2.357
Sn		< .025		.001+- .058	.000+- .000
Sb		< .033		.000+- .074	.000+- .000
Ba		< .106		.010+- .267	.000+- .000
Hg		.018+- .009	.035	.003+- .016	.142+- .888
Pb		.011+- .005	.021	.038+- .012	3.608+-2.016
NO3	*	.805+- .114	1.572	.805+- .080	1.000+- .173
PO4		4.941+- .699	9.641	.000+- .000	.000+- .000
F	*	.359+- .051	.700	.356+- .036	.993+- .172
SO4	*	11.418+- 1.614	22.282	12.062+- 1.206	1.056+- .183
OC	*	4.976+- .704	9.710	4.210+- .566	.846+- .165
EC	*	4.321+- .611	8.433	4.341+- .400	1.005+- .170
NH4				4.763+- .454	

MASS 51.2 +- 5.1

* FITTING SPECIES

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BIBLIOTECA

BALANÇO DE MASSAS QUIMICAS

POEIRA TOTAL EM SUSPENSÃO

SAMPLE ID: POV01 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 900927 START TIME: 10.3 DURATION: 24.8 HOURS
 REDUCED CHI SQUARE: .730 DEGREES OF FREEDOM: 8

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--SOURCE---SIZE---UG/M3-----PERCENT---
5205 HWDUST T 55.424+-10.957 18.460+- 4.090
5208 PROCK1 C 45.309+-12.993 15.091+- 4.583
5221 BOILER T 3.308+- .803 1.102+- .289
5224 PRILL T 4.414+- .765 1.470+- .294
5225 AMSULF T 38.812+- 6.055 12.927+- 2.396
5235 BLACK C 12.702+- 3.349 4.230+- 1.193
5233 CEMENT T 65.915+-23.144 21.954+- 8.015
5234 BOF T 18.310+- 5.829 6.098+- 2.035
5118 GALVAN T .602+- .126 .200+- .046
27 VEICSP T 13.918+- 3.222 4.636+- 1.169
14 MAR T 14.858+- 3.136 4.949+- 1.156
5223 SUPER F 8.746+- 1.502 2.913+- .579

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TOTAL: 282.317+-30.498 94.029+-13.844

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--SPECIES---MEAS. UG/M3---%-----CALC. UG/M3---CALC. /MEAS.-----
Al * 9.756+- 1.383 3.249 9.483+- .792 .972+- .160 Al
Si * 26.505+- 3.754 8.828 23.931+- 2.138 .903+- .151 Si
P * 6.873+- 1.540 2.289 5.699+- .900 .829+- .227 P
S * 14.383+- 2.378 4.791 14.559+- 1.041 1.012+- .182 S
Cl * 6.686+- 1.018 2.227 6.697+- .647 1.002+- .181 Cl
K * 3.152+- .461 1.050 2.890+- .541 .917+- .218 K
Ca * 30.125+- 4.263 10.034 30.415+- 2.634 1.010+- .167 Ca
Ti * .760+- .134 .253 .928+- .061 1.220+- .230 Ti
V * .211+- .051 .070 .137+- .015 .648+- .171 V
Cr * .115+- .021 .038 .103+- .010 .892+- .183 Cr
Mn * .647+- .094 .216 .664+- .069 1.025+- .184 Mn
Fe * 15.476+- 2.192 5.154 15.353+- 3.861 .992+- .286 Fe
Ni * .072+- .011 .024 .074+- .006 1.032+- .175 Ni
Cu * .103+- .015 .034 .060+- .005 .587+- .098 Cu
Zn * .612+- .087 .204 .612+- .049 1.000+- .163 Zn
Ga * .013+- .002 .004 .007+- .002 .521+- .151 Ga
As < .038 .024+- .010 .000+- .000 As
Se .007+- .002 .002 .004+- .002 .555+- .285 Se
Br .030+- .005 .010 .037+- .004 1.226+- .236 Br
Rb .030+- .005 .010 .024+- .003 .806+- .163 Rb
Sr .508+- .072 .169 .441+- .034 .867+- .140 Sr
Zr .045+- .018 .015 .059+- .021 1.313+- .698 Zr
Cd .042+- .014 .014 .020+- .016 .469+- .421 Cd
Sn .049+- .019 .016 .025+- .024 .511+- .521 Sn
Sb .065+- .023 .022 .020+- .036 .308+- .568 Sb
Ba 1.312+- .203 .437 1.067+- .126 .813+- .159 Ba
Hg .031+- .010 .010 .009+- .004 .284+- .145 Hg
Pb * .089+- .014 .030 .113+- .017 1.270+- .275 Pb
NO3 * 3.426+- .485 1.141 3.426+- .342 1.000+- .173 NO3
PO4 2.812+- .398 .937 .000+- .001 .000+- .000 PO4
F * 4.586+- .649 1.528 4.626+- .463 1.009+- .175 F
SO4 * 31.011+- 4.386 10.328 30.773+- 2.864 .992+- .168 SO4
OC * 10.949+- 1.549 3.647 10.424+- 1.245 .952+- .176 OC
EC * 15.707+- 2.222 5.231 15.694+- 1.205 .999+- .161 EC
NH4 11.589+- 1.064 NH4

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MASS 300.2 +-30.0

* FITTING SPECIES



SAMPLE ID: POV02 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 900928 START TIME: 10.3 DURATION: 24.5 HOURS
REDUCED CHI SQUARE: .475 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3-----	PERCENT---
5205	HW DUST	T	48.060+-12.475	12.619+- 3.510
5208	PROCK1	C	88.721+-14.382	23.296+- 4.437
5221	BOILER	T	2.424+- .749	.636+- .207
5224	PRILL	T	4.840+- .839	1.271+- .254
5225	AMSULF	T	46.857+- 7.267	12.304+- 2.270
5235	BLACK	C	9.848+- 3.538	2.586+- .964
5233	CEMENT	T	78.229+-31.191	20.541+- 8.444
5234	BOF	T	22.035+- 7.050	5.786+- 1.939
5118	GALVAN	T	1.167+- .228	.306+- .067
27	VEICSP	T	22.960+- 4.935	6.029+- 1.429
14	MAR	T	17.736+- 3.753	4.657+- 1.090
5223	SUPER	F	12.684+- 2.183	3.331+- .663

TOTAL:			355.561+-38.665	93.361+-13.791

---	SPECIES---	MEAS.	UG/M3-----	%-----	CALC.	UG/M3---	CALC./MEAS.-----	---
Al	*	10.066+-	1.426	2.643	9.880+-	.785	.982+-	.159 Al
Si	*	25.672+-	3.635	6.741	25.191+-	2.260	.981+-	.164 Si
P	*	8.701+-	1.950	2.285	9.726+-	1.708	1.118+-	.318 P
S	*	17.133+-	2.823	4.499	17.257+-	1.255	1.007+-	.181 S
Cl	*	8.068+-	1.219	2.118	8.073+-	.773	1.001+-	.179 Cl
K	*	3.182+-	.477	.835	3.044+-	.639	.957+-	.247 K
Ca	*	41.443+-	5.863	10.882	43.057+-	3.508	1.039+-	.170 Ca
Ti		.809+-	.179	.212	1.302+-	.090	1.610+-	.373 Ti
V	*	.159+-	.071	.042	.179+-	.026	1.125+-	.527 V
Cr	*	.208+-	.034	.055	.149+-	.013	.714+-	.133 Cr
Mn	*	.832+-	.121	.218	.820+-	.083	.986+-	.175 Mn
Fe	*	15.577+-	2.205	4.090	18.954+-	4.648	1.217+-	.345 Fe
Ni	*	.066+-	.010	.017	.066+-	.005	.996+-	.171 Ni
Cu		.133+-	.019	.035	.064+-	.005	.482+-	.080 Cu
Zn	*	1.095+-	.155	.287	1.095+-	.094	1.000+-	.166 Zn
Ga		.023+-	.004	.006	.009+-	.002	.399+-	.107 Ga
As		<	.043		.032+-	.015	.000+-	.000 As
Se		.004+-	.002	.001	.004+-	.002	1.107+-	.719 Se
Br		.038+-	.006	.010	.046+-	.006	1.208+-	.238 Br
Rb		.035+-	.005	.009	.027+-	.004	.785+-	.159 Rb
Sr	*	.768+-	.109	.202	.754+-	.064	.982+-	.162 Sr
Zr	*	.081+-	.025	.021	.098+-	.034	1.202+-	.562 Zr
Cd		.069+-	.017	.018	.028+-	.020	.410+-	.302 Cd
Sn		.053+-	.019	.014	.037+-	.029	.705+-	.607 Sn
Sb		.066+-	.024	.017	.031+-	.044	.475+-	.696 Sb
Ba		2.598+-	.382	.682	1.944+-	.190	.748+-	.132 Ba
Hg		.057+-	.013	.015	.010+-	.005	.183+-	.095 Hg
Pb	*	.120+-	.018	.032	.143+-	.023	1.189+-	.259 Pb
NO3	*	3.759+-	.531	.987	3.759+-	.375	1.000+-	.173 NO3
PO4		3.307+-	.468	.868	.000+-	.001	.000+-	.000 PO4
F	*	6.698+-	.947	1.759	6.710+-	.671	1.002+-	.173 F
SO4	*	37.289+-	5.273	9.791	37.117+-	3.456	.995+-	.169 SO4
OC	*	16.536+-	2.338	4.342	15.844+-	2.046	.958+-	.183 OC
EC	*	15.509+-	2.193	4.072	15.487+-	1.210	.999+-	.161 EC
NH4					13.881+-	1.284		NH4

MASS 380.8 +-38.1

* FITTING SPECIES

SAMPLE ID: POV03 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 900929 START TIME: 11.3 DURATION: 45.8 HOURS
 REDUCED CHI SQUARE: .451 DEGREES OF FREEDOM: 7

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	T	33.319+-	7.914	11.866+-	3.058		
5208	PROCK1	C	51.089+-	9.207	18.194+-	3.749		
5221	BOILER	T	3.149+-	.758	1.121+-	.292		
5224	PRILL	T	9.301+-	1.611	3.312+-	.662		
5225	AMSULF	T	33.128+-	5.372	11.798+-	2.247		
5235	BLACK	C	10.216+-	3.978	3.638+-	1.463		
5233	CEMENT	T	42.448+-	18.301	15.117+-	6.690		
5234	BOF	T	15.929+-	4.787	5.673+-	1.797		
5118	GALVAN	T	.106+-	.044	.038+-	.016		
27	VEICSP	T	26.823+-	5.740	9.552+-	2.256		
14	MAR	T	18.339+-	3.658	6.531+-	1.457		
5223	SUPER	F	5.435+-	.933	1.936+-	.384		

TOTAL:			249.282+-	24.501	88.775+-	12.444		

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC. /MEAS.	---
Al	*	6.054+-	.858	2.156	6.371+-	.495	1.052+-	.170	Al	
Si	*	17.442+-	2.469	6.211	15.407+-	1.340	.883+-	.147	Si	
P	*	4.412+-	.989	1.571	5.770+-	.987	1.308+-	.369	P	
S	*	11.447+-	1.879	4.076	12.678+-	.894	1.108+-	.198	S	
Cl	*	7.842+-	1.163	2.793	7.821+-	.793	.997+-	.179	Cl	
K	*	1.875+-	.281	.668	2.053+-	.459	1.095+-	.295	K	
Ca	*	24.225+-	3.426	8.627	24.794+-	1.950	1.024+-	.166	Ca	
Ti		.434+-	.097	.155	.817+-	.056	1.883+-	.439	Ti	
V	*	.136+-	.042	.048	.132+-	.016	.971+-	.321	V	
Cr	*	.104+-	.017	.037	.096+-	.010	.922+-	.179	Cr	
Mn	*	.544+-	.079	.194	.531+-	.058	.976+-	.177	Mn	
Fe	*	12.274+-	1.737	4.371	13.134+-	3.356	1.070+-	.313	Fe	
Ni	*	.068+-	.010	.024	.068+-	.006	1.000+-	.170	Ni	
Cu		.044+-	.007	.016	.051+-	.004	1.157+-	.198	Cu	
Zn	*	.211+-	.030	.075	.211+-	.013	1.000+-	.155	Zn	
Ga		.009+-	.002	.003	.007+-	.002	.733+-	.205	Ga	
As		.054+-	.028	.019	.029+-	.016	.532+-	.413	As	
Se		.005+-	.001	.002	.004+-	.002	.751+-	.437	Se	
Br		.055+-	.008	.020	.045+-	.006	.815+-	.162	Br	
Rb		.022+-	.003	.008	.018+-	.003	.821+-	.173	Rb	
Sr		.367+-	.052	.131	.442+-	.037	1.205+-	.198	Sr	
Zr		.036+-	.012	.013	.059+-	.022	1.627+-	.824	Zr	
Cd		.040+-	.010	.014	.018+-	.014	.458+-	.374	Cd	
Sn		.043+-	.012	.015	.023+-	.022	.530+-	.541	Sn	
Sb		.051+-	.015	.018	.035+-	.033	.679+-	.679	Sb	
Ba	*	1.413+-	.208	.503	1.220+-	.129	.864+-	.157	Ba	
Hg		.033+-	.007	.012	.007+-	.005	.217+-	.151	Hg	
Pb		.090+-	.013	.032	.116+-	.021	1.294+-	.303	Pb	
NO3	*	7.212+-	1.020	2.568	7.212+-	.721	1.000+-	.173	NO3	
PO4		1.498+-	.212	.533	.000+-	.001	.000+-	.001	PO4	
F	*	2.845+-	.402	1.013	2.875+-	.288	1.011+-	.175	F	
SO4	*	29.470+-	4.166	10.495	27.240+-	2.483	.924+-	.155	SO4	
OC	*	17.899+-	2.531	6.374	18.366+-	2.389	1.026+-	.197	OC	
EC	*	17.285+-	2.444	6.156	17.103+-	1.342	.989+-	.160	EC	
NH4					11.137+-	.928			NH4	

MASS 280.8 +-28.1

* FITTING SPECIES



SAMPLE ID: POV04 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901011 START TIME: 11.2 DURATION: 24.3 HOURS
REDUCED CHI SQUARE: .475 DEGREES OF FREEDOM: 9

	---SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	T	55.341+- 7.295	27.500+- 4.551
5208	PROCK1	C	20.819+- 7.159	10.346+- 3.705
5221	BOILER	T	2.441+- .580	1.213+- .313
5224	PRILL	T	12.883+- 2.232	6.402+- 1.281
5225	AMSULF	T	34.058+- 5.345	16.924+- 3.150
5235	BLACK	C	7.682+- 3.127	3.817+- 1.600
5233	CEMENT	T	11.530+- 9.918	5.730+- 4.962
5234	BOF	T	6.547+- 2.649	3.253+- 1.356
5118	GALVAN	T	.227+- .061	.113+- .032
27	VEICSP	T	22.487+- 4.607	11.174+- 2.548
14	MAR	T	19.519+- 3.838	9.700+- 2.140
5223	SUPER	F	3.201+- .553	1.591+- .318

TOTAL: 196.734+-17.023 97.763+-12.931

---SPECIES---	MEAS.	UG/M3---	%---	CALC.	UG/M3---	CALC. /MEAS.---	
Al *	7.888+-	1.118	3.920	7.503+-	.668	.951+-	.159 Al
Si *	17.936+-	2.540	8.913	17.132+-	1.487	.955+-	.159 Si
P *	3.678+-	.824	1.828	3.303+-	.467	.898+-	.238 P
S *	11.833+-	1.968	5.880	11.881+-	.873	1.004+-	.183 S
Cl *	8.057+-	1.217	4.004	8.077+-	.839	1.003+-	.184 Cl
K *	2.048+-	.294	1.018	1.959+-	.235	.957+-	.179 K
Ca *	11.554+-	1.635	5.742	11.592+-	.728	1.003+-	.155 Ca
Ti *	.484+-	.084	.241	.591+-	.039	1.220+-	.226 Ti
V *	.123+-	.030	.061	.090+-	.009	.737+-	.197 V
Cr *	.069+-	.014	.034	.055+-	.005	.795+-	.181 Cr
Mn *	.298+-	.045	.148	.299+-	.026	1.004+-	.175 Mn
Fe *	7.495+-	1.062	3.724	7.940+-	1.413	1.059+-	.241 Fe
Ni *	.049+-	.008	.024	.050+-	.005	1.030+-	.186 Ni
Cu *	.053+-	.008	.026	.059+-	.005	1.123+-	.194 Cu
Zn *	.301+-	.043	.149	.301+-	.020	1.000+-	.158 Zn
Ga	.009+-	.002	.005	.006+-	.001	.612+-	.195 Ga
As	<	.038		.025+-	.014	.000+-	.000 As
Se	.003+-	.002	.002	.003+-	.002	.988+-	.706 Se
Br	.036+-	.005	.018	.044+-	.006	1.231+-	.246 Br
Rb	.017+-	.003	.009	.015+-	.002	.860+-	.188 Rb
Sr	.185+-	.026	.092	.217+-	.016	1.172+-	.188 Sr
Zr *	.024+-	.012	.012	.026+-	.014	1.080+-	.801 Zr
Cd	.020+-	.012	.010	.009+-	.012	.433+-	.663 Cd
Sn	<	.015		.012+-	.020	4.589+-	***** Sn
Sb	.025+-	.019	.012	.028+-	.028	1.127+-	-1.441 Sb
Ba	.570+-	.105	.283	.623+-	.094	1.092+-	.261 Ba
Hg	.013+-	.008	.007	.004+-	.004	.330+-	.345 Hg
Pb *	.089+-	.014	.044	.104+-	.016	1.168+-	.256 Pb
NO3 *	9.986+-	1.412	4.962	9.986+-	.998	1.000+-	.173 NO3
PO4	4.095+-	.579	2.035	.000+-	.001	.000+-	.000 PO4
F *	1.689+-	.239	.840	1.693+-	.169	1.002+-	.174 F
SO4 *	28.197+-	3.988	14.012	28.119+-	2.558	.997+-	.168 SO4
OC *	15.988+-	2.261	7.945	15.266+-	2.003	.955+-	.184 OC
EC *	13.571+-	1.920	6.744	13.525+-	1.077	.997+-	.162 EC
NH4				12.196+-	.974		NH4

MASS 201.2 +-20.1

* FITTING SPECIES



SAMPLE ID: POV05 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901012 START TIME: 11.3 DURATION: 23.9 HOURS
REDUCED CHI SQUARE: .253 DEGREES OF FREEDOM: 7

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST	T	77.323+-10.485	22.101+-	3.723
5208	PROCK1	C	37.633+-12.620	10.757+-	3.764
5221	BOILER	T	3.086+- .795	.882+-	.244
5224	FRILL	T	10.339+- 1.791	2.955+-	.591
5225	AMSULF	T	39.619+- 5.932	11.324+-	2.039
5235	BLACK	C	13.206+- 4.337	3.775+-	1.296
5233	CEMENT	T	43.614+-19.532	12.466+-	5.720
5234	BOF	T	14.640+- 5.085	4.185+-	1.513
5118	GALVAN	T	.441+- .105	.126+-	.033
27	VEICSP	T	26.015+- 5.570	7.436+-	1.757
14	MAR	T	5.797+- 1.509	1.657+-	.462
5223	SUPER	F	4.300+- .746	1.229+-	.246

TOTAL:			276.013+-27.717	78.892+-	11.178

---	SPECIES---	---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC. /MEAS.---	---
Al	*	11.002+-	1.559	3.145	11.365+-	.969	1.033+-	.171	Al	
Si	*	24.996+-	3.538	7.145	26.447+-	2.284	1.058+-	.175	Si	
P	*	5.095+-	1.142	1.456	5.451+-	.796	1.070+-	.286	P	
S	*	13.077+-	2.169	3.738	14.211+-	1.023	1.087+-	.196	S	
Cl	*	3.167+-	.513	.905	3.167+-	.267	1.000+-	.182	Cl	
K	*	2.991+-	.434	.855	3.073+-	.461	1.027+-	.215	K	
Ca	*	25.418+-	3.595	7.265	24.656+-	1.871	.970+-	.156	Ca	
Ti		.779+-	.130	.223	.959+-	.062	1.231+-	.220	Ti	
V	*	.127+-	.038	.036	.138+-	.014	1.085+-	.344	V	
Cr	*	.103+-	.019	.030	.097+-	.009	.933+-	.192	Cr	
Mn	*	.605+-	.089	.173	.588+-	.056	.971+-	.169	Mn	
Fe	*	13.398+-	1.897	3.830	14.424+-	3.109	1.077+-	.278	Fe	
Ni	*	.070+-	.011	.020	.070+-	.006	.995+-	.172	Ni	
Cu	*	.096+-	.014	.027	.082+-	.007	.851+-	.143	Cu	
Zn	*	.520+-	.074	.149	.520+-	.037	1.000+-	.159	Zn	
Ga		.014+-	.003	.004	.008+-	.002	.574+-	.168	Ga	
As		<	.043		.032+-	.017	.000+-	.000	As	
Se		.006+-	.002	.002	.005+-	.002	.828+-	.472	Se	
Br		.028+-	.004	.008	.025+-	.005	.883+-	.233	Br	
Rb		.029+-	.005	.008	.025+-	.003	.871+-	.174	Rb	
Sr		.337+-	.048	.096	.389+-	.028	1.153+-	.184	Sr	
Zr		.033+-	.015	.009	.049+-	.021	1.498+-	.935	Zr	
Cd		.031+-	.013	.009	.017+-	.018	.538+-	.638	Cd	
Sn		.033+-	.018	.010	.023+-	.029	.679+-	.930	Sn	
Sb		.043+-	.021	.012	.034+-	.042	.785+-	1.054	Sb	
Ba		.996+-	.161	.285	1.015+-	.139	1.019+-	.216	Ba	
Hg		.034+-	.010	.010	.008+-	.005	.236+-	.157	Hg	
Pb		.124+-	.019	.035	.146+-	.021	1.176+-	.246	Pb	
NO3	*	8.015+-	1.133	2.291	8.015+-	.801	1.000+-	.173	NO3	
PO4		2.590+-	.366	.740	.000+-	.001	.000+-	.000	PO4	
F	*	2.282+-	.323	.652	2.275+-	.227	.997+-	.173	F	
SO4	*	31.667+-	4.477	9.051	29.801+-	2.887	.941+-	.161	SO4	
OC	*	17.609+-	2.490	5.033	18.132+-	2.319	1.030+-	.196	OC	
EC	*	19.457+-	2.751	5.561	19.395+-	1.497	.997+-	.161	EC	
NH4					13.142+-	1.106			NH4	

MASS 349.9 +-35.0

* FITTING SPECIES

SAMPLE ID: POV06 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901013 START TIME: 11.4 DURATION: 23.9 HOURS
 REDUCED CHI SQUARE: 1.155 DEGREES OF FREEDOM: 8

--SOURCE----		SIZE----	UG/M3-----	PERCENT----
5205	HWDUST T	75.341+-	9.653	28.231+- 4.590
5208	PROCK1 C	34.111+-	6.931	12.782+- 2.895
5221	BOILER T	1.851+-	.520	.694+- .207
5224	PRILL T	6.079+-	1.054	2.278+- .456
5225	AMSULF T	26.990+-	4.509	10.113+- 1.970
5235	BLACK C	5.376+-	2.796	2.014+- 1.067
5233	CEMENT T	36.549+-	16.012	13.695+- 6.154
5234	BOF T	5.089+-	2.983	1.907+- 1.134
5118	GALVAN T	.463+-	.105	.174+- .043
27	VEICSP T	22.364+-	4.583	8.380+- 1.911
14	MAR T	18.490+-	3.762	6.928+- 1.571
5223	SUPER F	8.231+-	1.418	3.084+- .614
TOTAL:		240.933+-	21.754	90.280+-12.169

--SPECIES----		MEAS. UG/M3----	%-----	CALC. UG/M3----	CALC. /MEAS.-----	
Al	*	8.626+- 1.223	3.232	10.822+- .934	1.255+- .208	Al
Si	*	28.174+- 3.991	10.557	26.129+- 2.174	.927+- .152	Si
P	*	4.939+- 1.107	1.851	5.038+- .732	1.020+- .272	P
S	*	11.332+- 1.888	4.246	10.917+- .731	.963+- .173	S
Cl	*	8.003+- 1.210	2.999	7.987+- .796	.998+- .181	Cl
K	*	2.551+- .372	.956	2.667+- .249	1.046+- .181	K
Ca	*	22.806+- 3.228	8.546	21.927+- 1.612	.961+- .153	Ca
Ti		.475+- .091	.178	.861+- .055	1.813+- .365	Ti
V	*	.144+- .038	.054	.111+- .012	.768+- .217	V
Cr	*	.093+- .018	.035	.075+- .006	.804+- .165	Cr
Mn	*	.418+- .062	.157	.416+- .029	.995+- .163	Mn
Fe	*	8.617+- 1.221	3.229	9.198+- 1.163	1.067+- .203	Fe
Ni	*	.043+- .007	.016	.044+- .004	1.025+- .188	Ni
Cu	*	.112+- .016	.042	.074+- .006	.664+- .112	Cu
Zn	*	.520+- .074	.195	.520+- .039	1.000+- .161	Zn
Ga		.011+- .002	.004	.007+- .002	.653+- .196	Ga
As		< .040		.030+- .014	.765+- .872	As
Se		.004+- .002	.001	.004+- .002	1.060+- .710	Se
Br		.043+- .006	.016	.044+- .006	1.016+- .201	Br
Rb		.024+- .004	.009	.021+- .002	.854+- .167	Rb
Sr	*	.327+- .047	.123	.352+- .026	1.076+- .172	Sr
Zr		.028+- .014	.010	.039+- .018	1.426+- .980	Zr
Cd		.035+- .013	.013	.013+- .015	.381+- .441	Cd
Sn		.038+- .017	.014	.018+- .024	.474+- .668	Sn
Sb		.049+- .021	.018	.028+- .034	.569+- .742	Sb
Ba		.913+- .149	.342	.909+- .118	.997+- .208	Ba
Hg		.022+- .009	.008	.006+- .004	.257+- .209	Hg
Pb		.096+- .015	.036	.127+- .017	1.318+- .265	Pb
NO3	*	4.716+- .667	1.767	4.716+- .471	1.000+- .173	NO3
PO4		3.177+- .450	1.191	.000+- .001	.000+- .000	PO4
F	*	4.331+- .613	1.623	4.354+- .435	1.005+- .174	F
SO4	*	22.326+- 3.159	8.366	22.804+- 2.055	1.021+- .171	SO4
OC	*	13.843+- 1.958	5.187	14.911+- 1.991	1.077+- .210	OC
EC	*	11.334+- 1.603	4.247	11.344+- .966	1.001+- .165	EC
NH4				8.736+- .749		NH4

MASS 266.9 +-26.7

* FITTING SPECIES

SAMPLE ID: POV07 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 901113 START TIME: 10.8 DURATION: 23.9 HOURS
 REDUCED CHI SQUARE: .591 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST T	33.976+-	7.117	17.635+- 4.093
5208	PROCK1 C	25.116+-	7.850	13.036+- 4.278
5221	BOILER T	1.357+-	.471	.704+- .254
5224	PRILL T	8.769+-	1.519	4.552+- .910
5225	AMSULF T	32.828+-	5.149	17.040+- 3.169
5235	BLACK C	12.589+-	3.564	6.535+- 1.962
5233	CEMENT T	43.673+-	14.990	22.669+- 8.104
5234	BOF T	10.556+-	3.542	5.479+- 1.918
5118	GALVAN T	2.174+-	.392	1.129+- .233
27	VEICSP T	18.720+-	4.178	9.717+- 2.376
14	MAR T	16.059+-	2.652	8.335+- 1.609
5223	SUPER F	3.117+-	.539	1.618+- .323

TOTAL:		208.936+-	20.401	108.449+-15.154

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC./MEAS.---
Al	*	6.110+- .866	3.171	5.845+- .496	.957+- .158
Si	*	14.371+- 2.035	7.460	14.281+- 1.361	.994+- .170
P	*	3.344+- .750	1.736	3.268+- .503	.977+- .266
S	*	11.798+- 1.965	6.124	11.993+- .864	1.017+- .184
Cl	*	7.263+- 1.102	3.770	6.765+- .692	.931+- .171
K	*	1.624+- .242	.843	1.818+- .315	1.120+- .256
Ca	*	19.595+- 2.772	10.171	18.980+- 1.701	.969+- .162
Ti		.329+- .060	.171	.568+- .037	1.724+- .332
V	*	.052+- .020	.027	.082+- .009	1.574+- .629
Cr	*	.084+- .016	.044	.063+- .006	.745+- .157
Mn	*	.388+- .058	.201	.405+- .041	1.044+- .188
Fe	*	9.467+- 1.340	4.914	9.224+- 2.228	.974+- .273
Ni	*	.039+- .006	.020	.037+- .003	.954+- .176
Cu		.144+- .021	.075	.043+- .004	.296+- .049
Zn	*	1.838+- .261	.954	1.838+- .174	1.000+- .171
Ga		.030+- .005	.016	.005+- .001	.168+- .049
As		< .060		.021+- .012	.000+- .000
Se		.006+- .002	.003	.003+- .002	.573+- .327
Br	*	.035+- .005	.018	.038+- .005	1.093+- .217
Rb		.013+- .003	.007	.016+- .002	1.234+- .302
Sr		.147+- .021	.076	.257+- .019	1.754+- .283
Zr	*	.026+- .011	.013	.037+- .014	1.444+- .851
Cd		.050+- .013	.026	.013+- .013	.268+- .271
Sn		.028+- .016	.015	.015+- .019	.516+- .741
Sb		.052+- .020	.027	.024+- .030	.466+- .599
Ba		.352+- .078	.182	.675+- .095	1.921+- .504
Hg		.023+- .008	.012	.006+- .004	.249+- .175
Pb		.289+- .042	.150	.088+- .015	.305+- .068
NO3	*	6.798+- .961	3.529	6.798+- .680	1.000+- .173
PO4		1.023+- .145	.531	.000+- .001	.000+- .001
F	*	1.648+- .233	.856	1.649+- .165	1.000+- .173
SO4	*	26.919+- 3.806	13.972	26.630+- 2.445	.989+- .167
OC	*	13.607+- 1.924	7.063	13.280+- 1.671	.976+- .185
EC	*	16.404+- 2.319	8.515	16.293+- 1.284	.993+- .161
NH4				10.935+- .918	

MASS 192.7 +-19.3

* FITTING SPECIES

SAMPLE ID: POV08 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V.PARISI
 SAMPLE DATE: 901114 START TIME: 11.4 DURATION: 24.1 HOURS
 REDUCED CHI SQUARE: 1.279 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST T	36.406+-	8.612	15.914+-	4.087
5208	PROCK1 C	8.063+-	3.906	3.525+-	1.744
5221	BOILER T	1.644+-	.511	.719+-	.234
5224	PRILL T	6.983+-	1.210	3.053+-	.610
5225	AMSULF T	31.454+-	5.110	13.750+-	2.622
5235	BLACK C	12.574+-	4.043	5.497+-	1.851
5233	CEMENT T	77.335+-	19.223	33.806+-	9.056
5234	BOF T	12.898+-	4.282	5.638+-	1.955
5118	GALVAN T	.531+-	.110	.232+-	.053
27	VEICSP T	25.237+-	5.272	11.032+-	2.555
14	MAR T	16.815+-	3.406	7.350+-	1.660
5223	SUPER F	6.183+-	1.063	2.703+-	.537

TOTAL: 236.122+-23.707 103.218+-14.619

---	SPECIES---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC./MEAS.---	---
Al	*	7.750+-	1.098	3.388	6.686+-	.659	.863+-	.149	Al
Si	*	20.134+-	2.849	8.801	18.184+-	2.051	.903+-	.163	Si
P	*	3.178+-	.715	1.389	1.754+-	.224	.552+-	.143	P
S	*	13.011+-	2.158	5.688	12.593+-	.900	.968+-	.175	S
Cl	*	7.191+-	1.091	3.143	7.177+-	.727	.998+-	.182	Cl
K	*	2.053+-	.307	.897	2.233+-	.388	1.088+-	.249	K
Ca	*	26.252+-	3.712	11.476	23.481+-	2.822	.894+-	.166	Ca
Ti	*	.365+-	.067	.160	.522+-	.039	1.431+-	.282	Ti
V	*	.074+-	.024	.032	.080+-	.009	1.085+-	.369	V
Cr	*	.081+-	.015	.036	.060+-	.007	.732+-	.165	Cr
Mn	*	.499+-	.074	.218	.507+-	.055	1.015+-	.185	Mn
Fe	*	10.818+-	1.531	4.729	10.382+-	2.719	.960+-	.286	Fe
Ni	*	.041+-	.007	.018	.041+-	.004	.993+-	.186	Ni
Cu	*	.045+-	.007	.020	.047+-	.004	1.043+-	.186	Cu
Zn	*	.534+-	.076	.234	.534+-	.043	1.000+-	.164	Zn
Ga	*	.011+-	.002	.005	.006+-	.001	.531+-	.166	Ga
As		<	.040		.029+-	.015	1.489+-	3.231	As
Se		.007+-	.002	.003	.004+-	.002	.639+-	.330	Se
Br		.025+-	.004	.011	.042+-	.006	1.672+-	.353	Br
Rb		.020+-	.003	.009	.020+-	.003	.978+-	.209	Rb
Sr	*	.161+-	.023	.070	.172+-	.013	1.072+-	.172	Sr
Zr		.027+-	.012	.012	.028+-	.013	1.005+-	.657	Zr
Cd		.040+-	.012	.017	.017+-	.013	.438+-	.362	Cd
Sn		.019+-	.016	.008	.013+-	.021	.671+-	1.207	Sn
Sb		.046+-	.020	.020	.032+-	.031	.707+-	.746	Sb
Ba		.472+-	.092	.206	.426+-	.094	.904+-	.266	Ba
Hg		.031+-	.009	.014	.006+-	.004	.203+-	.152	Hg
Pb	*	.093+-	.014	.040	.103+-	.019	1.109+-	.270	Pb
NO3	*	5.416+-	.765	2.367	5.416+-	.541	1.000+-	.173	NO3
PO4		.993+-	.140	.434	.000+-	.001	.000+-	.001	PO4
F	*	3.245+-	.459	1.418	3.271+-	.327	1.008+-	.175	F
SO4	*	25.296+-	3.575	11.058	25.761+-	2.353	1.018+-	.171	SO4
OC	*	18.623+-	2.633	8.143	17.455+-	2.249	.937+-	.179	OC
EC	*	18.083+-	2.556	7.905	18.175+-	1.435	1.005+-	.163	EC
NH4					10.158+-	.873			NH4

MASS 228.8 +-22.9

* FITTING SPECIES



SAMPLE ID: POV09 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901115 START TIME: 12.0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .536 DEGREES OF FREEDOM: 7

---	SOURCE---	SIZE---	UG/M3---	---	PERCENT---
5205	HWDUST T	61.916+-	8.874	21.287+-	3.721
5208	PROCK1 C	43.682+-	11.616	15.012+-	4.267
5221	BOILER T	3.112+-	.780	1.070+-	.289
5224	PRILL T	12.835+-	2.224	4.413+-	.883
5225	AMSULF T	98.736+-	13.389	33.947+-	5.721
5235	BLACK C	15.581+-	4.747	5.357+-	1.718
5233	CEMENT T	16.507+-	15.405	5.675+-	5.327
5234	BOF T	5.104+-	2.838	1.755+-	.991
5118	GALVAN T	.062+-	.041	.021+-	.014
27	VEICSP T	26.758+-	5.662	9.200+-	2.153
14	MAR T	4.182+-	1.158	1.438+-	.423
5223	SUPER F	2.490+-	.431	.856+-	.171

TOTAL: 290.945+-26.457 100.030+-13.525

---	SPECIES---	MEAS. UG/M3---	%---	---	CALC. UG/M3---	CALC. /MEAS.---	---
Al	*	9.751+- 1.382	3.353	8.908+- .754	.914+- .151	Al	
Si	*	19.381+- 2.745	6.663	19.673+- 1.682	1.015+- .168	Si	
P	*	4.699+- 1.053	1.616	5.646+- .878	1.201+- .328	P	
S	*	26.127+- 4.279	8.983	27.654+- 2.401	1.058+- .196	S	
Cl	*	2.308+- .401	.794	2.308+- .190	1.000+- .192	Cl	
K	*	2.100+- .306	.722	2.092+- .218	.996+- .178	K	
Ca	*	18.694+- 2.646	6.427	18.353+- 1.232	.982+- .154	Ca	
Ti		.343+- .068	.118	.834+- .054	2.433+- .505	Ti	
V	*	.142+- .033	.049	.125+- .014	.882+- .227	V	
Cr	*	.096+- .018	.033	.077+- .007	.801+- .162	Cr	
Mn	*	.327+- .049	.113	.351+- .025	1.072+- .178	Mn	
Fe	*	8.951+- 1.268	3.077	8.698+- 1.145	.972+- .188	Fe	
Ni	*	.067+- .010	.023	.068+- .006	1.016+- .179	Ni	
Cu		.047+- .007	.016	.071+- .006	1.517+- .266	Cu	
Zn	*	.197+- .028	.068	.197+- .011	1.000+- .165	Zn	
Ga		.010+- .002	.003	.007+- .002	.716+- .247	Ga	
As		< .042		.029+- .017	6.127+-*****	As	
Se		.010+- .002	.003	.004+- .002	.422+- .271	Se	
Br		.023+- .004	.008	.021+- .005	.895+- .273	Br	
Rb		.023+- .004	.008	.018+- .003	.774+- .177	Rb	
Sr		.174+- .025	.060	.391+- .032	2.250+- .369	Sr	
Zr		.037+- .013	.013	.051+- .022	1.394+- .776	Zr	
Cd		.044+- .013	.015	.012+- .018	.274+- .427	Cd	
Sn		.027+- .017	.009	.018+- .028	.682+-1.119	Sn	
Sb		.056+- .021	.019	.033+- .042	.594+- .783	Sb	
Ba		.611+- .110	.210	1.090+- .141	1.783+- .396	Ba	
Hg		.032+- .010	.011	.006+- .005	.202+- .168	Hg	
Pb	*	.100+- .015	.034	.127+- .019	1.270+- .275	Pb	
NO3	*	9.949+- 1.407	3.420	9.949+- .995	1.000+- .173	NO3	
PO4		2.001+- .283	.688	.000+- .001	.000+- .001	PO4	
F	*	1.318+- .186	.453	1.317+- .132	.999+- .173	F	
SO4	*	76.032+-10.756	26.141	72.501+- 7.179	.954+- .165	SO4	
OC	*	20.184+- 2.855	6.940	18.795+- 2.386	.931+- .177	OC	
EC	*	21.679+- 3.067	7.454	21.623+- 1.670	.997+- .161	EC	
NH4				29.843+- 2.711		NH4	

MASS 290.9 +-29.1

* FITTING SPECIES

SAMPLE ID: POV10 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901116 START TIME: 12.3 DURATION: 23.3 HOURS
REDUCED CHI SQUARE: 1.112 DEGREES OF FREEDOM: 8

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	T	41.211+-	6.112	22.483+-	4.023		
5208	PROCK1	C	12.428+-	6.019	6.780+-	3.353		
5221	BOILER	T	3.161+-	.690	1.724+-	.414		
5224	PRILL	T	9.179+-	1.590	5.008+-	1.002		
5225	AMSULF	T	51.751+-	7.223	28.233+-	4.849		
5235	BLACK	C	3.871+-	2.515	2.112+-	1.388		
5233	CEMENT	T	31.344+-	10.687	17.100+-	6.077		
5234	BOF	T	9.919+-	3.287	5.412+-	1.873		
5118	GALVAN	T	.280+-	.066	.153+-	.039		
27	VEICSP	T	20.753+-	4.240	11.322+-	2.576		
14	MAR	T	5.302+-	1.277	2.893+-	.754		
5223	SUPER	F	1.929+-	.333	1.052+-	.210		

TOTAL: 191.128+-16.728 104.272+-13.865

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC. /MEAS.	---
Al	*	6.973+-	.989	3.804	6.155+-	.533	.883+-	.147	Al	
Si	*	17.460+-	2.474	9.526	14.576+-	1.312	.835+-	.140	Si	
P	*	2.855+-	.640	1.558	2.213+-	.299	.775+-	.203	P	
S	*	16.402+-	2.711	8.948	15.391+-	1.277	.938+-	.174	S	
Cl	*	2.566+-	.430	1.400	2.556+-	.236	.996+-	.191	Cl	
K	*	1.410+-	.207	.769	1.783+-	.301	1.264+-	.283	K	
Ca	*	13.608+-	1.927	7.424	13.482+-	1.203	.991+-	.166	Ca	
Ti	*	.370+-	.059	.202	.484+-	.033	1.306+-	.226	Ti	
V		.131+-	.025	.071	.087+-	.008	.662+-	.140	V	
Cr	*	.069+-	.014	.038	.052+-	.006	.742+-	.171	Cr	
Mn	*	.362+-	.054	.198	.355+-	.037	.979+-	.179	Mn	
Fe	*	9.383+-	1.330	5.119	8.687+-	2.097	.926+-	.259	Fe	
Ni	*	.059+-	.009	.032	.059+-	.005	1.003+-	.181	Ni	
Cu	*	.049+-	.008	.027	.048+-	.004	.969+-	.170	Cu	
Zn	*	.323+-	.046	.176	.323+-	.024	1.000+-	.161	Zn	
Ga		.007+-	.002	.004	.005+-	.001	.689+-	.229	Ga	
As		.056+-	.040	.030	.022+-	.013	.391+-	.361	As	
Se		.005+-	.002	.003	.003+-	.001	.545+-	.318	Se	
Br		.029+-	.005	.016	.019+-	.004	.666+-	.177	Br	
Rb		.018+-	.003	.010	.015+-	.002	.818+-	.175	Rb	
Sr		.098+-	.014	.053	.163+-	.011	1.662+-	.263	Sr	
Zr		.016+-	.011	.009	.019+-	.010	1.181+-	1.034	Zr	
Cd		.047+-	.013	.026	.010+-	.009	.222+-	.197	Cd	
Sn		<	.016		.011+-	.015	1.752+-	4.868	Sn	
Sb		.040+-	.020	.022	.027+-	.021	.666+-	.629	Sb	
Ba		.235+-	.069	.128	.452+-	.071	1.924+-	.641	Ba	
Hg		.008+-	.007	.004	.004+-	.003	.509+-	.629	Hg	
Pb	*	.074+-	.012	.040	.091+-	.016	1.231+-	.290	Pb	
NO3	*	7.115+-	1.007	3.881	7.115+-	.711	1.000+-	.173	NO3	
PO4		2.009+-	.284	1.096	.000+-	.001	.000+-	.000	PO4	
F	*	1.015+-	.144	.554	1.020+-	.102	1.006+-	.174	F	
SO4	*	36.978+-	5.232	20.174	38.536+-	3.766	1.042+-	.179	SO4	
OC	*	14.998+-	2.122	8.183	13.864+-	1.848	.924+-	.180	OC	
EC	*	10.009+-	1.416	5.461	10.048+-	.860	1.004+-	.166	EC	
NH4					16.193+-	1.428			NH4	

MASS 183.3 +-18.3

* FITTING SPECIES

CETESB - CIA. DE TECNOLOGIA E SANEAMENTO AMBIENTAL BIOLOGIA

SAMPLE ID: POV11 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901121 START TIME: 11.2 DURATION: 23.5 HOURS
REDUCED CHI SQUARE: .421 DEGREES OF FREEDOM: 7

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	T	41.803+-	10.054	14.932+-	3.889		
5208	PROCK1	C	40.671+-	11.790	14.528+-	4.455		
5221	BOILER	T	2.430+-	.694	.868+-	.263		
5224	PRILL	T	7.503+-	1.300	2.680+-	.536		
5225	AMSULF	T	49.445+-	7.412	17.662+-	3.182		
5235	BLACK	C	15.273+-	4.056	5.455+-	1.548		
5233	CEMENT	T	74.432+-	22.935	26.588+-	8.613		
5234	BOF	T	15.328+-	5.154	5.475+-	1.921		
5118	GALVAN	T	.191+-	.056	.068+-	.021		
27	VEICSP	T	18.834+-	4.173	6.728+-	1.635		
14	MAR	T	14.321+-	3.008	5.115+-	1.190		
5223	SUPER	F	4.300+-	.744	1.536+-	.307		

TOTAL: 284.532+-29.887 101.636+-14.736

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC./MEAS.	---
Al	*	8.687+-	1.231	3.103	7.936+-	.696	.914+-	.152	Al	
Si	*	19.494+-	2.760	6.963	19.708+-	2.063	1.011+-	.178	Si	
P	*	4.536+-	1.019	1.620	4.969+-	.799	1.095+-	.303	P	
S	*	18.010+-	2.968	6.433	17.198+-	1.284	.955+-	.173	S	
Cl	*	6.362+-	.975	2.273	6.352+-	.622	.998+-	.182	Cl	
K	*	2.307+-	.348	.824	2.491+-	.454	1.080+-	.256	K	
Ca	*	31.127+-	4.403	11.119	30.544+-	2.870	.981+-	.167	Ca	
Ti		.459+-	.080	.164	.821+-	.054	1.789+-	.332	Ti	
V	*	.107+-	.028	.038	.120+-	.014	1.119+-	.321	V	
Cr	*	.116+-	.020	.041	.092+-	.009	.793+-	.159	Cr	
Mn	*	.553+-	.081	.198	.606+-	.061	1.094+-	.195	Mn	
Fe	*	14.451+-	2.046	5.162	13.095+-	3.232	.906+-	.258	Fe	
Ni	*	.061+-	.009	.022	.060+-	.005	.988+-	.172	Ni	
Cu		.031+-	.005	.011	.052+-	.004	1.658+-	.305	Cu	
Zn	*	.275+-	.039	.098	.275+-	.018	1.000+-	.157	Zn	
Ga		.011+-	.002	.004	.007+-	.002	.579+-	.179	Ga	
As		<	.043		.024+-	.012	1.048+-	2.029	As	
Se		.008+-	.002	.003	.004+-	.002	.554+-	.292	Se	
Br		.031+-	.005	.011	.037+-	.005	1.187+-	.241	Br	
Rb		.024+-	.004	.009	.022+-	.003	.907+-	.193	Rb	
Sr		.225+-	.032	.080	.404+-	.031	1.796+-	.290	Sr	
Zr		.028+-	.014	.010	.058+-	.020	2.077+-	1.244	Zr	
Cd		.058+-	.015	.021	.020+-	.017	.345+-	.300	Cd	
Sn		.030+-	.018	.011	.022+-	.024	.731+-	.899	Sn	
Sb		.058+-	.023	.021	.025+-	.037	.436+-	.661	Sb	
Ba		.492+-	.098	.176	1.000+-	.124	2.034+-	.479	Ba	
Hg		.029+-	.010	.010	.008+-	.004	.290+-	.170	Hg	
Pb	*	.091+-	.014	.033	.108+-	.018	1.187+-	.268	Pb	
NO3	*	5.818+-	.822	2.078	5.818+-	.582	1.000+-	.173	NO3	
PO4		1.589+-	.225	.567	.000+-	.001	.000+-	.001	PO4	
F	*	2.276+-	.322	.813	2.275+-	.227	.999+-	.173	F	
SO4	*	37.352+-	5.281	13.342	38.411+-	3.626	1.028+-	.175	SO4	
OC	*	14.359+-	2.030	5.129	13.718+-	1.683	.955+-	.179	OC	
EC	*	18.844+-	2.664	6.731	18.949+-	1.482	1.006+-	.162	EC	
NH4					15.187+-	1.360			NH4	

MASS 280.0 +-28.0

* FITTING SPECIES

SAMPLE ID: POV12 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901122 START TIME: 11.2 DURATION: 23.4 HOURS
REDUCED CHI SQUARE: .464 DEGREES OF FREEDOM: 9

---	SOURCE---	SIZE---	UG/M3-----	PERCENT---
5205	HWDUST T	62.247+-	7.086	33.021+- 5.001
5208	PROCK1 C	28.606+-	8.622	15.175+- 4.818
5221	BOILER T	2.778+-	.664	1.474+- .382
5224	PRILL T	6.718+-	1.163	3.564+- .712
5225	AMSULF T	29.104+-	4.432	15.439+- 2.812
5235	BLACK C	7.567+-	3.296	4.014+- 1.794
5233	CEMENT T	15.098+-	11.968	8.009+- 6.399
27	VEICSP T	24.655+-	4.937	13.079+- 2.927
14	MAR T	9.561+-	2.044	5.072+- 1.197
5223	SUPER F	2.224+-	.386	1.180+- .236

TOTAL: 188.558+-18.132 100.027+-13.870

---	SPECIES---	MEAS. UG/M3-----	%-----	CALC. UG/M3---	CALC. /MEAS.-----	---
Al	*	8.582+- 1.216	4.552	8.559+- .753	.997+- .166	Al
Si	*	17.759+- 2.513	9.421	19.120+- 1.681	1.077+- .179	Si
P	*	5.224+- 1.169	2.771	4.199+- .612	.804+- .215	P
S	*	10.315+- 1.723	5.472	10.370+- .738	1.005+- .183	S
Cl	*	4.275+- .869	2.288	4.274+- .413	1.000+- .184	Cl
K	*	1.855+- .269	.984	1.893+- .165	1.021+- .173	K
Ca	*	15.562+- 2.201	8.256	14.522+- .942	.933+- .145	Ca
Ti		.434+- .073	.230	.684+- .045	1.574+- .283	Ti
V	*	.085+- .023	.045	.101+- .011	1.191+- .348	V
Cr	*	.042+- .010	.022	.054+- .005	1.280+- .321	Cr
Mn	*	.233+- .036	.123	.244+- .016	1.047+- .176	Mn
Fe	*	6.086+- .862	3.229	5.462+- .382	.897+- .142	Fe
Ni	*	.058+- .009	.031	.056+- .005	.973+- .175	Ni
Cu		.026+- .004	.014	.066+- .005	2.485+- .466	Cu
Zn	*	.154+- .022	.081	.132+- .010	.858+- .138	Zn
Ga		.006+- .001	.003	.006+- .002	1.077+- .383	Ga
As		< .035		.027+- .015	.000+- .000	As
Se		.005+- .002	.003	.003+- .002	.643+- .404	Se
Br		.024+- .004	.013	.028+- .005	1.147+- .279	Br
Rb		.016+- .003	.008	.015+- .002	.947+- .212	Rb
Sr		.129+- .019	.069	.281+- .021	2.174+- .352	Sr
Zr	*	.023+- .011	.012	.033+- .016	1.386+- .968	Zr
Cd		.027+- .011	.014	.009+- .013	.331+- .519	Cd
Sn		< .016		.013+- .022	.930+-1.917	Sn
Sb		.040+- .020	.021	.030+- .031	.750+- .879	Sb
Ba		.309+- .075	.164	.789+- .107	2.552+- .708	Ba
Hg		.021+- .008	.011	.004+- .004	.201+- .216	Hg
Pb		.055+- .009	.029	.112+- .017	2.048+- .468	Pb
NO3	*	5.208+- .736	2.763	5.208+- .521	1.000+- .173	NO3
PO4		3.788+- .535	2.010	.000+- .001	.000+- .000	PO4
F	*	1.180+- .167	.626	1.177+- .118	.997+- .173	F
SO4	*	22.881+- 3.234	12.138	22.804+- 2.139	.997+- .169	SO4
OC	*	15.981+- 2.259	8.478	16.631+- 2.196	1.041+- .201	OC
EC	*	14.157+- 2.001	7.510	14.137+- 1.139	.999+- .162	EC
NH4				9.457+- .809		NH4

MASS 188.5 +-18.8

* FITTING SPECIES



SAMPLE ID: POV13 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901123 START TIME: 10.7 DURATION: 23.7 HOURS
REDUCED CHI SQUARE: .834 DEGREES OF FREEDOM: 10

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HW DUST	T	50.114+-	6.638	26.064+-	4.327
5208	PROCK1	C	41.100+-	10.285	21.376+-	5.761
5221	BOILER	T	1.857+-	.531	.966+-	.292
5224	PRILL	T	5.530+-	.958	2.876+-	.576
5225	AMSULF	T	14.976+-	3.298	7.789+-	1.884
5235	BLACK	C	3.245+-	2.584	1.688+-	1.355
5233	CEMENT	T	35.451+-	14.818	18.438+-	7.925
5118	GALVAN	T	.116+-	.043	.060+-	.023
27	VEICSP	T	23.098+-	4.684	12.013+-	2.717
14	MAR	T	26.691+-	5.171	13.882+-	3.027
5223	SUPER	F	1.861+-	.323	.968+-	.194

TOTAL: 204.040+-20.904 106.121+-15.200

SPECIES		MEAS.		UG/M3		%		CALC.		UG/M3		CALC./MEAS.		
Al	*	9.379+-	1.330	4.878	7.867+-	.647	.839+-	.137	Al					
Si	*	16.036+-	2.272	8.340	17.807+-	1.562	1.110+-	.185	Si					
P	*	6.736+-	1.508	3.504	5.138+-	.816	.763+-	.209	P					
S	*	8.743+-	1.472	4.547	7.978+-	.522	.913+-	.165	S					
Cl	*	10.924+-	1.634	5.682	10.911+-	1.146	.999+-	.183	Cl					
K	*	1.857+-	.275	.966	1.870+-	.141	1.007+-	.167	K					
Ca	*	21.057+-	2.981	10.952	21.652+-	1.626	1.028+-	.165	Ca					
Ti	*	.395+-	.069	.205	.752+-	.047	1.903+-	.354	Ti					
V	*	.059+-	.022	.031	.101+-	.013	1.712+-	.662	V					
Cr	*	.069+-	.014	.036	.064+-	.005	.930+-	.199	Cr					
Mn	*	.306+-	.046	.159	.295+-	.020	.964+-	.160	Mn					
Fe	*	6.377+-	.904	3.316	5.502+-	.346	.863+-	.134	Fe					
Ni	*	.044+-	.007	.023	.041+-	.004	.939+-	.174	Ni					
Cu	*	.050+-	.008	.026	.056+-	.005	1.121+-	.196	Cu					
Zn	*	.215+-	.031	.112	.215+-	.013	1.000+-	.155	Zn					
Ga	*	.010+-	.002	.005	.006+-	.001	.639+-	.194	Ga					
As		<	.042		.024+-	.014	1.444+-	3.779	As					
Se		.006+-	.002	.003	.003+-	.002	.526+-	.330	Se					
Br		.025+-	.004	.013	.056+-	.007	2.250+-	.451	Br					
Rb		.017+-	.003	.009	.015+-	.002	.888+-	.189	Rb					
Sr		.139+-	.020	.072	.376+-	.030	2.710+-	.444	Sr					
Zr	*	.023+-	.012	.012	.044+-	.018	1.889+-	1.241	Zr					
Cd		.047+-	.013	.024	.012+-	.012	.267+-	.261	Cd					
Sn		.033+-	.017	.017	.016+-	.019	.473+-	.631	Sn					
Sb		.063+-	.022	.033	.028+-	.028	.440+-	.467	Sb					
Ba		.382+-	.084	.199	1.010+-	.108	2.646+-	.646	Ba					
Hg		.017+-	.008	.009	.004+-	.004	.240+-	.250	Hg					
Pb	*	.095+-	.015	.049	.105+-	.016	1.108+-	.239	Pb					
NO3	*	4.287+-	.606	2.229	4.287+-	.429	1.000+-	.173	NO3					
PO4		3.118+-	.441	1.622	.000+-	.001	.000+-	.000	PO4					
F	*	.988+-	.140	.514	.984+-	.098	.997+-	.173	F					
SO4	*	14.822+-	2.097	7.709	15.481+-	1.400	1.045+-	.175	SO4					
OC	*	16.524+-	2.338	8.594	15.149+-	2.056	.917+-	.180	OC					
EC	*	9.742+-	1.378	5.067	9.742+-	.922	1.000+-	.170	EC					
NH4					5.333+-	.427			NH4					

MASS 192.3 +-19.2

* FITTING SPECIES

SAMPLE ID: POV14 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901124 START TIME: 10.5 DURATION: 25.1 HOURS
REDUCED CHI SQUARE: .546 DEGREES OF FREEDOM: 8

	---SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	T	33.694+- 4.381	28.486+- 4.675
5208	PROCK1	C	21.283+- 6.659	17.993+- 5.911
5221	BOILER	T	2.673+- .574	2.259+- .535
5224	PRILL	T	2.055+- .356	1.737+- .348
5225	AMSULF	T	18.384+- 2.887	15.542+- 2.894
5235	BLACK	C	7.759+- 2.346	6.559+- 2.089
5233	CEMENT	T	13.824+- 8.372	11.687+- 7.174
5234	BOF	T	1.867+- 1.408	1.578+- 1.201
5118	GALVAN	T	.152+- .040	.129+- .036
27	VEICSP	T	12.239+- 2.699	10.348+- 2.506
14	MAR	T	7.819+- 1.647	6.610+- 1.541
5223	SUPER	F	.918+- .159	.776+- .155

TOTAL: 122.666+-12.646 103.705+-14.903

--SPECIES--		MEAS. UG/M3--		--%--		CALC. UG/M3--		CALC. /MEAS.---	
Al	*	5.595+-	.794	4.730	4.920+-	.415	.879+-	.145	Al
Si	*	11.419+-	1.618	9.654	10.943+-	.947	.958+-	.159	Si
P	*	3.292+-	.737	2.784	2.836+-	.433	.861+-	.233	P
S	*	7.274+-	1.230	6.149	6.889+-	.470	.947+-	.173	S
Cl	*	3.381+-	.537	2.858	3.380+-	.337	1.000+-	.187	Cl
K	*	1.176+-	.171	.994	1.173+-	.105	.997+-	.170	K
Ca	*	10.232+-	1.449	8.651	10.597+-	.732	1.036+-	.163	Ca
Ti		.274+-	.045	.232	.436+-	.028	1.588+-	.277	Ti
V	*	.090+-	.018	.076	.073+-	.007	.814+-	.185	V
Cr	*	.033+-	.008	.028	.038+-	.003	1.172+-	.314	Cr
Mn	*	.188+-	.029	.159	.185+-	.012	.987+-	.167	Mn
Fe	*	4.330+-	.614	3.661	4.186+-	.447	.967+-	.172	Fe
Ni	*	.050+-	.008	.042	.052+-	.005	1.034+-	.184	Ni
Cu	*	.033+-	.005	.028	.037+-	.003	1.137+-	.204	Cu
Zn	*	.197+-	.028	.167	.197+-	.013	1.000+-	.153	Zn
Ga		.006+-	.001	.005	.004+-	.001	.646+-	.225	Ga
As		<	.033		.014+-	.008	.703+-	1.196	As
Se		.006+-	.002	.005	.002+-	.001	.331+-	.194	Se
Br		.018+-	.003	.016	.020+-	.003	1.087+-	.239	Br
Rb		.010+-	.002	.009	.010+-	.001	.953+-	.240	Rb
Sr		.080+-	.012	.067	.199+-	.016	2.502+-	.412	Sr
Zr		.030+-	.011	.025	.026+-	.011	.873+-	.478	Zr
Cd		.037+-	.011	.031	.006+-	.009	.170+-	.256	Cd
Sn		<	.013		.009+-	.014	.000+-	.000	Sn
Sb		.041+-	.018	.035	.015+-	.021	.372+-	.539	Sb
Ba		.214+-	.062	.181	.533+-	.071	2.492+-	.789	Ba
Hg		.009+-	.007	.008	.003+-	.002	.368+-	.375	Hg
Pb	*	.050+-	.009	.042	.064+-	.009	1.269+-	.281	Pb
NO3	*	1.593+-	.225	1.347	1.593+-	.159	1.000+-	.173	NO3
PO4		3.286+-	.465	2.778	.000+-	.000	.000+-	.000	PO4
F	*	.485+-	.069	.410	.486+-	.049	1.001+-	.173	F
SO4	*	14.274+-	2.019	12.068	14.710+-	1.361	1.031+-	.174	SO4
OC	*	9.813+-	1.388	8.296	8.754+-	1.092	.892+-	.168	OC
EC	*	10.819+-	1.531	9.147	10.832+-	.810	1.001+-	.160	EC
NH4					5.481+-	.504			NH4

MASS 118.3 +-11.8

* FITTING SPECIES



SAMPLE ID: POV15 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901207 START TIME: .0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .219 DEGREES OF FREEDOM: 7

---	SOURCE----	SIZE----	UG/M3-----	PERCENT----
5205	HWDUST	T	71.958+-14.430	20.234+- 4.534
5208	PROCK1	C	40.937+-18.591	11.511+- 5.353
5221	BOILER	T	2.231+- .670	.627+- .199
5224	PRILL	T	4.175+- .723	1.174+- .235
5225	AMSULF	T	30.083+- 4.704	8.459+- 1.570
5230	SODIUM	C	46.516+-28.546	13.080+- 8.133
5235	BLACK	C	14.247+- 3.941	4.006+- 1.178
5233	CEMENT	T	64.788+-29.029	18.218+- 8.363
5234	BOF	T	5.118+- 4.290	1.439+- 1.215
5118	GALVAN	T	.476+- .112	.134+- .034
27	VEICSP	T	19.336+- 4.314	5.437+- 1.329
14	MAR	T	4.949+- 1.251	1.392+- .378
5223	SUPER	F	1.900+- .329	.534+- .107

TOTAL: 306.713+-47.840 86.245+-15.977

SPECIES		MEAS.		UG/M3		%		CALC.		UG/M3		CALC./MEAS.		
Al	*	12.709+-	1.800	3.574	12.045+-	.962	.948+-	.154	Al					
Si	*	24.381+-	3.451	6.856	26.993+-	2.429	1.107+-	.186	Si					
P	*	11.244+-	2.516	3.162	11.090+-	1.381	.986+-	.253	P					
S	*	10.968+-	1.827	3.084	12.139+-	.817	1.107+-	.199	S					
Cl	*	2.855+-	.463	.803	2.810+-	.223	.984+-	.178	Cl					
K	*	3.090+-	.453	.869	2.788+-	.252	.902+-	.155	K					
Ca	*	30.747+-	4.349	8.646	29.993+-	2.571	.975+-	.161	Ca					
Ti		.571+-	.101	.160	.949+-	.059	1.663+-	.312	Ti					
V	*	.114+-	.034	.032	.124+-	.013	1.094+-	.351	V					
Cr	*	.083+-	.016	.023	.084+-	.006	1.006+-	.204	Cr					
Mn		.382+-	.057	.107	.504+-	.036	1.320+-	.219	Mn					
Fe	*	9.475+-	1.342	2.664	9.631+-	1.169	1.016+-	.190	Fe					
Ni	*	.057+-	.009	.016	.056+-	.005	.990+-	.174	Ni					
Cu		.072+-	.011	.020	.134+-	.009	1.888+-	.303	Cu					
Zn	*	.552+-	.079	.155	.552+-	.039	1.000+-	.159	Zn					
Ga		.013+-	.002	.004	.007+-	.002	.572+-	.187	Ga					
As		.070+-	.042	.020	.028+-	.013	.398+-	.306	As					
Se		.007+-	.002	.002	.005+-	.002	.695+-	.346	Se					
Br	*	.021+-	.003	.006	.022+-	.004	1.062+-	.268	Br					
Rb	*	.026+-	.004	.007	.026+-	.003	1.003+-	.197	Rb					
Sr		.270+-	.038	.076	.424+-	.031	1.573+-	.252	Sr					
Zr	*	.058+-	.015	.016	.055+-	.022	.956+-	.457	Zr					
Cd		.052+-	.013	.015	.017+-	.020	.321+-	.397	Cd					
Sn		.021+-	.016	.006	.032+-	.030	1.507+-	1.809	Sn					
Sb		.082+-	.023	.023	.032+-	.046	.387+-	.573	Sb					
Ba		.874+-	.143	.246	1.100+-	.148	1.258+-	.267	Ba					
Hg		.024+-	.009	.007	.008+-	.004	.325+-	.208	Hg					
Pb		.089+-	.014	.025	.158+-	.016	1.772+-	.328	Pb					
NO3	*	3.236+-	.458	.910	3.236+-	.324	1.000+-	.173	NO3					
PO4		5.278+-	.746	1.484	.000+-	.001	.000+-	.000	PO4					
F	*	1.007+-	.142	.283	1.005+-	.100	.998+-	.173	F					
SO4	*	24.349+-	3.442	6.847	22.722+-	2.193	.933+-	.160	SO4					
OC	*	14.105+-	1.994	3.966	13.877+-	1.726	.984+-	.185	OC					
EC	*	18.271+-	2.583	5.138	18.153+-	1.416	.993+-	.160	EC					
NH4					9.152+-	.827			NH4					

MASS 355.6 $\pm$ 35.5

* FITTING SPECIES



SAMPLE ID: POV16 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901213 START TIME: .0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .448 DEGREES OF FREEDOM: 6

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HWDUST	T	47.320+-	6.184	21.523+-	3.544
5209	PROCK2	C	40.300+-	8.668	18.330+-	4.349
5221	BOILER	T	.776+-	.390	.353+-	.181
5224	PRILL	T	2.095+-	.363	.953+-	.191
5225	AMSULF	T	29.940+-	4.301	13.618+-	2.385
5235	BLACK	C	12.018+-	3.061	5.466+-	1.496
5233	CEMENT	T	14.371+-	10.853	6.536+-	4.980
5118	GALVAN	T	.043+-	.027	.020+-	.012
27	VEICSP	T	13.402+-	3.045	6.096+-	1.513
14	MAR	T	2.100+-	.669	.955+-	.319
5223	SUPER	F	1.546+-	.268	.703+-	.141

TOTAL: 163.912+-16.405 74.552+-10.555

SPECIES-----MEAS. UG/M3-----%				CALC. UG/M3-----CALC./MEAS.-----				
Al	*	7.349+-	1.043	3.343	6.833+-	.578	.930+- .154	Al
Si	*	13.956+-	1.978	6.347	15.035+-	1.295	1.077+- .179	Si
P	*	2.630+-	.590	1.196	3.191+-	.468	1.213+- .325	P
S	*	9.086+-	1.523	4.133	9.658+-	.740	1.063+- .196	S
Cl	*	1.281+-	.236	.583	1.281+-	.097	1.000+- .199	Cl
K	*	1.447+-	.212	.658	1.457+-	.126	1.007+- .171	K
Ca	*	13.493+-	1.911	6.137	13.441+-	.908	.996+- .156	Ca
Ti		.373+-	.070	.170	.829+-	.057	2.223+- .448	Ti
V	*	.074+-	.026	.034	.097+-	.010	1.307+- .475	V
Cr	*	.069+-	.014	.032	.059+-	.005	.846+- .178	Cr
Mn		.217+-	.034	.099	.260+-	.016	1.201+- .201	Mn
Fe	*	6.427+-	.911	2.923	5.877+-	.385	.914+- .143	Fe
Ni	*	.030+-	.005	.014	.029+-	.003	.981+- .187	Ni
Cu		.032+-	.005	.015	.055+-	.004	1.722+- .304	Cu
Zn	*	.130+-	.019	.059	.130+-	.007	1.000+- .155	Zn
Ga		.007+-	.002	.003	.005+-	.001	.744+- .256	Ga
As		<	.033		.017+-	.009	.000+- .000	As
Se		.003+-	.001	.001	.003+-	.002	.974+- .628	Se
Br		.009+-	.002	.004	.012+-	.003	1.283+- .410	Br
Rb		.015+-	.003	.007	.014+-	.002	.970+- .221	Rb
Sr		.203+-	.029	.092	.399+-	.034	1.968+- .327	Sr
Zr		.040+-	.013	.018	.104+-	.020	2.579+- .948	Zr
Cd		.034+-	.011	.015	.009+-	.014	.261+- .422	Cd
Sn		.016+-	.014	.007	.006+-	.020	.347+- 1.302	Sn
Sb		.046+-	.019	.021	.016+-	.032	.348+- .708	Sb
Ba		.618+-	.107	.281	.564+-	.097	.913+- .224	Ba
Hg		.013+-	.007	.006	.005+-	.003	.383+- .306	Hg
Pb		.054+-	.009	.025	.090+-	.011	1.662+- .342	Pb
NO3	*	1.624+-	.230	.739	1.624+-	.162	1.000+- .173	NO3
PO4		1.854+-	.262	.843	.000+-	.001	.000+- .000	PO4
F	*	.820+-	.116	.373	.818+-	.082	.998+- .173	F
SO4	*	23.156+-	3.277	10.532	22.128+-	2.178	.956+- .165	SO4
OC	*	9.738+-	1.378	4.429	9.750+-	1.198	1.001+- .188	OC
EC	*	14.179+-	2.007	6.449	14.149+-	1.140	.998+- .162	EC
NH4					8.645+-	.819		NH4

MASS 219.9 ± 22.0

* FITTING SPECIES



SAMPLE ID: POV17 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901219 START TIME: .0 DURATION: 24.0 HOURS
REDUCED CHI SQUARE: .763 DEGREES OF FREEDOM: 9

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HW DUST	T	85.586+-	10.651	26.493+-	4.228
5208	PROCK1	C	37.028+-	7.520	11.462+-	2.594
5221	BOILER	T	1.543+-	.557	.478+-	.179
5224	PRILL	T	4.926+-	.853	1.525+-	.305
5225	AMSULF	T	26.734+-	4.149	8.275+-	1.527
5235	BLACK	C	13.834+-	4.189	4.282+-	1.366
5233	CEMENT	T	41.055+-	17.759	12.708+-	5.642
5234	BOF	T	7.964+-	3.802	2.465+-	1.202
5118	GALVAN	T	1.115+-	.220	.345+-	.076
27	VEICSP	T	23.946+-	5.162	7.412+-	1.761
14	MAR	T	4.205+-	1.206	1.302+-	.395
5223	SUPER	F	3.156+-	.547	.977+-	.195

TOTAL: 251.092+-23.750 77.724+-10.692

SPECIES		MEAS.		UG/M3	%	CALC.		UG/M3	CALC./MEAS.	
Al	*	12.529+-	1.774	3.878	12.208+-	1.060	.974+-	.162	Al	
Si	*	27.100+-	3.835	8.389	27.960+-	2.454	1.032+-	.172	Si	
P	*	4.459+-	1.000	1.380	5.551+-	.802	1.245+-	.332	P	
S	*	10.065+-	1.683	3.116	10.822+-	.717	1.075+-	.193	S	
Cl	*	2.527+-	.418	.782	2.528+-	.196	1.000+-	.183	Cl	
K	*	3.090+-	.448	.956	3.013+-	.321	.975+-	.176	K	
Ca	*	25.799+-	3.648	7.986	24.278+-	1.799	.941+-	.150	Ca	
Ti		.693+-	.119	.214	.967+-	.062	1.397+-	.256	Ti	
V	*	.111+-	.037	.034	.120+-	.013	1.080+-	.377	V	
Cr	*	.141+-	.024	.044	.086+-	.007	.613+-	.114	Cr	
Mn	*	.439+-	.065	.136	.499+-	.038	1.137+-	.189	Mn	
Fe	*	11.475+-	1.624	3.552	11.434+-	1.750	.996+-	.208	Fe	
Ni	*	.045+-	.007	.014	.045+-	.004	.994+-	.183	Ni	
Cu	*	.086+-	.013	.027	.085+-	.007	.985+-	.167	Cu	
Zn	*	1.061+-	.151	.328	1.061+-	.090	1.000+-	.165	Zn	
Ga		.018+-	.003	.006	.008+-	.002	.441+-	.131	Ga	
As		<	.041		.030+-	.016	1.948+-	5.305	As	
Se		.007+-	.002	.002	.005+-	.002	.639+-	.352	Se	
Br		.018+-	.003	.006	.021+-	.005	1.189+-	.340	Br	
Rb		.032+-	.005	.010	.024+-	.003	.776+-	.153	Rb	
Sr	*	.388+-	.055	.120	.388+-	.028	1.001+-	.159	Sr	
Zr	*	.041+-	.016	.013	.048+-	.021	1.164+-	.679	Zr	
Cd		.021+-	.012	.006	.015+-	.019	.695+-	1.003	Cd	
Sn		.064+-	.019	.020	.021+-	.030	.322+-	.473	Sn	
Sb		.046+-	.021	.014	.030+-	.044	.645+-	.988	Sb	
Ba		1.015+-	.162	.314	.992+-	.143	.977+-	.210	Ba	
Hg		.036+-	.009	.011	.007+-	.005	.209+-	.140	Hg	
Pb		.111+-	.017	.034	.143+-	.019	1.286+-	.258	Pb	
NO3	*	3.820+-	.540	1.182	3.820+-	.382	1.000+-	.173	NO3	
PO4		1.327+-	.188	.411	.000+-	.001	.000+-	.001	PO4	
F	*	1.671+-	.236	.517	1.670+-	.167	.999+-	.173	F	
SO4	*	21.118+-	2.985	6.537	20.159+-	1.949	.955+-	.163	SO4	
OC	*	16.426+-	2.322	5.085	16.727+-	2.135	1.018+-	.194	OC	
EC	*	19.062+-	2.694	5.901	18.854+-	1.485	.989+-	.160	EC	
NH4					8.407+-	.738			NH4	

MASS 323.1 $\pm$ 32.3

* FITTING SPECIES



SAMPLE ID: POV18 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 901227 START TIME: .0 DURATION: 24.1 HOURS
REDUCED CHI SQUARE: 1.078 DEGREES OF FREEDOM: 11

--SOURCE----	SIZE----	UG/M3-----	PERCENT----
5205	HWDUST T	22.234+- 4.330	17.100+- 3.743
5208	PROCK1 C	7.558+- 2.573	5.813+- 2.062
5224	PRILL T	2.825+- .489	2.173+- .434
5225	AMSULF T	7.643+- 1.658	5.879+- 1.404
5235	BLACK C	6.254+- 1.901	4.810+- 1.539
5233	CEMENT T	48.559+-10.959	37.347+- 9.218
5234	BOF T	7.031+- 2.519	5.408+- 2.012
27	VEICSP T	13.020+- 2.660	10.014+- 2.277
14	MAR T	11.318+- 2.317	8.704+- 1.983
5223	SUPER F	1.030+- .178	.792+- .158

TOTAL: 127.473+-13.073 98.039+-14.037

SPECIES---MEAS. UG/M3---%				CALC. UG/M3---CALC./MEAS.---				
Al	*	4.820+-	.684	3.707	4.130+-	.409	.857+- .148	Al
Si	*	11.759+-	1.665	9.044	10.506+-	1.276	.893+- .167	Si
P	*	1.984+-	.446	1.526	1.311+-	.175	.661+- .173	P
S	*	4.978+-	.864	3.828	4.764+-	.347	.957+- .180	S
Cl	*	4.821+-	.747	3.708	4.756+-	.488	.987+- .183	Cl
K	*	.991+-	.153	.762	1.353+-	.215	1.366+- .303	K
Ca	*	15.731+-	2.225	12.099	15.228+-	1.776	.968+- .177	Ca
Ti		.256+-	.051	.197	.335+-	.024	1.307+- .277	Ti
V	*	.057+-	.020	.044	.040+-	.005	.712+- .269	V
Cr	*	.050+-	.011	.038	.037+-	.004	.739+- .177	Cr
Mn	*	.331+-	.050	.255	.305+-	.031	.920+- .168	Mn
Fe	*	5.989+-	.848	4.606	5.984+-	1.484	.999+- .285	Fe
Ni	*	.009+-	.003	.007	.009+-	.002	.992+- .356	Ni
Cu	*	.027+-	.004	.021	.027+-	.002	.990+- .186	Cu
Zn	*	.059+-	.009	.046	.063+-	.005	1.055+- .177	Zn
Ga		.003+-	.001	.003	.003+-	.001	.974+- .394	Ga
As		<	.031		.014+-	.008	2.334+-*****	As
Se		.002+-	.001	.001	.002+-	.001	1.402+-1.230	Se
Br		.014+-	.002	.011	.026+-	.003	1.893+- .414	Br
Rb		.008+-	.002	.006	.012+-	.001	1.405+- .381	Rb
Sr	*	.106+-	.015	.082	.124+-	.009	1.164+- .187	Sr
Zr		<	.010		.018+-	.008	2.729+-4.326	Zr
Cd		<	.011		.010+-	.007	1.115+-1.542	Cd
Sn		.030+-	.016	.023	.008+-	.011	.276+- .400	Sn
Sb		<	.018		.017+-	.017	1.849+-4.237	Sb
Ba		.364+-	.081	.280	.293+-	.051	.805+- .229	Ba
Hg		.007+-	.007	.005	.004+-	.002	.546+- .633	Hg
Pb	*	.037+-	.007	.028	.058+-	.010	1.570+- .404	Pb
NO3	*	2.190+-	.310	1.685	2.190+-	.219	1.000+- .173	NO3
PO4		1.749+-	.247	1.345	.000+-	.001	.000+- .000	PO4
F	*	.544+-	.077	.418	.545+-	.055	1.002+- .174	F
SO4	*	7.379+-	1.043	5.675	7.505+-	.670	1.017+- .170	SO4
OC	*	10.448+-	1.477	8.035	8.918+-	1.160	.854+- .164	OC
EC	*	8.869+-	1.254	6.821	8.903+-	.725	1.004+- .164	EC
NH4					2.722+-	.218		NH4

MASS 130.0 ± 13.0

* FITTING SPECIES



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SAMPLE ID: POV19 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910108 START TIME: .0 DURATION: 24.1 HOURS
REDUCED CHI SQUARE: .793 DEGREES OF FREEDOM: 9

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HWDUST	T	26.145+-	4.127	20.109+-	3.758
5208	PROCK1	C	17.668+-	5.347	13.589+-	4.332
5221	BOILER	T	1.441+-	.424	1.108+-	.344
5224	PRILL	T	3.814+-	.661	2.933+-	.587
5225	AMSULF	T	11.630+-	2.072	8.945+-	1.828
5235	BLACK	C	12.355+-	3.044	9.502+-	2.527
5233	CEMENT	T	19.990+-	8.464	15.375+-	6.689
5234	BOF	T	9.007+-	2.735	6.928+-	2.215
5118	GALVAN	T	.035+-	.021	.027+-	.016
27	VEICSP	T	12.348+-	2.845	9.497+-	2.386
14	MAR	T	9.276+-	1.929	7.135+-	1.646
5223	SUPER	F	1.016+-	.176	.782+-	.156

TOTAL: 124.726+-12.278 95.930+-13.467

SPECIES		MEAS.		UG/M3		%		CALC.		UG/M3		CALC./MEAS.		
Al	*	5.170	+	.734	3.976	4.113	+	.340	.796	+	.131	Al		
Si	*	9.909	+	1.404	7.621	9.459	+	.835	.955	+	.159	Si		
P	*	3.104	+	.695	2.387	2.338	+	.357	.753	+	.204	P		
S	*	6.280	+	1.072	4.830	5.562	+	.354	.886	+	.161	S		
Cl	*	3.980	+	.624	3.061	3.952	+	.401	.993	+	.186	Cl		
K	*	.994	+	.147	.764	1.294	+	.263	1.302	+	.327	K		
Ca	*	10.528	+	1.490	8.097	10.899	+	.850	1.035	+	.167	Ca		
Ti	*	.343	+	.054	.264	.397	+	.027	1.160	+	.199	Ti		
V	*	.076	+	.017	.058	.062	+	.007	.821	+	.202	V		
Cr	*	.044	+	.010	.034	.046	+	.005	1.041	+	.256	Cr		
Mn	*	.299	+	.045	.230	.283	+	.032	.947	+	.179	Mn		
Fe	*	8.300	+	1.176	6.384	7.264	+	1.898	.875	+	.260	Fe		
Ni	*	.034	+	.006	.026	.035	+	.003	1.024	+	.191	Ni		
Cu	*	.027	+	.005	.021	.032	+	.003	1.186	+	.220	Cu		
Zn	*	.099	+	.014	.076	.099	+	.006	1.000	+	.158	Zn		
Ga	*	.007	+	.001	.005	.004	+	.001	.523	+	.182	Ga		
As		<		.030		.014	+	.008	.798	+	1.417	As		
Se		.003	+	.001	.002	.002	+	.001	.793	+	.542	Se		
Br		.017	+	.003	.013	.023	+	.003	1.406	+	.303	Br		
Rb		.008	+	.002	.006	.011	+	.002	1.390	+	.416	Rb		
Sr		.055	+	.008	.042	.174	+	.013	3.171	+	.526	Sr		
Zr	*	.021	+	.010	.016	.027	+	.011	1.274	+	.803	Zr		
Cd		<		.010		.008	+	.012	.000	+	.000	Cd		
Sn		<		.014		.011	+	.016	.873	+	1.704	Sn		
Sb		<		.017		.016	+	.026	1.418	+	3.097	Sb		
Ba		.165	+	.060	.127	.467	+	.078	2.831	+	1.138	Ba		
Hg		.017	+	.007	.013	.005	+	.003	.272	+	.195	Hg		
Pb		.039	+	.007	.030	.063	+	.011	1.626	+	.413	Pb		
NO3	*	2.956	+	.418	2.274	2.956	+	.296	1.000	+	.173	NO3		
PO4		4.106	+	.581	3.158	.000	+	.000	.000	+	.000	PO4		
F	*	.537	+	.076	.413	.538	+	.054	1.002	+	.174	F		
SO4	*	9.558	+	1.352	7.352	10.051	+	.899	1.052	+	.176	SO4		
OC	*	9.613	+	1.360	7.394	9.204	+	1.106	.957	+	.178	OC		
EC	*	14.434	+	2.042	11.102	14.359	+	1.149	.995	+	.162	EC		
NH4						4.033	+	.329				NH4		

MASS 130.0 +-13.0

* FITTING SPECIES



SAMPLE ID: POV20 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910114 START TIME: .0 DURATION: 24.1 HOURS
REDUCED CHI SQUARE: 1.451 DEGREES OF FREEDOM: 8

--SOURCE----		SIZE----	UG/M3-----		PERCENT----	
5205	HWDUST	T	13.212+-	3.652	9.707+-	2.853
5208	PROCK1	C	10.702+-	4.451	7.863+-	3.363
5221	BOILER	T	2.538+-	.630	1.865+-	.499
5224	PRILL	T	8.070+-	1.398	5.929+-	1.186
5225	AMSULF	T	23.453+-	3.754	17.230+-	3.253
5235	BLACK	C	15.762+-	3.876	11.580+-	3.074
5233	CEMENT	T	33.349+-	9.329	24.500+-	7.279
5234	BOF	T	12.671+-	3.652	9.309+-	2.840
27	VEICSP	T	15.817+-	3.296	11.620+-	2.686
14	MAR	T	11.905+-	2.396	8.746+-	1.966
5223	SUPER	F	.963+-	.167	.707+-	.142

TOTAL: 148.442+-13.476 109.056+-14.736

SPECIES		MEAS. UG/M3		%	CALC. UG/M3		CALC./MEAS.		
Al	*	3.567+-	.507	2.620	2.804+-	.267	.786+-	.134	Al
Si	*	6.700+-	.950	4.922	7.066+-	.856	1.055+-	.197	Si
P	*	2.240+-	.503	1.646	1.421+-	.213	.634+-	.171	P
S	*	9.806+-	1.641	7.204	9.050+-	.640	.923+-	.168	S
Cl	*	4.942+-	.765	3.631	4.935+-	.516	.998+-	.186	Cl
K	*	1.102+-	.163	.809	1.211+-	.360	1.100+-	.365	K
Ca	*	12.301+-	1.741	9.037	11.830+-	1.241	.962+-	.169	Ca
Ti	*	.225+-	.037	.166	.309+-	.026	1.369+-	.255	Ti
V		.115+-	.022	.084	.067+-	.007	.581+-	.124	V
Cr		.069+-	.013	.050	.045+-	.007	.649+-	.158	Cr
Mn	*	.342+-	.051	.251	.333+-	.045	.975+-	.197	Mn
Fe	*	11.564+-	1.638	8.496	8.322+-	2.661	.720+-	.252	Fe
Ni	*	.054+-	.008	.039	.053+-	.005	.997+-	.178	Ni
Cu	*	.024+-	.004	.018	.026+-	.003	1.079+-	.213	Cu
Zn	*	.074+-	.011	.054	.064+-	.006	.868+-	.153	Zn
Ga		.005+-	.001	.004	.003+-	.001	.731+-	.300	Ga
As		<	.030		.016+-	.010	.675+-	.938	As
Se		.005+-	.002	.004	.003+-	.002	.527+-	.329	Se
Br		.022+-	.004	.016	.029+-	.004	1.308+-	.274	Br
Rb		.008+-	.002	.006	.011+-	.002	1.379+-	.444	Rb
Sr		.057+-	.008	.042	.127+-	.009	2.240+-	.367	Sr
Zr		.027+-	.010	.020	.025+-	.012	.938+-	.569	Zr
Cd		<	.010		.010+-	.014	.000+-	.000	Cd
Sn		<	.014		.010+-	.019	.918+-	2.170	Sn
Sb		<	.017		.021+-	.030	9.999+-	9.999	Sb
Ba		.175+-	.060	.129	.356+-	.087	2.033+-	.858	Ba
Hg		.032+-	.009	.024	.005+-	.003	.161+-	.112	Hg
Pb	*	.041+-	.007	.030	.062+-	.014	1.508+-	.443	Pb
NO3	*	6.255+-	.885	4.595	6.255+-	.625	1.000+-	.173	NO3
FO4		2.241+-	.317	1.646	.000+-	.001	.000+-	.000	FO4
F	*	.510+-	.072	.375	.509+-	.051	.999+-	.173	F
SO4	*	18.306+-	2.590	13.449	19.099+-	1.750	1.043+-	.176	SO4
OC	*	13.097+-	1.853	9.622	11.843+-	1.416	.904+-	.167	OC
EC	*	18.241+-	2.580	13.401	18.565+-	1.468	1.013+-	.165	EC
NH4					8.219+-	.666			NH4

MASS 136.1 +-13.6

* FITTING SPECIES

SAMPLE ID: POV21 PARTICLE SIZE: TOTAL
FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
SITE: 5 V. PARISI
SAMPLE DATE: 910120 START TIME: .0 DURATION: 24.2 HOURS
REDUCED CHI SQUARE: .936 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	T	7.297+- 1.915	10.718+- 3.010
5208	PROCK1	C	7.437+- 2.471	10.924+- 3.791
5221	BOILER	T	.725+- .267	1.065+- .407
5224	FRILL	T	2.122+- .368	3.117+- .624
5225	AMSULF	T	10.784+- 1.779	15.840+- 3.057
5235	BLACK	C	7.209+- 2.110	10.589+- 3.276
5233	CEMENT	T	12.539+- 4.410	18.419+- 6.735
5234	BOF	T	6.530+- 1.838	9.592+- 2.866
27	VEICSP	T	12.326+- 2.271	18.105+- 3.797
14	MAR	T	6.541+- 1.191	9.608+- 1.996
5223	SUPER	F	.831+- .144	1.220+- .245
TOTAL: 74.342+- 6.857 109.199+-14.869				

---	SPECIES---	MEAS. UG/M3---	%---	CALC. UG/M3---	CALC. /MEAS.---
Al	*	1.718+- .245	2.523	1.431+- .120	.833+- .138
Si	*	3.218+- .457	4.727	3.513+- .353	1.092+- .190
P	*	.864+- .194	1.269	.932+- .146	1.079+- .296
S	*	5.372+- .927	7.892	4.281+- .302	.797+- .149
Cl	*	2.820+- .457	4.142	2.706+- .283	.960+- .185
K	*	.393+- .060	.578	.603+- .185	1.533+- .525
Ca	*	5.505+- .780	8.086	5.493+- .491	.998+- .167
Ti		.112+- .021	.165	.176+- .014	1.571+- .319
V	*	.050+- .012	.074	.033+- .004	.655+- .179
Cr		.034+- .008	.050	.025+- .004	.736+- .204
Mn	*	.162+- .026	.238	.165+- .023	1.020+- .214
Fe	*	5.527+- .784	8.119	4.428+- 1.372	.801+- .273
Ni	*	.017+- .004	.025	.018+- .002	1.064+- .250
Cu		.028+- .005	.042	.016+- .002	.554+- .108
Zn	*	.036+- .006	.053	.041+- .004	1.126+- .206
Ga		.003+- .001	.004	.002+- .001	.773+- .372
As		< .031		.011+- .007	.000+- .000
Se		.004+- .001	.006	.002+- .001	.402+- .278
Br	*	.016+- .003	.023	.017+- .003	1.065+- .250
Rb		.003+- .002	.004	.005+- .001	2.139+-1.450
Sr		.036+- .005	.053	.076+- .006	2.127+- .363
Zr		< .010		.013+- .007	.000+- .000
Cd		.029+- .012	.043	.006+- .007	.189+- .240
Sn		< .015		.005+- .010	.508+-1.215
Sb		< .019		.016+- .015	1.319+-2.433
Ba		.067+- .058	.098	.245+- .047	3.666+-3.266
Hg		.008+- .007	.012	.003+- .002	.303+- .358
Pb	*	.035+- .007	.051	.040+- .009	1.144+- .348
NO3	*	1.645+- .233	2.416	1.645+- .164	1.000+- .173
PO4		.711+- .101	1.044	.000+- .000	.000+- .000
F	*	.442+- .063	.649	.440+- .044	.995+- .172
SO4	*	8.199+- 1.160	12.043	8.966+- .813	1.094+- .184
OC	*	9.367+- 1.325	13.759	8.624+- 1.099	.921+- .175
EC	*	9.730+- 1.377	14.292	9.757+- .770	1.003+- .162
NH4				3.421+- .298	

MASS 68.1 +- 6.8

* FITTING SPECIES



SAMPLE ID: POV22 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910126 START TIME: .0 DURATION: 24.1 HOURS
 REDUCED CHI SQUARE: 1.389 DEGREES OF FREEDOM: 8

---	SOURCE---	SIZE---	UG/M3---	PERCENT---
5205	HWDUST	T	4.935+- 2.411	7.693+- 3.836
5208	PROCK1	C	6.539+- 3.079	10.195+- 4.908
5221	BOILER	T	1.144+- .315	1.783+- .523
5224	PRILL	T	1.411+- .244	2.199+- .440
5225	AMSULF	T	7.609+- 1.237	11.863+- 2.265
5230	SODIUM	C	15.372+- 3.841	23.964+- 6.450
5235	BLACK	C	4.951+- 1.424	7.719+- 2.350
5233	CEMENT	T	21.454+- 5.745	33.447+- 9.562
5234	BOF	T	1.665+- .825	2.596+- 1.312
5118	GALVAN	T	.191+- .039	.298+- .068
27	VEICSP	T	7.209+- 1.607	11.238+- 2.746
14	MAR	T	2.558+- .634	3.987+- 1.067
5223	SUPER	F	.434+- .075	.676+- .136

TOTAL: 75.471+- 8.393 117.659+-17.602

---	SPECIES---	MEAS. UG/M3---	---	%---	---	CALC. UG/M3---	---	CALC. /MEAS.---	---
Al	*	2.157+- .307		3.363		1.589+- .152		.737+- .126	Al
Si	*	3.198+- .453		4.985		3.745+- .518		1.171+- .232	Si
P	*	5.169+- 1.156		8.058		2.586+- .383		.500+- .134	P
S	*	3.332+- .601		5.195		3.233+- .221		.970+- .187	S
Cl	*	1.144+- .217		1.783		1.146+- .111		1.003+- .214	Cl
K	*	.440+- .070		.686		.419+- .056		.952+- .198	K
Ca	*	8.049+- 1.139		12.549		7.141+- .793		.887+- .160	Ca
Ti	*	.125+- .023		.195		.146+- .010		1.164+- .226	Ti
V	*	.057+- .013		.088		.029+- .003		.518+- .130	V
Cr	*	.015+- .005		.023		.016+- .002		1.061+- .395	Cr
Mn	*	.100+- .017		.156		.111+- .011		1.115+- .216	Mn
Fe	*	2.101+- .298		3.275		1.828+- .354		.870+- .209	Fe
Ni	*	.023+- .004		.036		.023+- .002		.995+- .209	Ni
Cu	*	.027+- .004		.041		.031+- .002		1.153+- .212	Cu
Zn	*	.187+- .027		.291		.187+- .015		1.000+- .166	Zn
Ga		.002+- .001		.003		.001+- .001		.780+- .484	Ga
As		< .031				.008+- .004		.000+- .000	As
Se		< .001				.001+- .001		2.249+-5.064	Se
Br		.011+- .002		.018		.008+- .002		.739+- .195	Br
Rb	*	.004+- .002		.006		.005+- .001		1.324+- .636	Rb
Sr		.033+- .005		.051		.074+- .006		2.252+- .388	Sr
Zr		< .010				.012+- .005		.000+- .000	Zr
Cd		< .011				.005+- .005		.537+- .901	Cd
Sn		< .016				.007+- .008		.586+- .949	Sn
Sb		.020+- .020		.031		.011+- .012		.570+- .830	Sb
Ba		.151+- .064		.235		.216+- .037		1.429+- .657	Ba
Hg		.014+- .007		.021		.002+- .001		.139+- .127	Hg
Pb	*	.033+- .007		.051		.036+- .005		1.092+- .269	Pb
NO3	*	1.094+- .155		1.705		1.094+- .109		1.000+- .173	NO3
PO4		4.965+- .702		7.741		.000+- .000		.000+- .000	PO4
F	*	.230+- .033		.359		.230+- .023		.996+- .173	F
SO4	*	5.891+- .833		9.184		5.972+- .560		1.014+- .172	SO4
OC	*	5.501+- .778		8.576		5.162+- .643		.938+- .177	OC
EC	*	6.562+- .928		10.231		6.563+- .503		1.000+- .161	EC
NH4						2.395+- .210			NH4

MASS 64.1 +- 6.4

* FITTING SPECIES

SAMPLE ID: POV23 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910201 START TIME: .0 DURATION: 24.1 HOURS
 REDUCED CHI SQUARE: 1.131 DEGREES OF FREEDOM: 9

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	T	31.712+-	4.683	31.308+-	5.582		
5208	PROCK1	C	2.541+-	1.801	2.509+-	1.795		
5221	BOILER	T	2.318+-	.505	2.288+-	.549		
5224	PRILL	T	3.676+-	.637	3.629+-	.726		
5225	AMSULF	T	10.697+-	1.755	10.560+-	2.029		
5235	BLACK	C	8.408+-	2.721	8.301+-	2.811		
5233	CEMENT	T	26.787+-	7.656	26.446+-	8.008		
5234	BOF	T	5.858+-	2.087	5.784+-	2.140		
5118	GALVAN	T	.127+-	.036	.125+-	.038		
27	VEICSP	T	16.354+-	3.201	16.145+-	3.548		
14	MAR	T	3.461+-	.870	3.417+-	.925		
5223	SUPER	F	.789+-	.137	.778+-	.156		

TOTAL: 112.728+-10.503 111.292+-15.205

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC. /MEAS.	---
Al	*	4.816+-	.683	4.754	4.644+-	.416	.964+-	.162	Al	
Si	*	10.636+-	1.506	10.501	11.056+-	1.044	1.039+-	.177	Si	
P	*	1.470+-	.330	1.451	1.033+-	.149	.703+-	.188	P	
S	*	5.232+-	.905	5.165	5.037+-	.324	.963+-	.178	S	
Cl	*	1.694+-	.296	1.672	1.688+-	.155	.997+-	.197	Cl	
K	*	1.101+-	.161	1.087	1.319+-	.187	1.198+-	.244	K	
Ca	*	10.051+-	1.422	9.923	9.381+-	.995	.933+-	.165	Ca	
Ti	*	.285+-	.046	.282	.312+-	.023	1.094+-	.194	Ti	
V	*	.089+-	.018	.088	.058+-	.005	.653+-	.147	V	
Cr	*	.039+-	.009	.039	.031+-	.004	.790+-	.207	Cr	
Mn	*	.258+-	.039	.254	.241+-	.024	.937+-	.170	Mn	
Fe	*	4.738+-	.671	4.678	5.543+-	1.244	1.170+-	.310	Fe	
Ni	*	.042+-	.007	.041	.045+-	.004	1.075+-	.199	Ni	
Cu	*	.030+-	.005	.030	.037+-	.003	1.227+-	.225	Cu	
Zn	*	.177+-	.025	.174	.177+-	.012	1.000+-	.158	Zn	
Ga	*	.007+-	.002	.007	.004+-	.001	.554+-	.189	Ga	
As		<	.040		.017+-	.010	.467+-	.574	As	
Se		.003+-	.001	.003	.003+-	.001	.870+-	.583	Se	
Br		.013+-	.002	.013	.014+-	.003	1.095+-	.322	Br	
Rb		.009+-	.002	.009	.011+-	.001	1.184+-	.315	Rb	
Sr	*	.070+-	.010	.069	.079+-	.005	1.122+-	.180	Sr	
Zr		<	.010		.012+-	.009	.000+-	.000	Zr	
Cd		.013+-	.011	.013	.007+-	.009	.556+-	.844	Cd	
Sn		.038+-	.016	.037	.006+-	.014	.171+-	.387	Sn	
Sb		<	.018		.021+-	.021	.000+-	.000	Sb	
Ba		.191+-	.065	.188	.219+-	.064	1.150+-	.517	Ba	
Hg		<	.006		.003+-	.003	.644+-	.942	Hg	
Pb	*	.097+-	.015	.096	.068+-	.012	.696+-	.162	Pb	
NO3	*	2.850+-	.403	2.813	2.850+-	.285	1.000+-	.173	NO3	
PO4		1.117+-	.158	1.102	.000+-	.000	.000+-	.000	PO4	
F	*	.417+-	.059	.412	.417+-	.042	.999+-	.173	F	
SO4	*	8.233+-	1.164	8.129	8.372+-	.786	1.017+-	.173	SO4	
OC	*	10.017+-	1.416	9.889	11.424+-	1.458	1.140+-	.217	OC	
EC	*	12.598+-	1.781	12.438	12.405+-	.949	.985+-	.158	EC	
NH4					3.747+-	.304			NH4	

MASS 101.3 +-10.1

* FITTING SPECIES

SAMPLE ID: POV24 PARTICLE SIZE: TOTAL
 FIELD FLAG: MASS FLAG: ANALYSIS FLAGS:
 SITE: 5 V. PARISI
 SAMPLE DATE: 910207 START TIME: .0 DURATION: 24.1 HOURS
 REDUCED CHI SQUARE: 1.566 DEGREES OF FREEDOM: 9

---	SOURCE	---	SIZE	---	UG/M3	---	PERCENT	---
5205	HWDUST	T	7.629+-	5.709	4.451+-	3.360		
5221	BOILER	T	1.177+-	.388	.687+-	.237		
5224	PRILL	T	5.332+-	.923	3.111+-	.622		
5225	AMSULF	T	49.512+-	6.977	28.886+-	4.990		
5235	BLACK	C	11.221+-	3.071	6.547+-	1.907		
5233	CEMENT	T	66.467+-	14.876	38.778+-	9.504		
5234	BOF	T	10.086+-	3.165	5.884+-	1.938		
5118	GALVAN	T	.051+-	.021	.030+-	.013		
27	VEICSP	T	15.639+-	3.238	9.124+-	2.098		
14	MAR	T	5.049+-	1.080	2.945+-	.695		
5223	SUPER	F	.609+-	.106	.355+-	.071		

TOTAL: 172.773+-18.294 100.798+-14.674

---	SPECIES	---	MEAS. UG/M3	---	%	---	CALC. UG/M3	---	CALC. /MEAS.	---
Al	*	4.251+-	.603	2.480	2.718+-	.435	.639+-	.137	Al	
Si	*	7.199+-	1.019	4.200	7.933+-	1.564	1.102+-	.267	Si	
P		5.572+-	1.248	3.251	.302+-	.041	.054+-	.014	P	
S	*	15.660+-	2.586	9.137	15.159+-	1.253	.968+-	.179	S	
Cl	*	2.331+-	.395	1.360	2.306+-	.226	.989+-	.194	Cl	
K	*	.794+-	.135	.463	1.194+-	.297	1.504+-	.453	K	
Ca	*	19.509+-	2.759	11.382	16.928+-	2.412	.868+-	.174	Ca	
Ti	*	.143+-	.039	.083	.236+-	.026	1.652+-	.491	Ti	
V	*	.052+-	.020	.030	.044+-	.006	.845+-	.336	V	
Cr	*	.055+-	.011	.032	.034+-	.006	.618+-	.160	Cr	
Mn	*	.322+-	.048	.188	.353+-	.044	1.094+-	.213	Mn	
Fe	*	8.389+-	1.188	4.894	6.655+-	2.120	.793+-	.277	Fe	
Ni	*	.029+-	.005	.017	.029+-	.003	1.015+-	.208	Ni	
Cu		.028+-	.005	.016	.019+-	.002	.667+-	.137	Cu	
Zn	*	.094+-	.014	.055	.094+-	.007	1.000+-	.163	Zn	
Ga		.005+-	.001	.003	.003+-	.001	.567+-	.240	Ga	
As		<	.036		.015+-	.010	.430+-	.517	As	
Se		.005+-	.002	.003	.003+-	.001	.530+-	.311	Se	
Br	*	.016+-	.003	.010	.017+-	.003	1.018+-	.265	Br	
Rb		.009+-	.002	.005	.012+-	.002	1.373+-	.422	Rb	
Sr		.091+-	.013	.053	.075+-	.009	.827+-	.157	Sr	
Zr		<	.011		.018+-	.009	.000+-	.000	Zr	
Cd		.027+-	.013	.016	.013+-	.010	.478+-	.455	Cd	
Sn		.036+-	.018	.021	.007+-	.015	.197+-	.418	Sn	
Sb		.034+-	.022	.020	.020+-	.023	.600+-	.780	Sb	
Ba		.354+-	.085	.207	.166+-	.066	.469+-	.218	Ba	
Hg		.035+-	.010	.020	.004+-	.003	.127+-	.091	Hg	
Pb	*	.053+-	.009	.031	.054+-	.013	1.013+-	.299	Pb	
NO3	*	4.133+-	.584	2.411	4.133+-	.413	1.000+-	.173	NO3	
PO4		1.740+-	.246	1.015	.000+-	.001	.000+-	.000	PO4	
F	*	.322+-	.046	.188	.322+-	.032	.999+-	.173	F	
SO4	*	36.077+-	5.099	21.048	36.864+-	3.603	1.022+-	.176	SO4	
OC	*	11.360+-	1.606	6.627	11.171+-	1.396	.983+-	.186	OC	
EC	*	14.242+-	2.013	8.309	14.222+-	1.123	.999+-	.162	EC	
NH4					14.717+-	1.357			NH4	

MASS 171.4 +-17.1

* FITTING SPECIES

Data Aquis.:	10/10/91
Indic.:	
Comiss.:	
Preço:	10/10/91
Data Tomba:	10/10/91