ABN'S

52

TFA302

53 55

134161

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND (FIT) SAMPLE DATE 2/21/89 LAB ARRIVAL DATE 2/22/89 DUE DATE 3/15/89

DU NUMBER TFA DATA SET NUMBER 5883 STUDY EXPORT PACKAGING PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17664	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 215622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
89FS09S75	RW1 5-020067-68	X			
89FS09D75	DUPLICATE 5-020093-94	X			
89FS09S76	RW2/MSD 5-020074-75/5-020080 5-020105-106	X			
89FS09S77	RW3 5-020086-87	X			
89FS09R08	BLANK 5-020100-101	X			
89FS09S75	RW1 5-020064		X		
89FS09D75	DUPLICATE 5-020090		X		
89FS09S76	5-020076/5-020081 RW2/MSD 5-020102		X		
89FS09S77	RW3 5-020083		X		
89FS09R08	BLANK 5-020097		X		
			Done BB 3/14/89		

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

DATE: MAR 16 1989

SUBJECT: Review of Region 5 data for EXPORT PACKAGING

FROM: Curtis Ross, Director CR
Region 5 Central Regional Laboratory

To: Data User:

Attached are the results for:

CRL Data Set Numbers: SF 5383
Sample Numbers: 89FS09S75-77, D75 & R08
Parameter(s): ORGANICS - ABNs
Laboratory: 5SCRL - ESD - USEPA

Results Status:

(X) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
( ) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to ~~Steve Parker,~~ David A. Payne, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

SGriffin
MAR 16 1989
U.S. EPA CENTRAL REGIONAL LAB

RECEIVED BY/DATE:
Comments:

cc: Contractor's Reprentative

Filed by/date:

DATA SET	SITE	DU/ACT.
SF5883	EXPORT PACKAGING	TFA302

SAMPLES	PARAMETER(S)
89FS09S75-77, D75, R08	ORGANICS - ABNs

SAMPLED	RECEIVED	DUE	LAB
2/21/89	2/22/89	3/15/89	5SCRL - USEPA

SHIPPED	DATA RECEIVED	CONTRACT

TEAM LEADER	SECTION CHIEF	QC COORD.	DATA COORD.
A. Alwan			

Comments By Reviewer:

The data is acceptable for use.

A. Alwan
3/15/89

DATA MANAGEMENT COORDINATOR

RECEIVED	TRANSMITTED	
(X) REVIEWED	( ) UNREVIEWED	TEAM LEADER/DATE A. Alwan
( ) REVIEWED	( ) UNREVIEWED	SECTION CHIEF/DATE
( ) REVIEWED	( ) UNREVIEWED	QC COORDINATOR/DATE

CLERICAL SUPPORT

RECEIVED	COMPLETED

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED	TRANSMITTED	DATA MANAGEMENT COORDINATOR
3/16/89	3/16/89	S Griffin

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

METHODBLANK

Lab Name:5SCRL US EPA 312/353-9065 Contract:Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLAN

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >BP002

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted:02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH:NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L		Q
108-95-2	Phenol	2.	U	
111-44-4	bis(2-Chloroethyl)Ether	2.	U	
95-57-8	2-Chlorophenol	2.	U	
541-73-1	1,3-Dichlorobenzene	2.	U	
106-46-7	1,4-Dichlorobenzene	2.	U	
100-51-6	Benzyl alcohol	2.	U	
95-50-1	1,2-Dichlorobenzene	3.	U	
95-48-7	2-Methylphenol	1.	U	
39638-32-9	bis(2-chloroisopropyl)ether	3.	U	
106-44-5	4-Methylphenol	1.	U	
621-64-7	N-Nitroso-Di-n-propylamine	2.	U	X
67-72-1	Hexachloroethane	2.	U	
98-95-3	Nitrobenzene	3.	U	
78-59-1	Isophorone	3.	U	
88-75-5	2-Nitrophenol	2.	U	
105-67-9	2,4-Dimethylphenol	2.	U	
65-85-0	Benzoic acid	30.	U	X
111-91-1	bis(2-Chloroethoxy)methane	3.	U	
120-83-2	2,4-Dichlorophenol	2.	U	
120-82-1	1,2,4-Trichlorobenzene	2.	U	
91-20-3	Naphthalene	2.	U	
106-47-8	4-Chloroaniline	2.	U	
87-68-3	Hexachlorobutadiene	3.	U	
59-50-7	4-Chloro-3-methylphenol	2.	U	
91-57-6	2-Methylnaphthalene	2.	U	
77-47-4	Hexachlorocyclopentadiene	2.	U	
88-06-2	2,4,6-Trichlorophenol	2.	U	
95-95-4	2,4,5-Trichlorophenol	2.	U	
91-58-7	2-Chloronaphthalene	2.	U	
88-74-4	2-Nitroaniline	3.	U	
131-11-3	Dimethylphthalate	2.	U	
208-96-8	Acenaphthylene	2.	U	
606-20-2	2,6-Dinitrotoluene	1.	U	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

METHODBLANK

Lab Name: SSCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLAN

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >BP002

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L		Q
99-09-2	3-Nitroaniline	3.	U	
83-32-9	Acenaphthene	2.	U	
51-28-5	2,4-Dinitrophenol	15.	U	
100-02-7	4-Nitrophenol	2.	U	
132-64-9	Dibenzofuran	1.	U	
121-14-2	2,4-Dinitrotoluene	1.	U	
84-66-2	Diethylphthalate	1.	U	
7005-72-3	4-Chlorophenyl-phenylether	1.	U	
86-73-7	Fluorene	1.	U	
100-01-6	4-Nitroaniline	3.	U	
534-52-1	4,6-Dinitro-2-methylphenol	15.	U	X
86-30-6	N-Nitrosodiphenylamine (1)	2.	U	
101-55-3	4-Bromophenyl-phenylether	2.	U	
118-74-1	Hexachlorobenzene	2.	U	
87-86-5	Pentachlorophenol	2.	U	
85-01-8	Phenanthrene	1.	U	
120-12-7	Anthracene	3.	U	
84-74-2	Di-n-butylphthalate	2.	U	
206-44-0	Fluoranthene	2.	U	
129-00-0	Pyrene	2.	U	
85-68-7	Butylbenzylphthalate	4.	U	
56-55-3	Benzo(a)anthracene	2.	U	
218-01-9	Chrysene	2.	U	
117-81-7	bis(2-Ethylhexyl)phthalate	1.	J	
117-84-0	Di-n-octylphthalate	2.	U	
205-99-2	Benzo(b)fluoranthene	2.	U	
207-08-9	Benzo(k)fluoranthene	2.	U	
50-32-8	Benzo(a)pyrene	2.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	4.	U	
53-70-3	Dibenzo(a,h)anthracene	3.	U	
191-24-2	Benzo(g,h,i)perylene	4.	U	

(1) - Cannot be separated from Diphenylamine

TENTATIVELY IDENTIFIED COMPOUNDS YES [ ] NO [X]

BR, 3/14/89

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09R08

Lab Name:5SCRL US EPA 312/353-9065 Contract:Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09R08

Sample wt/vol: 1020 (g/mL) mL Lab File ID: >BP009

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted:02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH:NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	2.	U
111-44-4	bis(2-Chloroethyl)Ether	1.	U
95-57-8	2-Chlorophenol	2.	U
541-73-1	1,3-Dichlorobenzene	2.	U
106-46-7	1,4-Dichlorobenzene	2.	U
100-51-6	Benzyl alcohol	2.	U
95-50-1	1,2-Dichlorobenzene	2.	U
95-48-7	2-Methylphenol	1.	U
39638-32-9	bis(2-chloroisopropyl)ether	2.	U
106-44-5	4-Methylphenol	1.	U
621-64-7	N-Nitroso-Di-n-propylamine	1.	U
67-72-1	Hexachloroethane	2.	U
98-95-3	Nitrobenzene	2.	U
78-59-1	Isophorone	2.	U
88-75-5	2-Nitrophenol	2.	U
105-67-9	2,4-Dimethylphenol	2.	U
65-85-0	Benzoic acid	29.	U
111-91-1	bis(2-Chloroethoxy)methane	2.	U
120-83-2	2,4-Dichlorophenol	2.	U
120-82-1	1,2,4-Trichlorobenzene	2.	U
91-20-3	Naphthalene	2.	U
106-47-8	4-Chloroaniline	2.	U
87-68-3	Hexachlorobutadiene	2.	U
59-50-7	4-Chloro-3-methylphenol	1.	U
91-57-6	2-Methylnaphthalene	2.	U
77-47-4	Hexachlorocyclopentadiene	2.	U
88-06-2	2,4,6-Trichlorophenol	1.	U
95-95-4	2,4,5-Trichlorophenol	1.	U
91-58-7	2-Chloronaphthalene	1.	U
88-74-4	2-Nitroaniline	2.	U
131-11-3	Dimethylphthalate	1.	U
208-96-8	Acenaphthylene	1.	U
606-20-2	2,6-Dinitrotoluene	1.	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09R08

Lab Name:5SCRL US EPA 312/353-9065 Contract:Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09R08

Sample wt/vol: 1020 (g/mL) mL Lab File ID: >BP009

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted:02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH:NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	2.	U
83-32-9	Acenaphthene	1.	U
51-28-5	2,4-Dinitrophenol	15.	U
100-02-7	4-Nitrophenol	1.	U
132-64-9	Dibenzofuran	1.	U
121-14-2	2,4-Dinitrotoluene	1.	U
84-66-2	Diethylphthalate	1.	U
7005-72-3	4-Chlorophenyl-phenylether	1.	U
86-73-7	Fluorene	1.	U
100-01-6	4-Nitroaniline	3.	U
534-52-1	4,6-Dinitro-2-methylphenol	15.	U
86-30-6	N-Nitrosodiphenylamine (1)	1.	U
101-55-3	4-Bromophenyl-phenylether	1.	U
118-74-1	Hexachlorobenzene	1.	U
87-86-5	Pentachlorophenol	2.	U
85-01-8	Phenanthrene	1.	U
120-12-7	Anthracene	2.	U
84-74-2	Di-n-butylphthalate	2.	U
206-44-0	Fluoranthene	1.	U
129-00-0	Pyrene	1.	U
85-68-7	Butylbenzylphthalate	3.	U
56-55-3	Benzo(a)anthracene	1.	U
218-01-9	Chrysene	1.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1.	U
117-84-0	Di-n-octylphthalate	1.	U
205-99-2	Benzo(b)fluoranthene	1.	U
207-08-9	Benzo(k)fluoranthene	1.	U
50-32-8	Benzo(a)pyrene	2.	U
193-39-5	Indeno(1,2,3-cd)pyrene	3.	U
53-70-3	Dibenzo(a,h)anthracene	2.	U
191-24-2	Benzo(g,h,i)perylene	4.	U

(1) - Cannot be separated from Diphenylamine

TENTATIVELY IDENTIFIED COMPOUNDS YES [ ] NO [X]

FORM I SV-2

3/19/89

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09S76

Lab Name:5SCRL US EPA 312/353-9065 Contract:Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09S76

Sample wt/vol: 990 (g/mL) mL Lab File ID: >BP005

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted:02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH:NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	
108-95-2	Phenol	2.	U	
111-44-4	bis(2-Chloroethyl)Ether	2.	U	
95-57-8	2-Chlorophenol	2.	U	
541-73-1	1,3-Dichlorobenzene	2.	U	
106-46-7	1,4-Dichlorobenzene	2.	U	
100-51-6	Benzyl alcohol	2.	U	
95-50-1	1,2-Dichlorobenzene	3.	U	
95-48-7	2-Methylphenol	1.	U	
39638-32-9	bis(2-chloroisopropyl)ether	3.	U	
106-44-5	4-Methylphenol	1.	U	
621-64-7	N-Nitroso-Di-n-propylamine	2.	U	X
67-72-1	Hexachloroethane	2.	U	
98-95-3	Nitrobenzene	3.	U	
78-59-1	Isophorone	3.	U	
88-75-5	2-Nitrophenol	2.	U	
105-67-9	2,4-Dimethylphenol	2.	U	
65-85-0	Benzoic acid	30.	U	X
111-91-1	bis(2-Chloroethoxy)methane	3.	U	
120-83-2	2,4-Dichlorophenol	2.	U	
120-82-1	1,2,4-Trichlorobenzene	2.	U	
91-20-3	Naphthalene	2.	U	
106-47-8	4-Chloroaniline	2.	U	
87-68-3	Hexachlorobutadiene	3.	U	
59-50-7	4-Chloro-3-methylphenol	2.	U	
91-57-6	2-Methylnaphthalene	2.	U	
77-47-4	Hexachlorocyclopentadiene	2.	U	
88-06-2	2,4,6-Trichlorophenol	2.	U	
95-95-4	2,4,5-Trichlorophenol	2.	U	
91-58-7	2-Chloronaphthalene	2.	U	
88-74-4	2-Nitroaniline	3.	U	
131-11-3	Dimethylphthalate	2.	U	
208-96-8	Acenaphthylene	2.	U	
606-20-2	2,6-Dinitrotoluene	1.	U	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09S76

Lab Name: SCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09S76

Sample wt/vol: 990 (g/mL) mL Lab File ID: >BP005

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	3.	U
83-32-9	Acenaphthene	2.	U
51-28-5	2,4-Dinitrophenol	15.	U
100-02-7	4-Nitrophenol	2.	U
132-64-9	Dibenzofuran	1.	U
121-14-2	2,4-Dinitrotoluene	1.	U
84-66-2	Diethylphthalate	1.	U
7005-72-3	4-Chlorophenyl-phenylether	1.	U
86-73-7	Fluorene	1.	U
100-01-6	4-Nitroaniline	3.	U
534-52-1	4,6-Dinitro-2-methylphenol	15.	U
86-30-6	N-Nitrosodiphenylamine (1)	2.	U
101-55-3	4-Bromophenyl-phenylether	2.	U
118-74-1	Hexachlorobenzene	2.	U
87-86-5	Pentachlorophenol	2.	U
85-01-8	Phenanthrene	1.	U
120-12-7	Anthracene	3.	U
84-74-2	Di-n-butylphthalate	2.	U
206-44-0	Fluoranthene	2.	U
129-00-0	Pyrene	2.	U
85-68-7	Butylbenzylphthalate	4.	U
56-55-3	Benzo(a)anthracene	2.	U
218-01-9	Chrysene	2.	U
117-81-7	bis(2-Ethylhexyl)phthalate	.8	J
117-84-0	Di-n-octylphthalate	2.	U
205-99-2	Benzo(b)fluoranthene	2.	U
207-08-9	Benzo(k)fluoranthene	2.	U
50-32-8	Benzo(a)pyrene	2.	U
193-39-5	Indeno(1,2,3-cd)pyrene	4.	U
53-70-3	Dibenzo(a,h)anthracene	3.	U
191-24-2	Benzo(g,h,i)perylene	4.	U

(1) - Cannot be separated from Diphenylamine

TENTATIVELY IDENTIFIED COMPOUNDS YES [ ] NO [X]

FORM I SV-2

BB 3/14/89

1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09S75

Lab Name:5SCRL US EPA 312/353-9065 Contract:Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09S75

Sample wt/vol: 990 (g/mL) mL Lab File ID: >BP006

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted:02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH:NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L		Q
108-95-2	Phenol	2.	U	
111-44-4	bis(2-Chloroethyl)Ether	2.	U	
95-57-8	2-Chlorophenol	2.	U	
541-73-1	1,3-Dichlorobenzene	2.	U	
106-46-7	1,4-Dichlorobenzene	2.	U	
100-51-6	Benzyl alcohol	2.	U	
95-50-1	1,2-Dichlorobenzene	3.	U	
95-48-7	2-Methylphenol	1.	U	
39638-32-9	bis(2-chloroisopropyl)ether	3.	U	
106-44-5	4-Methylphenol	1.	U	
621-64-7	N-Nitroso-Di-n-propylamine	2.	U	X
67-72-1	Hexachloroethane	2.	U	
98-95-3	Nitrobenzene	3.	U	
78-59-1	Isophorone	3.	U	
88-75-5	2-Nitrophenol	2.	U	
105-67-9	2,4-Dimethylphenol	2.	U	
65-85-0	Benzoic acid	30.	U	
111-91-1	bis(2-Chloroethoxy)methane	3.	U	
120-83-2	2,4-Dichlorophenol	2.	U	
120-82-1	1,2,4-Trichlorobenzene	2.	U	
91-20-3	Naphthalene	2.	U	
106-47-8	4-Chloroaniline	2.	U	
87-68-3	Hexachlorobutadiene	3.	U	
59-50-7	4-Chloro-3-methylphenol	2.	U	
91-57-6	2-Methylnaphthalene	2.	U	
77-47-4	Hexachlorocyclopentadiene	2.	U	
88-06-2	2,4,6-Trichlorophenol	2.	U	
95-95-4	2,4,5-Trichlorophenol	2.	U	
91-58-7	2-Chloronaphthalene	2.	U	
88-74-4	2-Nitroaniline	3.	U	
131-11-3	Dimethylphthalate	2.	U	
208-96-8	Acenaphthylene	2.	U	
606-20-2	2,6-Dinitrotoluene	1.	U	

1E

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09S75

Lab Name: 5SCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09S75

Sample wt/vol: 990 (g/mL) mL Lab File ID: >BP006

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	3.	U
83-32-9	Acenaphthene	2.	U
51-28-5	2,4-Dinitrophenol	15.	U
100-02-7	4-Nitrophenol	2.	U
132-64-9	Dibenzofuran	1.	U
121-14-2	2,4-Dinitrotoluene	1.	U
84-66-2	Diethylphthalate	1.	U
7005-72-3	4-Chlorophenyl-phenylether	1.	U
86-73-7	Fluorene	1.	U
100-01-6	4-Nitroaniline	3.	U
534-52-1	4,6-Dinitro-2-methylphenol	15.	U
86-30-6	N-Nitrosodiphenylamine (1)	2.	U
101-55-3	4-Bromophenyl-phenylether	2.	U
118-74-1	Hexachlorobenzene	2.	U
87-86-5	Pentachlorophenol	2.	U
85-01-8	Phenanthrene	1.	U
120-12-7	Anthracene	3.	U
84-74-2	Di-n-butylphthalate	2.	U
206-44-0	Fluoranthene	2.	U
129-00-0	Pyrene	2.	U
85-68-7	Butylbenzylphthalate	4.	U
56-55-3	Benzo(a)anthracene	2.	U
218-01-9	Chrysene	2.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1.	U
117-84-0	Di-n-octylphthalate	2.	U
205-99-2	Benzo(b)fluoranthene	2.	U
207-08-9	Benzo(k)fluoranthene	2.	U
50-32-8	Benzo(a)pyrene	2.	U
193-39-5	Indeno(1,2,3-cd)pyrene	4.	U
53-70-3	Dibenzo(a,h)anthracene	3.	U
191-24-2	Benzo(g,h,i)perylene	4.	U

(1) - Cannot be separated from Diphenylamine

TENTATIVELY IDENTIFIED COMPOUNDS YES [ ] NO [X]

3/14/89

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09D75

Lab Name: SCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09D75

Sample wt/vol: 1030 (g/mL) mL Lab File ID: >BP007

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L		Q
108-95-2	Phenol	2.	U	
111-44-4	bis(2-Chloroethyl)Ether	1.	U	
95-57-8	2-Chlorophenol	2.	U	
541-73-1	1,3-Dichlorobenzene	2.	U	
106-46-7	1,4-Dichlorobenzene	2.	U	
100-51-6	Benzyl alcohol	2.	U	
95-50-1	1,2-Dichlorobenzene	2.	U	
95-48-7	2-Methylphenol	1.	U	
39638-32-9	bis(2-chloroisopropyl)ether	2.	U	
106-44-5	4-Methylphenol	1.	U	
621-64-7	N-Nitroso-Di-n-propylamine	2.	U	X
67-72-1	Hexachloroethane	2.	U	
98-95-3	Nitrobenzene	2.	U	
78-59-1	Isophorone	2.	U	
88-75-5	2-Nitrophenol	2.	U	
105-67-9	2,4-Dimethylphenol	2.	U	
65-85-0	Benzoic acid	29.	U	
111-91-1	bis(2-Chloroethoxy)methane	2.	U	
120-83-2	2,4-Dichlorophenol	2.	U	
120-82-1	1,2,4-Trichlorobenzene	2.	U	
91-20-3	Naphthalene	2.	U	
106-47-8	4-Chloroaniline	2.	U	
87-68-3	Hexachlorobutadiene	2.	U	
59-50-7	4-Chloro-3-methylphenol	1.	U	
91-57-6	2-Methylnaphthalene	2.	U	
77-47-4	Hexachlorocyclopentadiene	2.	U	
88-06-2	2,4,6-Trichlorophenol	1.	U	
95-95-4	2,4,5-Trichlorophenol	1.	U	
91-58-7	2-Chloronaphthalene	1.	U	
88-74-4	2-Nitroaniline	2.	U	
131-11-3	Dimethylphthalate	1.	U	
208-96-8	Acenaphthylene	1.	U	
606-20-2	2,6-Dinitrotoluene	1.	U	

LC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09D75

Lab Name: 5SCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09D75

Sample wt/vol: 1030 (g/mL) mL Lab File ID: >BP007

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	2.	U
83-32-9	Acenaphthene	1.	U
51-28-5	2,4-Dinitrophenol	15.	U
100-02-7	4-Nitrophenol	1.	U
132-64-9	Dibenzofuran	1.	U
121-14-2	2,4-Dinitrotoluene	1.	U
84-66-2	Diethylphthalate	1.	U
7005-72-3	4-Chlorophenyl-phenylether	1.	U
86-73-7	Fluorene	1.	U
100-01-6	4-Nitroaniline	3.	U
534-52-1	4,6-Dinitro-2-methylphenol	15.	U
86-30-6	N-Nitrosodiphenylamine (1)	1.	U
101-55-3	4-Bromophenyl-phenylether	1.	U
118-74-1	Hexachlorobenzene	1.	U
87-86-5	Pentachlorophenol	2.	U
85-01-8	Phenanthrene	1.	U
120-12-7	Anthracene	2.	U
84-74-2	Di-n-butylphthalate	2.	U
206-44-0	Fluoranthene	1.	U
129-00-0	Pyrene	1.	U
85-68-7	Butylbenzylphthalate	3.	U
56-55-3	Benzo(a)anthracene	1.	U
218-01-9	Chrysene	1.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1.	U
117-84-0	Di-n-octylphthalate	1.	U
205-99-2	Benzo(b)fluoranthene	1.	U
207-08-9	Benzo(k)fluoranthene	1.	U
50-32-8	Benzo(a)pyrene	2.	U
193-39-5	Indeno(1,2,3-cd)pyrene	3.	U
53-70-3	Dibenzo(a,h)anthracene	2.	U
191-24-2	Benzo(g,h,i)perylene	4.	U

(1) - Cannot be separated from Diphenylamine

TENTATIVELY IDENTIFIED COMPOUNDS YES [ ] NO [X]

FORM I SV-2 1/87 Rev.

BB 3/14/89

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09S77

Lab Name: 5SCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09S77

Sample wt/vol: 980 (g/mL) mL Lab File ID: >BP008

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L		Q
108-95-2	Phenol	2.	U	
111-44-4	bis(2-Chloroethyl)Ether	2.	U	
95-57-8	2-Chlorophenol	2.	U	
541-73-1	1,3-Dichlorobenzene	2.	U	
106-46-7	1,4-Dichlorobenzene	2.	U	
100-51-6	Benzyl alcohol	2.	U	
95-50-1	1,2-Dichlorobenzene	3.	U	
95-48-7	2-Methylphenol	1.	U	
39638-32-9	bis(2-chloroisopropyl)ether	3.	U	
106-44-5	4-Methylphenol	1.	U	
621-64-7	N-Nitroso-Di-n-propylamine	2.	U	X
67-72-1	Hexachloroethane	2.	U	
98-95-3	Nitrobenzene	3.	U	
78-59-1	Isophorone	3.	U	
88-75-5	2-Nitrophenol	2.	U	
105-67-9	2,4-Dimethylphenol	2.	U	
65-85-0	Benzoic acid	31.	U	
111-91-1	bis(2-Chloroethoxy)methane	3.	U	
120-83-2	2,4-Dichlorophenol	2.	U	
120-82-1	1,2,4-Trichlorobenzene	2.	U	
91-20-3	Naphthalene	2.	U	
106-47-8	4-Chloroaniline	2.	U	
87-68-3	Hexachlorobutadiene	3.	U	
59-50-7	4-Chloro-3-methylphenol	2.	U	
91-57-6	2-Methylnaphthalene	2.	U	
77-47-4	Hexachlorocyclopentadiene	2.	U	
88-06-2	2,4,6-Trichlorophenol	2.	U	
95-95-4	2,4,5-Trichlorophenol	2.	U	
91-58-7	2-Chloronaphthalene	2.	U	
88-74-4	2-Nitroaniline	3.	U	
131-11-3	Dimethylphthalate	2.	U	
208-96-8	Acenaphthylene	2.	U	
606-20-2	2,6-Dinitrotoluene	1.	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

89FS09S77

Lab Name: SCRL US EPA 312/353-9065 Contract: Y905

Lab Code: CHICAGOIL Case No.: SF 5883 SAS No.: EXPTPCK SDG No.: TFA 302

Matrix: (soil/water) WATER Lab Sample ID: 89FS09S77

Sample wt/vol: 980 (g/mL) mL Lab File ID: >BP008

Level: (low/med) LOW Date Received: 02/22/89

% Moisture: not dec.____ dec. ____ Date Extracted: 02/24/89

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 3/08/89

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	3.	U
83-32-9	Acenaphthene	2.	U
51-28-5	2,4-Dinitrophenol	15.	U
100-02-7	4-Nitrophenol	2.	U
132-64-9	Dibenzofuran	1.	U
121-14-2	2,4-Dinitrotoluene	1.	U
84-66-2	Diethylphthalate	1.	U
7005-72-3	4-Chlorophenyl-phenylether	1.	U
86-73-7	Fluorene	1.	U
100-01-6	4-Nitroaniline	3.	U
534-52-1	4,6-Dinitro-2-methylphenol	15.	U
86-30-6	N-Nitrosodiphenylamine (1)	2.	U
101-55-3	4-Bromophenyl-phenylether	2.	U
118-74-1	Hexachlorobenzene	2.	U
87-86-5	Pentachlorophenol	2.	U
85-01-8	Phenanthrene	1.	U
120-12-7	Anthracene	3.	U
84-74-2	Di-n-butylphthalate	2.	U
206-44-0	Fluoranthene	2.	U
129-00-0	Pyrene	2.	U
85-68-7	Butylbenzylphthalate	4.	U
56-55-3	Benzo(a)anthracene	2.	U
218-01-9	Chrysene	2.	U
117-81-7	bis(2-Ethylhexyl)phthalate	.7	J
117-84-0	Di-n-octylphthalate	2.	U
205-99-2	Benzo(b)fluoranthene	2.	U
207-08-9	Benzo(k)fluoranthene	2.	U
50-32-8	Benzo(a)pyrene	2.	U
193-39-5	Indeno(1,2,3-cd)pyrene	4.	U
53-70-3	Dibenzo(a,h)anthracene	3.	U
191-24-2	Benzo(g,h,i)perylene	4.	U

(1) - Cannot be separated from Diphenylamine

TENTATIVELY IDENTIFIED COMPOUNDS YES [ ] NO [X]

FORM I SV-2 1/87 Rev.

3/14/89

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

DATE: MAR 1 0 1989

SUBJECT: **Review of Region 5 data for** Export Packaging

FROM: **Curtis Ross, Director** Elli Jang for
Region 5 Central Regional Laboratory

To: **Data User:**

Attached are the results for:

CRL Data Set Numbers: SF 5883
Sample Numbers: 89FS09S75, S76, S77, D75 & R08
Parameter(s): As, Pb, Sb, Se, Tl & Cd
Laboratory: CRL

Results Status:

(✓) **DATA ACCEPTABLE FOR USE***
( ) **DATA QUALIFIED AS TO USE**
( ) **DATA UNACCEPTABLE FOR USE**

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to David Payne, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

SUBMITTED BY
S. Griffin
MAR 1 0 1989

U.S. EPA CENTRAL
REGIONAL LAB

RECEIVED BY/DATE:

Comments:

DATA SET	SITE	DU/ACT.
SF5883	Export Packaging	Y905 / TFA302

9TFA05 WA 27

SAMPLES	PARAMETER(S)
89FS09575, 576, 577, B75, R08	As, Cd, Pb, Sb, Se, Tl

SAMPLED	RECEIVED	DUE	LAB
21 Feb 89	22 Feb 89	15 Mar 89	CRL

SHIPPED	DATA RECEIVED	CONTRACT
NA →		

Comments By Reviewer: Pb on 89FS09577 is high on spike, first time, but rerun to yield acceptable result.

(X) REVIEWED ( ) UNREVIEWED TEAM LEADER/DATE 9 Mar 89

(X) REVIEWED ( ) UNREVIEWED SECTION CHIEF/DATE 3/10/89

( ) REVIEWED ( ) UNREVIEWED QC COORDINATOR/DATE

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED 3/10/89 TRANSMITTED 3/10/89 DATA MANAGEMENT COORDINATOR

CC: QUALITY CONTROL COORDINATOR

9TFA05W477

TFA 302

JVM 9 Mar 89

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH FIT (SUPERFUND) SAMPLE DATE 2/21/89 LAB ARRIVAL DATE 2/22/89 DUE DATE 3/~~10~~ 15/89

DU NUMBER ~~[illegible]~~ TFA DATA SET NUMBER 5883 STUDY Export Packaging PRIORITY — CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION	TOTAL METALS WATER TOTAL ICAP UG/L MET111	TOTAL METALS WATER AS UG/L MET161	TOTAL METALS WATER PB UG/L MET1191	TOTAL METALS WATER SB UG/L MET1201	TOTAL METALS WATER SE UG/L MET1211	TOTAL METALS WATER TL UG/L MET1221
89FS09S75	RW1 5-020062	✓	✓ 2U	✓ 1U	✓ 2U	✓ 2U	✓ 2U
89FS09S76	RW2 5-020069	✓	✓ 2U	✓ 1U	✓ 2U	✓ 2U	✓ 2U
89FS09S77	RW3 5-020081	✓	✓ 2U	✓ 2	✓ 2U	✓ 2U	✓ 2U
~~89FS09S78~~	~~RW4~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~ D.O.
89FS09B75	Dup 5-020088	✓	✓ 2U	✓ 1U	✓ 2U	✓ 2U	✓ 2U
89FS09R08	blank 5-020095	✓	✓ 2U	✓ 1	✓ 2U	✓ 2U	✓ 2U
			RVP	RA Pam	RVP	H. Pham	JVM
			3.8.89	2-27-89	3.8.89	3-9-89.	6 Mar 89

TFA302

9TFA05WUZZ

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH SUPERFUND (FIT) SAMPLING DATE 2/21/89 LAB ARRIVAL DATE 2/22/89 DUE DATE 3/15/89

DU NUMBER TFA DATASET NUMBER 5883 STUDY EXPORT PACKAGING PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION	MATRIX WATER TEST CD UNITS UG/L ME1235826
89 FS09		
S75	RW1-5-020062	0.2 U
D75	DUPLICATE-5-020068	0.2 U
S76	RW2-5-020069	0.2 U
S77	RW3 5-020081	0.2 U
R08	BLANK 5-020085	0.2 U
		RVP 3 7.89

CRL V.2: 3/85

NM
7 Mar 89

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: PICCIONE
DATE OF ANALYSIS --: 03-07-1989
PARAMETER NAME ----: ARSENIC
DATA SET # --------: SF5868 77 83 87

SAMPLE NO.	CONC.	R VALUE	SLOPE	
BLNK	-.6040268	.9995769	.00745	<2 µg/l
AQC 19.8	18.7484	.9999629	.00783	94.7 % Recovery
SF5868 D34	2.804695	.9995541	.00681	
SF5877 R06	.2370965	.999411	7.170001E-03	
S54	-.5714287	.9992661	6.999999E-03	
S55	-.6040229	.9992172	7.449999E-03	
SF5883 R08	-.3328744	.9998712	7.210001E-03	
AQC	17.93651	.9999788	.00756	90.8 % R
S75	-.235133	.9994206	7.230002E-03	
B75	-.1540667	.9984305	7.140002E-03	
S76	-.3658553	.999967	7.380001E-03	
S77	1.188811	.9999315	7.150001E-03	
D34 DUPL	3.028165	.9991874	7.100001E-03	
S34	2.366942	.9996823	7.140001E-03	
SF5887 R01	-.1540625	.9992907	.00714	
AQC	19.34065	.9978788	7.280003E-03	97.9 % R
S84	-.558588	.9994028	7.340002E-03	
B84	0	.9998811	7.100002E-03	
AQC	20.99437	.9999174	7.140003E-03	106 % R

SF5883

BLNK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-.0045	-.0025	55.55555 %
10	.066	.07	4.000001E-03	5.714287 %
20	.145	.1445	-4.999936E-04	-.3460163 %
30	.22	.219	-1.000002E-03	-.456622 %

AQC 19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.146	.1468	7.999838E-04	.5449481 %
10	.226	.2251	-9.000152E-04	-.3998291 %
20	.304	.3034	-6.000102E-04	-.1977621 %
30	.381	.3817	6.999672E-04	.1833815 %

SF5868 D34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.018	1.909998E-02	1.099976E-03	5.759043 %
10	.087	8.719998E-02	1.99981E-04	.2293361 %
20	.159	.1553	-3.700003E-03	-2.382486 %
30	.221	.2234	2.399981E-03	1.074298 %

SF5677 R06

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	1.699982E-03	2.699982E-03	158.8242 %
10	.076	.0734	-2.600007E-03	-3.542244 %
20	.148	.1451	-2.900005E-03	-1.998625 %
30	.214	.2168	2.800018E-03	1.291521 %

JVM
9Mar89

S54

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-.004	-.003	75 %
10	.061	6.599999E-02	4.999984E-03	7.575735 %
20	.137	.136	-1.000017E-03	-.7353067 %
30	.207	.206	-1.000032E-03	-.4854524 %

S55

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-4.49997E-03	-3.499969E-03	77.77762 %
10	.066	7.000001E-02	4.000016E-03	5.714307 %
20	.142	.1445	2.499998E-03	1.730102 %
30	.222	.219	-3.000006E-03	-1.369866 %

SF5683 R06

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-2.400024E-03	-1.400024E-03	56.33376 %
10	6.800001E-02	6.969998E-02	1.699977E-03	2.438992 %
20	.141	.1418	7.999838E-04	.5641635 %
30	.215	.2139	-1.100004E-03	-.5142507 %

A6C

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.135	.1356	6.000251E-04	.4424963 %
10	.212	.2112	-7.999689E-04	-.3787731 %
20	.287	.2868	-1.999736E-04	-6.972579E-02 %
30	.362	.3624	4.000068E-04	.1103772 %

S75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-1.700012E-03	-2.700012E-03	158.8231 %
10	.066	.0706	4.600004E-03	6.515585 %
20	.144	.1429	-1.099974E-03	-.7697507 %
30	.216	.2152	-7.999689E-04	-.3717327 %

B75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	-1.100037E-03	-3.100037E-03	281.8182 %
10	.069	7.029998E-02	1.299985E-03	1.849196 %

B75 H ?

0	.002	-1.100037E-03	-3.100037E-03	281.8182 %
10	.069	7.029998E-02	1.299985E-03	1.849196 %
20	.135	.1417	6.699994E-03	4.728296 %
30	.218	.2131	-4.899994E-03	-2.299387 %

jm 9mar89

S76

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.003	-2.700012E-03	2.999879E-04	-11.11061 %
10	.072	.0711	-9.000003E-04	-1.265823 %
20	.144	.1449	9.000152E-04	.6211285 %
30	.219	.2187	-2.999753E-04	-.1371629 %

S77

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	8.999999E-03	8.500001E-03	-4.999992E-04	-5.882343 %
10	.08	8.000001E-02	7.450581E-09	9.313225E-06 %
20	.15	.1515	1.499996E-03	.9900961 %
30	.224	.223	-1.000002E-03	-.4484314 %

D34 DUPL

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.024	2.149997E-02	-2.500031E-03	-11.62807 %
10	.091	9.249997E-02	1.499973E-03	1.621593 %
20	.159	.1635	4.499987E-03	2.752286 %
30	.238	.2345	-3.500015E-03	-1.492544 %

S34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.019	1.689996E-02	-2.100036E-03	-12.42627 %
10	.085	8.829997E-02	3.299967E-03	3.737223 %
20	.16	.1597	-3.000349E-04	-.1878741 %
30	.232	.2311	-9.000301E-04	-.3894549 %

SF5887 R01

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	-1.100006E-03	-3.100006E-03	281.8172 %
10	.067	7.029998E-02	3.299981E-03	4.694143 %
20	.139	.1417	2.699986E-03	1.905424 %
30	.216	.2131	-2.900019E-03	-1.360873 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.145	.1408	-4.200012E-03	-2.982963 %
10	.211	.2136	2.600014E-03	1.217235 %
20	.279	.2864	7.400006E-03	2.583801 %
30	.365	.3592001	-5.799949E-03	-1.614685 %

SA4

584

JVM
9 par 87

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-4.100037E-03	-3.100037E-03	75.60997 %
10	.065	6.929998E-02	4.299984E-03	6.204884 %
20	.142	.1427	6.99997E-04	.4905375 %
30	.218	.2161	-1.899973E-03	-.8792098 %

B84

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	0	0	1.701412E+38 %
10	.072	7.100002E-02	-9.999797E-04	-1.408422 %
20	.14	.142	2.000034E-03	1.408474 %
30	.214	.2130001	-9.999573E-04	-.4694635 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.151	.1498999	-1.100093E-03	-.7338852 %
10	.22	.2212999	1.299933E-03	.5874076 %
20	.292	.2927	6.999672E-04	.2391415 %
30	.365	.3641	-9.000301E-04	-.2471931 %

March 8, 1989

Arsenic

Std. Add'ns

SF5868, -77, -83, -87

JVM
9 Mar 89

RVP

```
                0.063

        Begin Element - AS
                0.001
                0.000 AZ
               -0.002
blnk            0.065
                0.145
                0.220
                0.146
AQC             0.225
19.8            0.304
                0.381
                0.018
SF5868          0.087
                0.159
D34             0.221
               -0.001
SF5877          0.076
R06             0.148
                0.214
               -0.001
                0.061
S54             0.137
                0.207
               -0.001
                0.065
S55             0.142
                0.222
               -0.001
SF5883          0.068
R08             0.141
                0.215
                0.135
                0.212
AQC             0.287
                0.362
single blnk     0.001
                0.001
                0.065
S75             0.144
                0.216
                0.002
                0.069
B75             0.135
                0.218
               -0.003
                0.072
S76             0.144
                0.219
                0.009
                0.080
S77             0.150
                0.224
                0.024
SF5868          0.091
D34             0.159
dupl            0.238
                0.019
                0.085

S34

                0.161
```

m 7.45E-2-3
c -0.60
r 0.9995

m 7.83E-2-3
c 18.75
r 4 9s

m 7.56E-2-3
c 17.94
r 4 9s

	0.015	
	0.085	
S34		
	0.160	
	0.232	
	0.002	
SF5887	0.067	
R01	0.139	
	0.216	
	0.145	
	0.211	m 7.28 E-3
AQC	0.279	c 19.34
	0.365	r 0.9978
single bl	0.001	
	0.306	to dilute
WPS01	0.370	
	1.501	dilute
WPS	1.588	
	-0.001	
SF5887	0.065	
S84	0.142	
	0.218	
	-0.000	
	0.072	
B84	0.140	
	0.214	
	0.151	m 7.14 E-3
AQC	0.220	c 20.99
	0.292	r 0.9999
	0.365	
single bl	-0.004	

JVM
9 Mar 89

JVM
9Mar89

* REGRESSION ANALYSIS * CSC VERSION 2.00 *

NAME OF ANALYST ---: PICCIONE DATA SET NUMBER ---: SF5866 5883 5862
PARAMETER NAME ----: CADMIUM DU NUMBER ---------:
DATE OF ANALYSIS --: 03-~~06~~ 7-1989 RP

DEGREE OF FIT : 1

EQUATION : CONCENTRATION = -1.08042E-01
+3.15939E-00 * SIGNAL

COEFFICIENT OF DETERMINATION : .9987095

T-A-B-L-E O-F S-T-A-N-D-A-R-D-S

STANDARD	SIGNAL	CONCENTRATION	CALCULATED
1	+0.009	+0.000	-0.035
2	+0.079	+0.500	+0.536
3	+0.138	+1.000	+1.017
4	+0.197	+1.500	+1.499
5	+0.255	+2.000	+1.980

T-A-B-L-E O-F S-A-M-P-L-E-S

SAMPLE I.D.*	SIGNAL	CONCENTRATION	
BLNK	+0.021	+0.063	limit < 0.2 µg/l
AQC 0.975	+0.131	+0.960	~~limit 0.978~~ 98.5% Recovery
SF5866 R05 (89FC09)	+0.007	-0.051	
+SPK	+0.134	+0.985	98.5% Recovery
S34	+0.002	-0.032	
+SPK	+0.116	+0.833	83.8% R Redo MSA
D34	+0.001	-0.100	
+SPK	+0.138	+1.017	102% R
S35	+0.001	-0.100	
+SPK	+0.137	+1.009	101 % R
SF5883 R08 (89FS09)	+0.012	-0.011	
+SPK	+0.139	+1.026	103% R
S75	+0.011	-0.019	
+SPK	+0.143	+1.058	106%R
B75	+0.012	-0.011	
+SPK	+0.144	+1.066	107%R
S76	+0.013	-0.002	
+SPK	+0.135	+0.993	99.3%R
S77	+0.021	+0.063	
+SPK	+0.146	+1.083	108%R
SF5862 R05 (89MN16)	+0.018	+0.038	
+SPK	+0.140	+1.034	103%R
BLNK	+0.013	-0.002	< 0.2
AQC	+0.142	+1.050	108% Recovery
S01	+0.007	-0.051	
+SPK	+0.154	+1.143	115%R
S02	+0.017	-0.019	

[illegible]	[illegible]	[illegible]	< 0.2
[illegible]	[illegible]	[illegible]	108% RECOVERY
S01	+0.007	-0.051	
+SPK	+0.154	+1.148	115%R
S02	+0.017	+0.030	
+SPK	+0.148	+1.093	110%R
D02	+0.018	+0.035	
+SPK	+0.154	+1.148	115%R
S04	+0.014	+0.006	
+SPK	+0.156	+1.164	117%R
BLNK	+0.013	-0.002	< 0.2
ADC	+0.136	+1.001	

JVM
9 Mar 89

* Spike added is 1.0 µg/l

JVM
9 Mar 89

Cadmium ; platform ; std curve
March 7, 1989

RVP

15 µl sample vol ; 8 µl modifier
5x expansion

```
Begin Element - CD
    0.018
    0.000 AZ
   -0.008
    0.027   stds
    0.071
```

adjust AS up

```
Begin Element - CD
   -0.021
    0.000 AZ
    0.001
    0.053    stds
    0.104
    0.158
    0.229
```

7x exp

```
Begin Element - CD
   -0.051
```

```
Begin Element - CD
   -0.050
    0.000 AZ
   -0.012
    0.047
    0.101   stds
    0.151    r6.998
    0.192
   -0.009
```

Rinse cups, cups, tips

```
Begin Element - CD
   -0.078
    0.000 AZ
    0.012
    0.047
    0.130
```

16 µl sample vol, 8 modif.

```
Begin Element - CD
```

Begin Element - CD
-0.050
0.000 AZ
-0.012
0.047
0.101 stds
0.151 r=0.998
0.192
-0.009

MM
9 Mar 89

Rinse cups, cups, tips
Begin Element - CD
-0.078
0.000 AZ
0.012
0.047
0.130

16 µl sample vol, 8 modif.
Begin Element - CD
-0.045
0.000 AZ
-0.001
0.050
0.114 stds
0.178 r=0.9986
0.225
0.005 bl
0.182 AQC high
0.119 1.0 std
0.119 AQC

17 µl sample vol, 8 modif; AS down.
Begin Element - CD
-0.064
0.000 AZ
0.018
0.062
0.145

0.185

fresh stds from 10 µg/ml, recut AS tube
Begin Element - CD
-0.079
0.000 AZ
-0.001
0.069
0.109
0.185
0.232
-0.008 blk
0.129 QC

AS down
Begin Element - CD
-0.121
0.000 AZ
0.008 0.0 µg/l stds
0.079 0.5
0.138 1.0 r* = 0.9987
0.137 1.5

[illegible]
0.1[illegible]
0.1[illegible]
0.2[illegible]
-0.008 blk
0.1[illegible] QC

JM
9Mar89

AS down
Begin Element - CD
-0.121
0.000 AZ
0.009 0.0 µg/l stds
0.079 0.5
0.138 1.0 r* = 0.9987
0.197 1.5
0.256 2.0
0.021 blank
0.131 AQC 0.975
SF5868 0.007
R05 0.134
0.002
S34 0.118
0.001
D34 0.136
0.001
S35 0.137
SF5883 0.012
R08 0.139
0.011
S75 0.143
0.012
B75 0.144
0.019
S76 0.135
0.021
S77 0.146
SF5862 0.018
R05 0.140
0.013 blank
0.142 AQC
0.007
S01 0.154
0.017
S02 0.148
0.018
D02 0.154
0.014
S04 0.156
0.013 blank
0.135 AQC

Jun
9Mar89

* REGRESSION ANALYSIS * CSC VERSION 2.00 *

NAME OF ANALYST ---: RAP
PARAMETER NAME ----: PB
DATE OF ANALYSIS --: 02-27-1989

DATA SET NUMBER ---: 5867/68/77/83
DU NUMBER ---------:

DEGREE OF FIT : 1

EQUATION : CONCENTRATION = +3.55225E-02
+1.45726E+02 * SIGNAL

COEFFICIENT OF DETERMINATION : .9982234

T-A-B-L-E O-F S-T-A-N-D-A-R-D-S

STANDARD	SIGNAL	CONCENTRATION	CALCULATED
1	-0.001	+0.000	-0.111
2	+0.065	+10.000	+9.507
3	+0.145	+20.000	+21.165
4	+0.204	+30.000	+29.763
5	+0.272	+40.000	+39.673

T-A-B-L-E O-F S-A-M-P-L-E-S

SAMPLE I.D.	SIGNAL	CONCENTRATION
BL	-0.003	-0.402
AQC	+0.147	+21.457
89CH03S01	+0.143	+20.874
89CH03S01 +20	+0.273	+39.818
89CH03R01	+0.160	+23.351
89CH03R01 +20	+0.298	+43.461
89FC09S34	+0.000	+0.035
89FC09S34 +20	+0.145	+21.165
89FC09S35	-0.002	-0.256
89FC09S35 +20	+0.148	+21.602
89FC09D34	+0.001	+0.181
89FC09D34 +20	+0.144	+21.020
89FC09R05	+0.000	+0.035
89FC09R05 +20	+0.144	+21.020
89FG09S54	+0.004	+0.618
89FG09S54 +20	+0.150	+21.894
89FG09S55	+0.003	+0.472
89FG09S55 +20	+0.150	+21.894
89FG09R06	-0.001	-0.111
89FG09R06 +20	+0.146	+21.311
DUP CH03S01	+0.136	+19.854
DUP CH03S01 +20	+0.272	+39.673
BL	+0.000	+0.035
AQC +20	+0.290	+42.296
BL	-0.003	-0.402
AQC 22.4	+0.151	+22.040 — 98.4%
89FS09S75	-0.002	-0.256
89FS09S75 +20	+0.152	+22.185
89FS09S76	+0.000	+0.035

AQC	+0.151	+22.040	
89FS09S75	-0.002	-0.256	> 112%
89FS09S75 +20	+0.152	+22.185	
89FS09S76	+0.000	+0.035	> 105%
89FS09S76 +20	+0.144	+21.020	
89FS09S77	+0.015	+2.221	> 111%
89FS09S77 +20	+0.167	+24.371	
89FS09D75	-0.001	-0.111	> 108%
89FS09D75 +20	+0.147	+21.457	
89FS09R08	+0.008	+1.201	> 99%
89FS09R08 +20	+0.144	+21.020	
DUP FS09S76	+0.002	+0.326	> 106%
DUP FS09S76 +20	+0.148	+21.602	
BL	-0.003	-0.402	
AQC 224	+0.153	+22.331	-100%
89FS09S75	-0.001	-0.111	
89FS09S75 +20	+0.151	+22.040	> 111%
89FS09S77	+0.013	+1.929	
89FS09S77 +20	+0.162	+23.643	> 109% ←
BL	+0.001	+0.181	
AQC	+0.156	+22.768	-102%

BFS883

JVM
9 Mar 89

JVM
9 March 89

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: PICCIONE
DATE OF ANALYSIS --: 03-~~03~~ 2-1989
PARAMETER NAME ----: ANTIMONY
DATA SET # --------: SF5883 5868 5877

SAMPLE NO.	CONC.	R VALUE	SLOPE	
BLNK	-.4477657	.9991989	6.700002E-03	<2 µg/l
AQC16.14	15.16738	.9990199	6.870003E-03	94.0% Recovery
~~SF5883~~ input error Rp	~~45.00003~~	~~.1106156~~	~~9.999994E-04~~	
SF5883 R08	4.594461E-02	.9981687	.00653	
S75	.2219191	.9999481	7.209999E-03	
B75	.2542399	.9986305	.00708	
S76	.1398644	.9997361	.00715	
S77	-.247587	.9985972	7.269999E-03	
AQC	16.80786	.9998921	6.610001E-03	104% R
S77DUPL	-.2777819	.9999229	7.200003E-03	
SF5868 R05	.1946044	.9997805	6.680001E-03	
S34	-4.328734E-06	.9986448	.00705	
D34	-.3667103	.9997475	7.089999E-03	
S35	-9.887606E-02	.9986898	7.080002E-03	
SF5877 R06	-8.583778E-02	.9990863	.00699	
S54	-6.825835E-02	.9997324	.00586	
AQC	17.36196	.9997458	6.520001E-03	108% R
S55	-.1032466	.9985714	.00678	
AQC	16.37183	.9998585	6.669998E-03	101% R

SF5883

BLNK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-3.000031E-03	-3.000031E-03	100 %
10	.059	6.399998E-02	4.999981E-03	7.812472 %
20	.132	.131	-1.000002E-03	-.7633603 %
30	.199	.198	-9.999871E-04	-.505044 %

AQC16.14

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.107	.1042	-2.800048E-03	-2.687187 %
10	.171	.1729	1.899973E-03	1.098885 %
20	.237	.2416	4.600004E-03	1.903975 %
30	.314	.3103	-3.699988E-03	-1.192391 %

~~SF5883~~

SPIKE	~~MEASURED~~ input error Rp	CALC.	ERROR	PER CENT
0	.065	.045	-.02	-44.44443 %
10	.03	.055	.025	45.45454 %
5	.1	.05	-5.000001E-02	-100 %
0	0	.045	.045	99.99999 %

SF5883 R08

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	3.000183E-04	-2.699982E-03	-899.9389 %
10	.065	6.560003E-02	6.000251E-04	.914672 %
20	.124	.1309	6.900028E-03	5.27122 %
30	.201	.1962	-4.799992E-03	-2.446479 %

S75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	1.600037E-03	6.000366E-04	37.50143 %
10	.075	7.370003E-02	-1.299977E-03	-1.763876 %
20	.145	.1458	8.000285E-04	.5487163 %
30	.218	.2179	-9.998679E-05	-4.588655E-02 %

B75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	1.800018E-03	8.000183E-04	44.44501 %
10	.077	7.260001E-02	-4.399985E-03	-6.060584 %
20	.137	.1434	6.400019E-03	4.463053 %
30	.217	.2142	-2.799988E-03	-1.307184 %

S76

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	1.000031E-03	-1.99997E-03	-199.9905 %
10	.07	7.250003E-02	2.500028E-03	3.448312 %
20	.143	.144	1.000017E-03	.6944561 %
30	.217	.2155	-1.499981E-03	-.6960467 %

S77

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-1.799957E-03	-2.799957E-03	155.5569 %
10	.07	7.090003E-02	9.000301E-04	1.269435 %
20	.137	.1436	6.600023E-03	4.596115 %
30	.221	.2163	-4.700005E-03	-2.172911 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.11	.1110999	1.099944E-03	.9900492 %
10	.179	.1772	-1.80006E-03	-1.015836 %
20	.243	.2433	2.999455E-04	.1232822 %
30	.309	.3094	3.99977E-04	.1292751 %

S77DUPL

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-2.000031E-03	-1.000031E-03	50.00077 %

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-2.000031E-03	-1.000031E-03	50.00077 %
10	.069	.07	9.999946E-04	1.428564 %
20	.141	.142	1.000017E-03	.7042372 %
30	.215	.2140001	-9.999573E-04	-.4672697 %

JVM 9 Mar 89

SF5868 R05

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	1.299957E-03	-7.000428E-04	-53.85122 %
10	.066	6.809997E-02	2.099969E-03	3.083656 %
20	.137	.1349	-2.100006E-03	-1.556713 %
30	.201	.2017	6.999821E-04	.3470412 %

S34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-3.051758E-08	-3.000031E-03	9830501 %
10	.064	7.049997E-02	6.499969E-03	9.219817 %
20	.145	.141	-4.000023E-03	-2.836896 %
30	.211	.2115	4.999787E-04	.2363966 %

D34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-2.599976E-03	-1.599976E-03	61.5381 %
10	.067	6.830002E-02	1.300015E-03	1.903388 %
20	.137	.1392	2.200008E-03	1.580465 %
30	.212	.2101	-1.900002E-03	-.9043324 %

S35

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-7.000427E-04	-3.700043E-03	528.5453 %
10	.067	7.009998E-02	3.099978E-03	4.422224 %
20	.136	.1409	4.899994E-03	3.477639 %
30	.216	.2117	-4.299999E-03	-2.031175 %

SF5877 R06

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-6.000061E-04	-3.600006E-03	599.995 %
10	.064	.0693	5.299993E-03	7.647897 %
20	.139	.1392	1.999885E-04	.1436699 %
30	.211	.2091	-1.900017E-03	-.9086644 %

S54

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-3.999939E-04	-1.399994E-03	350.0038 %
10	.057	.0582	1.199998E-03	2.061852 %
20	.115	.1168	1.799993E-03	1.54109 %

20	.136	.1409	4.899994E-03	3.477639 %
30	.216	.2117	-4.299999E-03	-2.031175 %

Jim
9Mar89

SF5877 R06

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-6.000061E-04	-3.600006E-03	599.995 %
10	.064	.0693	5.299993E-03	7.647897 %
20	.139	.1392	1.999885E-04	.1436699 %
30	.211	.2091	-1.900017E-03	-.9086644 %

S54

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-3.999939E-04	-1.399994E-03	350.0038 %
10	.057	.0582	1.199998E-03	2.061852 %
20	.115	.1168	1.799993E-03	1.54109 %
30	.177	.1754	-1.600012E-03	-.9122077 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.112	.1132	1.199976E-03	1.060049 %
10	.181	.1784	-2.600014E-03	-1.457407 %
20	.242	.2436	1.599982E-03	.6568073 %
30	.309	.3088	-2.000034E-04	-6.476795E-02 %

S55

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-7.000122E-04	-3.700012E-03	528.564 %
10	.064	6.709998E-02	3.099978E-03	4.619939 %
20	.13	.1349	4.899979E-03	3.632305 %
30	.207	.2027	-4.300028E-03	-2.121376 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.108	.1092001	1.200043E-03	1.09894 %
10	.178	.1759	-2.099976E-03	-1.193846 %
20	.242	.2426	6.000102E-04	.2473249 %
30	.309	.3093	3.0002E-04	9.699967E-02 %

BEGIN DATA FILE: BH.DF

Antimony 3.2.89 RVP

SF5883, 5868, 5877 JVM 9Mar89

Begin Element - SB
-0.000

Begin Element - SB
-0.002
0.000 AZ
0.000
blnk 0.059
0.132
0.199
0.107
AGC 0.171
16.14 0.237
0.314
0.003
SF5883 0.065
R08 0.124
0.201

0.001
S75 0.075
0.145
0.218
0.001
0.077
B75 0.137
0.217
0.003
0.070
S76 0.143
0.217
0.001
0.070
S77 0.137
0.221
0.110
AGC 0.179
0.243
0.309
single blk 0.001
-0.001
S77 0.069
dupl 0.141
0.215
SF5868 0.002
0.066
R05 0.137
0.201
0.003
0.064
S34 0.145
0.211
D34 -0.001
0.067
~~D35~~
0.137
0.212
0.003
S35 0.067
0.136

	0.003
S34	0.064
	0.145
	0.211
D34	-0.001
~~D35~~	0.067
	0.137
	0.212
	0.003
S35	0.067
	0.136
	0.216
SF5877	0.003
	0.064
R06	0.139
	0.211
	0.001
	0.057
S54	0.115
	0.177
	0.112
	0.181
AGC	0.242
	0.309
single blank	0.002
	0.003
	0.064
S55	0.130
	0.207
	0.108
AGC	0.178
	0.242
	0.309

JVM
9 pages.

March 2, 1989

JVM
9/14/89

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: HP
DATE OF ANALYSIS --: 03-09-1989
PARAMETER NAME ----: SE
DATA SET # --------: SF5861-5889-WP02

SAMPLE NO.	CONC.	R VALUE	SLOPE	
BLK	.2654929	.9982039	.00113	limit ±2.0
CS TV=19.8	20.71428	.9993624	.00112	20.7/19.8 = 104 % rec.
89FA09S33	-.4761904	.9968403	.00105	
89FG09R06	-.2678564	.9985682	.00112	
S54	-.5504608	.9977351	.00109	
S55	-.5504608	.9977351	.00109	
89FS09R08	-.2678564	.9985682	.00112	
S75	-.9375014	.9954736	9.600002E-04	
S75 DUP.	.3225798	.9973511	9.299999E-04	
CS TV=19.8	5883 19.73451	.9997653	.00113	19.7/19.8 = 100 % rec
FS09S76	-.3773635	.9989338	.00106	
S77	-.6741598	.9966083	8.900001E-04	
B75	-.4166683	.9987002	9.599999E-04	
89FC09S34	-.6796125	.997839	.00103	
S35	0	1	9.999999E-04	
R05	-.2678564	.9985682	.00112	
FS09S76 DUP.	-.2678564	.9985682	.00112	
CS TV=19.8	20.09174	.9994113	.00109	20.1/19.8 = 102 % rec.
FC09D34	-.2941169	.9982741	.00102	
89FZ09R02	-.7142884	.9993629	.00112	
S91	.6250041	.9985681	.00112	
B90	-.2678564	.9985682	.00112	
S90	.1785687	.9993629	.00112	
S89	-.6837569	.998324	.00117	
S89 DUP.	-.2564064	.9997811	.00117	
CS TV=19.8	20.45455	.9991748	.0011	20.4/19.8 = 103 % rec.
FS09R01	-.3773635	.9901785	.00106	
S84	-1.274509	.9982741	.00102	
B84	-.7142865	.9940149	.00098	
S86	-.3092775	.9933708	9.700001E-04	
S87	-.6060591	.9972566	9.899999E-04	
S85	-.8910868	.9915791	.00101	
S84 DUP.	-.4166683	.9987002	9.599999E-04	
CS TV=19.8	20.82474	.9954614	9.699998E-04	20.8/19.8 = 105% rec.
89FZ09R09	-.7843168	.9954181	.00102	
S79	-9.615604E-02	.9961392	.00104	
S80	-.1063854	.9952804	9.400001E-04	
B80	-.1123579	.9991175	8.899999E-04	
S81	-.3092775	.9933708	9.700001E-04	
S82	-.2678564	.9985682	.00112	
S82 DUP.0	-.2678564	.9985682	.00112	
CS TV=19.8	19.40594	.9954241	.00101	19.4/19.8 = 98% rec.
FS09R01	-.7843168	.9954181	.00102	
B84	0	.9926739	.0009	
S85	-.5555555	.9890707	.0009	
S86	-.7142866	.9981311	9.799999E-04	
89OI14S01	50.58821	.9979299	8.500004E-04	
OI14S02	11.08696	.9990566	9.199998E-04	
OI14S02 DUP.	12.2472	.9991174	8.899999E-04	
CS TV=19.8	19.78261	.9990568	9.200001E-04	19.8/19.8 = 100% rec.

BLK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	3.000069E-04	-6.999932E-04	-233.3258 %
10	.011	.0116	6.000037E-04	5.172444 %
20	.022	.0229	9.000003E-04	3.930133 %
30	.035	.0342	-8.000061E-04	-2.3392 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.023	.0232	1.999978E-04	.8620596 %
10	.035	.0344	-5.99999E-04	-1.744183 %
20	.045	4.560001E-02	6.000027E-04	1.315795 %
30	.057	5.680001E-02	-1.999922E-04	-.3520989 %

89FA09S33

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-.0005	-.0005	100 %
10	.01	.01	9.313226E-10	9.313225E-06 %
20	.019	.0205	1.500001E-03	7.317079 %
30	.032	.031	-9.999983E-04	-3.225801 %

89FG09R06

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

S54

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-6.000023E-04	-6.000023E-04	100 %
10	.01	.0103	2.999976E-04	2.912599 %
20	.02	.0212	1.199998E-03	5.660369 %
30	.033	.0321	-9.000003E-04	-2.803739 %

S55

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-6.000023E-04	-6.000023E-04	100 %
10	.01	.0103	2.999976E-04	2.912599 %
20	.02	.0212	1.199998E-03	5.660369 %
30	.033	.0321	-9.000003E-04	-2.803739 %

89FS09R08

SPIKE	MEASURED	CALC.	ERROR	PER CENT

0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

3

JM 9Mar89

S75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-9.000015E-04	-9.000015E-04	100 %
10	8.000001E-03	.0087	6.999998E-04	8.045975 %
20	.017	.0183	.0013	7.103823 %
30	.029	.0279	-1.099996E-03	-3.942639 %

S75 DUP.

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	2.999992E-04	-7.000008E-04	-233.3342 %
10	8.999999E-03	9.599999E-03	5.99999E-04	6.249991 %
20	.018	.0189	8.999985E-04	4.761897 %
30	.029	.0282	-8.000024E-04	-2.836888 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.022	.0223	2.999958E-04	1.345273 %
10	.034	.0336	-4.000068E-04	-1.190497 %
20	.045	.0449	-1.000017E-04	-.2227209 %
30	.056	.0562	1.999959E-04	.3558647 %

FS09S76

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-4.000054E-04	-4.000054E-04	100 %
10	.01	.0102	1.999959E-04	1.960745 %
20	.02	.0208	7.999968E-04	3.846139 %
30	.032	.0314	-6.000065E-04	-1.910849 %

S77

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-6.000023E-04	-6.000023E-04	100 %
10	8.000001E-03	8.299998E-03	2.999976E-04	3.61443 %
20	.016	.0172	1.199998E-03	6.976733 %
30	.027	.0261	-9.000003E-04	-3.448277 %

B75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-4.000015E-04	-4.000015E-04	100 %
10	8.999999E-03	9.199998E-03	1.999987E-04	2.1739 %
20	.018	.0188	7.999987E-04	4.255313 %
30	.029	.0284	-6.000027E-04	-2.112686 %

89FC09S34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-7.000008E-04	-7.000008E-04	100 %
10	8.999999E-03	9.599999E-03	5.99999E-04	6.249991 %
20	.019	.0199	8.999985E-04	4.522606 %
30	.031	.0302	-8.000024E-04	-2.649015 %

S35

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	0	0	1.701412E+38 %
10	.01	.01	0	0 %
20	.02	.02	0	0 %
30	.03	.03	-1.862645E-09	-6.208818E-06 %

R05

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

FS09S76 DUP.

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.022	.0219	-1.000054E-04	-.4566459 %
10	.033	.0328	-2.000034E-04	-.6097665 %
20	.043	.0437	6.99997E-04	1.601824 %
30	.055	.0546	-3.999993E-04	-.7325995 %

FC09D34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.01	.0099	-9.999983E-05	-1.010099 %
20	.019	.0201	.0011	5.472637 %
30	.031	.0303	-7.000007E-04	-2.310233 %

89FZ09R02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-8.000031E-04	1.99997E-04	-24.99953 %
10	.011	.0104	-6.000018E-04	-5.769269 %

20	.021	.0216	6.000009E-04	2.777782 %
30	.033	.0328	-1.999997E-04	-.6097551 %

S91

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	7.000046E-04	-2.999955E-04	-42.85622 %
10	.012	.0119	-9.999611E-05	-.8403031 %
20	.022	.0231	1.100004E-03	4.76192 %
30	.035	.0343	-6.99997E-04	-2.040807 %

B90

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

S90

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	1.99997E-04	1.99997E-04	100 %
10	.012	.0114	-6.000018E-04	-5.263174 %
20	.022	.0226	6.000009E-04	2.654871 %
30	.034	.0338	-2.000034E-04	-.591726 %

S89

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-7.999955E-04	-7.999955E-04	100 %
10	.01	.0109	9.000031E-04	8.256908 %
20	.022	.0226	6.000027E-04	2.654879 %
30	.035	.0343	-7.000007E-04	-2.040818 %

S89 DUP.

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999954E-04	-2.999954E-04	100 %
10	.011	.0114	4.000003E-04	3.508774 %
20	.023	.0231	9.999611E-05	.4328837 %
30	.035	3.479999E-02	-2.000071E-04	-.5747332 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.023	.0225	-4.999992E-04	-2.222218 %
10	.033	.0335	5.00001E-04	1.49254 %
20	.044	.0445	5.00001E-04	1.123598 %
30	.056	.0555	-5.000048E-04	-.9009095 %

FS09R01

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-4.000054E-04	-4.000054E-04	100 %
10	.011	.0102	-8.000043E-04	-7.843182 %
20	.018	.0208	2.799997E-03	13.46153 %
30	.033	.0314	-1.600005E-03	-5.095557 %

6

9Mar89

S84

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-1.299999E-03	-2.999992E-04	23.07687 %
10	8.999999E-03	.0089	-9.999983E-05	-1.123594 %
20	.018	.0191	1.099998E-03	5.759154 %
30	.03	.0293	-7.000026E-04	-2.389088 %

B84

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-7.000008E-04	-7.000008E-04	100 %
10	8.999999E-03	9.099999E-03	9.999983E-05	1.098899 %
20	.017	.0189	1.899999E-03	10.0529 %
30	.03	.0287	-.0013	-4.529616 %

S86

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.01	9.400001E-03	-5.99999E-04	-6.382968 %
20	.017	.0191	.0021	10.99476 %
30	.03	.0288	-1.199998E-03	-4.166659 %

S87

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-5.999985E-04	-5.999985E-04	100 %
10	8.999999E-03	9.299999E-03	2.999995E-04	3.225801 %
20	.018	.0192	1.199998E-03	6.249991 %
30	.03	.0291	-9.000022E-04	-3.092791 %

S85

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-8.999977E-04	-8.999977E-04	100 %
10	8.999999E-03	9.200002E-03	2.000025E-04	2.173939 %
20	.017	.0193	.0023	11.9171 %
30	.031	.0294	-1.599997E-03	-5.442168 %

S84 DUP.

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-4.000015E-04	-4.000015E-04	100 %
10	8.999999E-03	9.199998E-03	1.999987E-04	2.1739 %
20	.018	.0188	7.999987E-04	4.255313 %
30	.032	.0296	-6.000027E-04	-2.112686 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.02	.0202	1.999978E-04	.9900882 %
10	.031	.0299	-1.100004E-03	-3.678943 %
20	.038	3.959993E-02	1.599994E-03	4.040389 %
30	.05	.0493	-7.000081E-04	-1.419895 %

89FZ09R09

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-8.000031E-04	-8.000031E-04	100 %
10	8.999999E-03	9.399996E-03	3.999965E-04	4.255284 %
20	.018	.0196	1.599997E-03	8.163253 %
30	.031	.0298	-1.200004E-03	-4.026858 %

S79

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-1.000023E-04	-1.000023E-04	100 %
10	.011	.0103	-7.000016E-04	-6.796133 %
20	.019	.0207	1.700001E-03	8.212564 %
30	.032	.0311	-9.000003E-04	-2.893892 %

S80

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-1.000023E-04	-1.000023E-04	100 %
10	.01	9.299998E-03	-7.000016E-04	-7.526901 %
20	.017	.0187	1.699999E-03	9.090903 %
30	.029	.0281	-9.000003E-04	-3.202848 %

B80

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-9.999848E-05	-9.999848E-05	100 %
10	8.999999E-03	.0088	-1.999997E-04	-2.272724 %
20	.017	.0177	6.99997E-04	3.954785 %
30	.027	.0266	-4.000049E-04	-1.503778 %

S81

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.01	9.400001E-03	-5.99999E-04	-6.382968 %
20	.017	.0191	.0021	10.99476 %
30	.03	.0288	-1.199998E-03	-4.166659 %

S82

SPIKE	MEASURED	CALC.	ERROR	PER CENT

0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

8

JVM
9 Mar 89

S82 DUP.0

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-2.999992E-04	-2.999992E-04	100 %
10	.011	.0109	-9.999797E-05	-.9174124 %
20	.021	.0221	1.100004E-03	4.977392 %
30	.034	3.330001E-02	-6.99997E-04	-2.102093 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.02	.0196	-4.000012E-04	-2.040823 %
10	.03	.0297	-3.000032E-04	-1.010112 %
20	.038	.0398	1.799997E-03	4.522606 %
30	.051	4.989999E-02	-1.100008E-03	-2.204424 %

FS09R01

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-8.000031E-04	-8.000031E-04	100 %
10	8.999999E-03	9.399996E-03	3.999965E-04	4.255284 %
20	.018	.0196	1.599997E-03	8.163253 %
30	.031	.0298	-1.200004E-03	-4.026858 %

B84

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	0	0	1.701412E+38 %
10	.01	8.999999E-03	-.001	-11.11111 %
20	.016	.018	1.999999E-03	11.1111 %
30	.028	.027	-1.000002E-03	-3.703711 %

S85

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-.0005	-.0005	100 %
10	8.999999E-03	8.499999E-03	-5.000001E-04	-5.882355 %
20	.015	.0175	2.499999E-03	14.28571 %
30	.028	.0265	-1.500003E-03	-5.66039 %

S86

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-7.000008E-04	2.999993E-04	-42.85699 %
10	.01	9.099999E-03	-9.000013E-04	-9.890125 %
20	.018	.0189	8.999985E-04	4.761897 %
30	.029	.0287	-3.000032E-04	-1.045308 %

890I14S01

9

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.043	4.299999E-02	-1.117587E-08	-2.59904E-05 %
10	.052	.0515	-5.000085E-04	-.9708903 %
20	.059	.06	9.999946E-04	1.666658 %
30	.069	.0685	-5.00001E-04	-.7299285 %

JVM
9Mar89

0I14S02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.01	.0102	1.999969E-04	1.960754 %
10	.02	.0194	-6.000046E-04	-3.092808 %
20	.028	2.859999E-02	5.999916E-04	2.097873 %
30	.038	3.779999E-02	-2.000071E-04	-.5291195 %

0I14S02 DUP.

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.011	.0109	-9.999797E-05	-.9174124 %
10	.02	.0198	-1.999997E-04	-1.010099 %
20	.028	.0287	6.999988E-04	2.43902 %
30	.038	.0376	-4.000031E-04	-1.063838 %

CS TV=19.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.018	1.820001E-02	2.000053E-04	1.09893 %
10	.028	2.740001E-02	-5.999953E-04	-2.189763 %
20	.036	3.660001E-02	6.000102E-04	1.639372 %
30	.046	4.580001E-02	-1.999922E-04	-.4366642 %

BEGIN DATA FILE: SE008.DF

Begin Element - SE

SF 5861 - 5889 _ PEWP022.

3/9/89

H. Pham.

JM 9Mar89

-0.000	
0.000 AZ	
0.001	BIK
0.011	
0.022	
0.035	
0.023	Acc.
0.035	
0.045	
0.057	
0.000	89FA09533.
0.010	
0.019	
0.032	
-0.000	89FG09R06.
0.011	
0.021	
0.034	
-0.000	S54
0.010	
0.020	
0.033	
-0.000	S55
0.010	
0.020	
0.033	
0.000	89FS09R08
0.011	
0.021	
0.034	
0.000	S75
0.008	
0.017	
0.029	
0.001	S75 Dup.
0.009	
0.018	
0.029	
0.022	Acc
0.034	
0.045	
0.056	
0.000	FS09S76
0.010	
0.020	
0.032	
0.000	S77
0.008	
0.016	
0.027	
-0.000	B75
0.009	
0.018	
0.029	
0.000	89FC09534
0.009	
0.019	
0.031	
-0.000	

0.010 0.020 0.030	FC09535
-0.000 0.011 0.021 0.034	FC09R05
0.000 0.011 0.021 0.034	FS09576 Dup.
0.022 0.033 0.043 0.055	ARC.
-0.000 0.010 0.019 0.031	FC09D34
-0.001 0.011 0.021 0.033	FZ09R02
0.001 0.012 0.022 0.035	FZ09591
-0.000 0.011 0.021 0.034	FZ09B90
0.000 0.012 0.022 0.034	FZ09590
0.000 0.010 0.022 0.035	FZ09589
-0.000 0.011 0.023 0.035	FZ09589 Dup.
0.023 0.033 0.044 0.056	ARC.
0.000 0.011 0.018 0.033	~~FZ09R09~~ HP FS09R01
-0.001 0.009 0.018 0.030	~~FZ09579~~ HP FS09584
0.000 0.009 0.017 0.030	~~FZ09580~~ HP FS09B84
-0.000 0.010 0.017 0.030	~~FZ09B80~~ HP FS09586.

JM
9 MAR 19

JOM
9 Mar 89

0.000 0.009 0.018 0.030	FS09S87
-0.000 0.009 0.017 0.031	FS09S85
-0.000 0.009 0.018 0.029	FS09S84 Dup.
0.020 0.031 0.038 0.050	AQC.
0.000 0.009 0.018 0.031	FZ09R09
0.000 0.011 0.019 0.032	FZ09S79
-0.000 0.010 0.017 0.029	FZ09S80.
-0.000 0.009 0.017 0.027	FZ09B80
0.000 0.010 0.017 0.030	FZ09S81
0.000 0.011 0.021 0.034	FZ09S82.
-0.000 0.011 0.021 0.034	FZ09S82 Dup.
0.020 0.030 0.038 0.051	AQC.
-0.000 0.009 0.018 0.031	FS09R01
-0.000 0.010 0.016 0.028	FS09B84
-0.000 0.009 0.015 0.028	FS09S85
-0.001 0.010 0.018	

0.000 0.010 0.017 0.030	FZ09S81
0.000 0.011 0.021 0.034	FZ09S82.
-0.000 0.011 0.021 0.034	FZ09S82 Dup.
0.020 0.030 0.038 0.051	A&C.
-0.000 0.009 0.018 0.031	FS09R01
-0.000 0.010 0.016 0.028	FS09B84
-0.000 0.009 0.015 0.028	FS09S85
-0.001 0.010 0.018 0.029	FS09S86
0.043 0.052 0.059 0.069	890I14S01
0.010 0.020 0.028 0.038	890I14S02
0.011 0.020 0.028 0.038	890I14S02
0.018 0.028 0.036 0.046	A&C.

JVM
9mar89

4

JVM
9 Mar 89

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* FLAMELESS * CSC VERSION 1.00 ►

NAME OF ANALYST ---: JVM
DATE OF ANALYSIS --: 03-06-1989
PARAMETER NAME ----: TL
DATA SET # --------: SF5861/5862/5868 5877/5883 /5887/5888

SAMPLE NO.	CONC.	R VALUE	SLOPE	
BLANK	-.1590106	.9998244	.0283	
AQC 25	26.54452	.9998852	2.729001E-02	106%
89FA09S30	.1980891	.9989182	.01464	
89FA09S31	-.1441195	.999978	9.019999E-03	
89FA09D31	-.4875338	.9997712	8.820001E-03	
89FA09S32	-.1891925	.9998684	.0185	
89FA09S33	-.4251025	.9998278	9.880001E-03	
89FA09R04	-9.908441E-02	.9999866	2.624001E-02	
89MN16R05	.1856774	.9998439	.02639	
AQC	27.71472	.9998306	.02608	111% — high but all samples < d.l.
AQC	26.61759	.9992465	.02717	— 106% new Aac
89MN16S01	-.1717634	.9994925	.01863	
89MN16S02	-.6960961	.9968242	.00589	
89MN16D02	-.9118096	.9901662	.00669	
89MN16S04	-.1783034	.9955198	.00673	
89FC09S34	-7.905218E-02	.9952998	.01518	
89FC09D34	.9818182	.9989044	.01375	
89FC09S35	1.328286	.9971499	.01453	
AQC	26.83976	.9989296	2.696001E-02	107%
MN16D02 2X Dpt	-1.111111	.9938353	.00675	
89FC09R05	4.748521E-02	.9999055	.02527	
89FG09S54	.0308104	.9999112	.02272	
89FG09S55	-.3427194	.9997561	8.170001E-03	
89FG09R06	.1218291	.9998478	.03037	
~~89FS09S75~~	~~44.66967~~	~~-.2327983~~	~~-7.977002E-02~~	typing error
89FS09S75	-.0750281	.9997898	9.330002E-03	
89FS09B75	9.636564E-02	.9990362	9.339999E-03	
AQC	26.53704	.9989472	.027	— 106%
MN16D02 2X dil	-.5109445	.9990744	.00685	— 4u
89FS09S76	1.02564	.9996021	.00819	
89FS09S77	-.1875	.9993599	.008	
89FS09R08	-.1074887	.9991399	.02884	
89FS09S84	.492023	.9987681	.00752	
89FS09B84	1.427056E-02	.99266	.00701	
89FS09S85	-.617763	.9734008	7.770001E-03	— 102%
AQC	25.51348	.9995718	2.745999E-02	
89FS09S86	-.4609922	.9985475	8.460001E-03	
89FS09S87	-1.009735	.9975551	8.220001E-03	
89FS10R01	.2070911	.9998121	.02849	
89FZ09S89	3.023255	.9913855	.00559	
89FZ09S90	-.9050409	.9958828	.00674	
89FZ09B90	-1.310452	.9973167	.00641	
89FZ09S91	-1.007754	.9996756	6.450001E-03	
89FZ10R01	6.746811E-02	.9999767	.02668	
AQC 25	26.64145	.9999752	.02644	107%

SF5883

BLANK

SPIKE	MEASURED	CALC.	ERROR	PER CENT

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-.0045	-.0045	100 %
10	.276	.2784999	2.499938E-03	.8976441 %
20	.553	.5614998	8.499861E-03	1.513778 %
30	.851	.8444998	-6.500185E-03	-.7697082 %

JVM
9 Mar 89

AQC 25

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.72	.7244002	4.400134E-03	.6074176 %
10	1.005	.9973002	-7.699728E-03	-.7720572 %
20	1.268	1.2702	2.200365E-03	.1732298 %
30	1.542	1.5431	1.100302E-03	7.130461E-02 %

89FA09S30

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	2.900025E-03	3.900025E-03	134.4825 %
10	.16	.1493	-1.069996E-02	-7.166748 %
20	.286	.2957001	9.70006E-03	3.280371 %
30	.445	.4421001	-2.899915E-03	-.6559408 %

89FA09S31

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-1.299957E-03	7.000428E-04	-53.85122 %
10	9.000001E-02	8.890003E-02	-1.099974E-03	-1.237316 %
20	.179	.1791	1.000166E-04	5.584399E-02 %
30	.269	.2693	2.999902E-04	.1113963 %

89FA09D31

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-4.300049E-03	-2.300049E-03	53.4889 %
10	.081	8.389996E-02	2.89996E-03	3.45645 %
20	.171	.1721	1.099974E-03	.6391482 %
30	.262	.2603	-1.700014E-03	-.653098 %

89FA09S32

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-3.500061E-03	-1.500061E-03	42.85814 %
10	.177	.1815	4.499972E-03	2.479324 %
20	.371	.3665	-4.500002E-03	-1.227831 %
30	.55	.5515001	1.50007E-03	.2719982 %

89FA09S33

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-4.200013E-03	-2.200012E-03	52.38109 %
10	.092	9.459999E-02	2.599992E-03	2.748406 %
20	.192	.1934	1.399994E-03	.7238852 %
30	.294	.2922	-1.800001E-03	-.6160166 %

89FA09R04

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.004	-2.599976E-03	1.400025E-03	-53.84761 %
10	.261	.2598001	-1.199931E-03	-.4618671 %
20	.524	.5222001	-1.799882E-03	-.3446728 %
30	.783	.7846003	1.600266E-03	.2039594 %

JVM
9Mar89

89MN16R05

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	4.900025E-03	2.900024E-03	59.18387 %
10	.269	.2688	-2.000034E-04	-7.440602E-02 %
20	.541	.5327	-8.300066E-03	-1.558113 %
30	.791	.7966	5.599916E-03	.7029772 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.719	.7228	3.800035E-03	.525738 %
10	.992	.9836	-8.399963E-03	-.8540019 %
20	1.239	1.2444	5.400062E-03	.433949 %
30	1.506	1.5052	-8.000136E-04	-5.314999E-02 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.711	.7232	1.219994E-02	1.686938 %
10	1.008	.9949	-1.310003E-02	-1.316718 %
20	1.277	1.2666	-1.040006E-02	-.8211005 %
30	1.527	1.5383	1.129997E-02	.7345751 %

89MN16S01

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-3.199951E-03	-6.199952E-03	193.7514 %
10	.172	.1831	1.110002E-02	6.062273 %
20	.373	.3694	-3.600001E-03	-.9745537 %
30	.557	.5557	-1.300037E-03	-.2339459 %

89MN16S02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-4.100006E-03	-5.100006E-03	124.3902 %
10	.046	.0548	8.799996E-03	16.05839 %
20	.116	.1137	-2.299994E-03	-2.022862 %
30	.174	.1726	-1.400009E-03	-.8111291 %

89MN16D02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	-6.100006E-03	-9.100006E-03	149.1803 %

0	.003	-6.100006E-03	-9.100006E-03	149.1803 %
10	.054	.0608	6.799992E-03	11.1842 %
20	.114	.1277	.0137	10.72827 %
30	.206	.1946	-1.140001E-02	-5.858178 %

JVM
9Mar89

83MN16S04

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-1.199982E-03	-1.999816E-04	16.66539 %
10	.06	6.610001E-02	6.10001E-03	9.228456 %
20	.145	.1334	-.0116	-8.695655 %
30	.195	.2007	5.700022E-03	2.840071 %

89FC09S34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.005	-1.200012E-03	-6.200012E-03	516.6624 %
10	.155	.1506	-4.400015E-03	-2.921657 %
20	.275	.3024	2.739999E-02	9.060842 %
30	.471	.4542	-1.680002E-02	-3.698815 %

89FC09D34

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.02	.0135	-.0065	-48.14815 %
10	.139	.151	.012	7.947017 %
20	.293	.2885	-4.500032E-03	-1.559803 %
30	.427	.426	-1.000047E-03	-.2347528 %

89FC09S35

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.032	1.929999E-02	-1.270001E-02	-65.80323 %
10	.151	.1646	1.359999E-02	8.26245 %
20	.299	.3099	1.089999E-02	3.517261 %
30	.467	.4552	-1.180002E-02	-2.592272 %

AQC

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.722	.7236001	1.600087E-03	.2211286 %
10	.984	.9932002	9.200156E-03	.9263144 %
20	1.286	1.2628	-.0231998	-1.837171 %
30	1.52	1.5324	1.240027E-02	.8092056 %

MN16D02 2X

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-.0075	-.0075	100 %
10	.054	.06	5.999994E-03	9.999991 %
20	.117	.1275	.0105	8.235295 %
30	.204	.195	-9.000003E-03	-4.615387 %

39FC09R05

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.003	1.199951E-03	4.199951E-03	350.0102 %
10	.26	.2539	-6.100029E-03	-2.402532 %
20	.5070001	.5066	-4.000664E-04	-7.897086E-02 %
30	.757	.7593	2.299965E-03	.3029059 %

JMM
9Mar89

89FG09S54

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.003	7.000122E-04	3.700012E-03	528.564 %
10	.233	.2279	-5.100012E-03	-2.237829 %
20	.456	.4551	-9.000301E-04	-.1977654 %
30	.68	.6823	2.299905E-03	.3370812 %

89FG09S55

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.005	-2.800018E-03	2.199982E-03	-78.57025 %
10	.082	.0789	-3.100008E-03	-3.929034 %
20	.161	.1606	-3.999319E-04	-.2490609 %
30	.241	.2423	1.300022E-03	.536534 %

89FG09R06

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	3.699951E-03	4.699951E-03	127.0274 %
10	.317	.3074	-9.600014E-03	-3.122971 %
20	.606	.6111	5.100012E-03	.8345626 %
30	.915	.9148001	-1.999736E-04	-2.185981E-02 %

89FS09S75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	3.5633	3.5633	100 %
10	9	2.7656	-6.2344	-225.4267 %
20	.189	1.9679	1.7789	90.39585 %
30	.278	1.170199	.8921994	76.24336 %

89FS09S75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-7.000122E-04	-7.000122E-04	100 %
10	9.000001E-02	.0926	2.599999E-03	2.807775 %
20	.189	.1859	-3.099978E-03	-1.667551 %
30	.278	.2792	1.20002E-03	.4298067 %

89FS09B75

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.005	9.000549E-04	-4.099945E-03	-455.5217 %
10	.091	9.430004E-02	3.300041E-03	3.499512 %
20	.182	.1877	5.700037E-03	3.03678 %

30	.286	.2811	-4.900009E-03	-1.743133 %

AQC

JVM 9Mar89

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.707	.7165	9.499967E-03	1.325885 %
10	1.008	.9864999	-2.150005E-02	-2.179428 %
20	1.242	1.2565	1.450002E-02	1.154001 %
30	1.529	1.5265	-2.500057E-03	-.1637771 %

MN16D02 2X

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-3.499969E-03	-3.499969E-03	100 %
10	.061	6.500003E-02	4.000027E-03	6.153885 %
20	.131	.1335	2.500028E-03	1.872679 %
30	.205	.202	-2.999976E-03	-1.485137 %

89FS09S76

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.011	8.399994E-03	-2.600006E-03	-30.95247 %
10	.085	9.029999E-02	4.299984E-03	4.761887 %
20	.173	.1722	-8.000136E-04	-.464584 %
30	.255	.2541	-9.000301E-04	-.3542032 %

89FS09S77

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-.0015	-.0025	166.6667 %
10	.077	.0785	1.499996E-03	1.910823 %
20	.154	.1585	4.499987E-03	2.839109 %
30	.242	.2385	-3.50003E-03	-1.467518 %

89FS09R08

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.005	-3.099976E-03	1.900024E-03	-61.29159 %
10	.277	.2853001	8.300036E-03	2.909231 %
20	.596	.5737001	-2.229995E-02	-3.887039 %
30	.85	.8621001	.0121001	1.403561 %

89FS09S84

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	8.000001E-03	3.700012E-03	-4.299988E-03	-116.2155 %
10	.072	.0789	6.900005E-03	8.745254 %
20	.155	.1541	-9.000003E-04	-.5840365 %
30	.231	.2293	-1.699999E-03	-.7413864 %

89FS09B84

SPIKE	MEASURED	CALC.	ERROR	PER CENT

0	.002	1.000366E-04	-1.899964E-03	-1899.268 %
10	.06	7.020003E-02	1.020004E-02	14.52996 %
20	.155	.1403	-1.469998E-02	-10.47753 %
30	.204	.2104	6.400019E-03	3.041834 %

JVM
9Mar89

89FS09S85

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.011	-4.800019E-03	-1.580002E-02	329.1658 %
10	.04	7.289998E-02	3.289998E-02	45.1303 %
20	.169	.1506	-1.840001E-02	-12.21781 %
30	.227	.2283	1.299992E-03	.5694228 %

A0C

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.701	.7005999	-4.00126E-04	-5.711191E-02 %
10	.982	.9751998	-6.800235E-03	-.6973171 %
20	1.235	1.2498	1.479971E-02	1.184167 %
30	1.532	1.5244	-7.600427E-03	-.498585 %

89FS09S86

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.004	-3.899994E-03	1.000064E-04	-2.564269 %
10	.085	8.070001E-02	-4.299991E-03	-5.328365 %
20	.157	.1653	8.300021E-03	5.021186 %
30	.254	.2499001	-4.099965E-03	-1.640642 %

89FS09S87

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.007	-8.300019E-03	-1.300018E-03	15.66284 %
10	.067	.0739	6.89999E-03	9.336929 %
20	.166	.1561	-9.899989E-03	-6.342081 %
30	.234	.2383	4.300013E-03	1.804454 %

89FS10R01

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.005	5.900025E-03	9.000245E-04	15.25459 %
10	.297	.2908	-6.200016E-03	-2.132055 %
20	.566	.5757	9.699941E-03	1.684895 %
30	.865	.8605998	-4.400194E-03	-.5112939 %

89FZ09S89

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.025	1.689999E-02	-8.100007E-03	-47.92905 %
10	.065	.0728	7.799998E-03	10.71428 %
20	.12	.1287	8.699991E-03	6.7599 %
30	.193	.1846	-8.400008E-03	-4.550384 %

89FZ09S90

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-6.099976E-03	-7.099976E-03	116.3935 %
10	.05	6.130002E-02	1.130002E-02	18.43395 %
20	.13	.1287	-1.299977E-03	-1.010083 %
30	.199	.1961	-2.899975E-03	-1.478824 %

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9Mar89

89FZ09B90

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.003	-8.399994E-03	-5.399994E-03	64.28569 %
10	.047	5.570001E-02	8.700006E-03	15.6194 %
20	.121	.1198	-1.199998E-03	-1.001668 %
30	.186	.1839	-2.100006E-03	-1.141928 %

89FZ09S91

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.005	-6.500015E-03	-1.500015E-03	23.0771 %
10	.055	5.799999E-02	2.999991E-03	5.1724 %
20	.124	.1225	-1.500003E-03	-1.224492 %
30	.187	.187	-1.490116E-08	-7.968536E-06 %

89FZ10R01

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	1.800049E-03	1.800049E-03	100 %
10	.272	.2686	-3.399998E-03	-1.265822 %
20	.534	.5354	1.399994E-03	.2614856 %
30	.802	.8022	1.999736E-04	2.492815E-02 %

ADC 25

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.703	.7043999	1.399875E-03	.198733 %
10	.972	.9687999	-3.200114E-03	-.3303173 %
20	1.231	1.2332	2.199888E-03	.1783886 %
30	1.498	1.4976	-4.000664E-04	-2.671384E-02 %

-0.001
0.000 A2
-0.000
0.276
0.553
0.651
blank
0.720
1.005
1.266
1.542
AQC
-0.001
0.160
0.286
0.445
FA09 S30
-0.002
0.090
0.179
0.269
FA09 S31
-0.002
0.061
0.171
0.262
FA09 D31
-0.002
0.177
0.371
0.550
FA09 S32
-0.002
0.092
0.192
0.294
FA09 S33
-0.004
0.261
0.524
0.783
FA09 R04
0.002
0.269
0.541
0.791
MN16 R05
0.719
0.992
1.239
1.506
AQC
-0.001 - blank cup
0.711
1.008
1.277
1.527
AQC
-0.003
0.557
0.373
0.172
mixed up MN16 S01
0.001
0.046
0.116
0.174
MN16 S02
0.003
0.054
0.114
0.206
MN16 D02
-0.001
0.060
0.145
0.195
MN16 S04

0.005
0.155
0.275
0.471
FC09 S34
0.020
0.139
0.293
0.427
FC09 D34
0.032
0.151
0.299
0.467
FC09 S35
0.722
0.984
1.286
1.520
AQC
-0.003 - blank cup
0.000
0.054
0.117
0.204
MN16 D02 rpt
-0.003
0.260
0.507
0.757
FC09 R05
-0.003
0.233
0.456
0.680
FG09 S54
-0.005
0.082
0.161
0.241
FG09 S55
-0.001
0.317
0.606
0.915
FG09 R06
0.000
0.090
0.139
0.278
FS09 S75
0.005
0.091
0.182
0.286
FS09 B75
0.707
1.008
1.242
1.529
AQC
0.001 - blank cup
0.000
0.061
0.131
0.205
MN16 D02 2x dil
0.011
0.086
0.173
0.255
FS09 S76
0.001
0.077
0.154
0.242
FS09 S77
-0.005
0.277
0.596
0.850
FS09 R08

0.008
0.072
0.155
0.231
FS09 S84
0.002
0.060
0.155
0.204
FS09 B84
0.011
0.040
0.169
0.227
FS09 S85
0.701
0.982
1.235
1.532
AQC
0.007 - blank cup
-0.004
0.085
0.157
0.254
FS09 S86
-0.007
0.067
0.166
0.234
FS09 S87
0.005
0.297
0.566
0.865
FS10 R01
0.025
0.065
0.120
0.193
FZ09 S89
0.001
0.050
0.130
0.199
FZ09 S90
-0.003
0.047
0.121
0.186
FZ09 B90
-0.005
0.055
0.124
0.187
FZ09 S91
-0.000
0.272
0.534
0.802
FZ10 R01
0.703
0.972
1.231
1.498
AQC

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