0013741 2.0
7 of 7

SST

CORE 16 DATA REPORT

REV. 0

APPENDIX E

INORGANIC

BEST AVAILABLE COPY

E1 - INTRODUCTION

Introduction to Inorganic Primary Data Package

This section of the Core 16 Primary Data package contains primary or "raw" data collected during preparation and analysis of Core 16 inorganic samples. All analytical information is tracked by the laboratory sample number.

Primary analytical data are separated according to methodology. In each case, instrument calibration, control, and sample analysis data segregated. Assessment of the primary analytical data will require in-depth knowledge of the methodology.

E2 - LABORATORY ANALYST

SIGNATURE LIST

E02-001

INORGANIC LABORATORY ANALYST SIGNATURE LIST

Analyst Name	Initials	Written Name	Initials
Robert E. Brinson	REB	R.E. Brinson	REB
Merrill C. Burt	MCB	MCBurt	MCB
John H. Ennen	JHE	John Ennen	JE
Milton W. Goheen	MWG	Milton W. Goheen	MWG
Donald E. Rinehart	DER	Donald E. Rinehart	D.E.R
Dana L. Thomas	DLT	Not available for signature	
May-Lin Thomas	MLT	Dana L. Thomas	DLT
Michael W. Urie	MWU	Michael W. Urie	MWU
Thomas G. Walker	TGW	Thomas G. Walker	TGW

E3 - ICP ANALYSIS

E03-001

ICP CALCULATIONS

Calculations to support the generation of the final ICP reports are performed within a LOTUS 123 speadsheet. The raw analytical data (in µg/mL) is obtained from the computer generated output of the ICP system and the sample preparation data is obtained from the "Sample Prep Data Sheet". These data are keyed into an ICP template; templates are available for acid leached, water leached and fused sample sets. The calculations below (identified as A thru S) accompany ICP CALCULATION KEYS 1-5.

General Information:

The "boxed" areas in the ICP CALCULATION KEYS 1,2 & 5 are sample analysis information/data and worksheet data which has been keyed into the spreadsheet template. This data is verified by both the enterer and verifier.

The Sample ID is generally the sample log number and for the calculation explanations below the last digit identifies the sample number (e.g., 89-0621a3 is Sample 3).

For the spike control and blank, the results are many times expressed in wt%. This is actually a wt% equivalence with the spike control assuming a nominal 1 g sample weight and the blank using an average sample weight of samples 1 & 2. The data is presented in the same units for comparison purposes.

For calculation of dilution factors it has been assumed that 1 mL of water equals 1 g.

Key 2A: Spike Dilution Factor for Samples 3 & 4

$$\text{Spike Dilution} = \frac{\text{(Makeup Vol mL)}}{\text{(Spike Vol mL)}}$$

Key 2B: Preparation Dilution Factors for Samples 1,2,3 & 5

For Acid/Water Leached Samples

$$\text{Prep Factor} = \frac{(\text{Makeup Vol mL}) + (\text{Sample Wt g})}{(\text{Sample Wt g})}$$

For Fused Samples

$$\text{Prep Factor} = \frac{(\text{Makeup Vol mL})}{(\text{Sample Wt g})} * \frac{(\text{X mL}) + (\text{Y mL})}{(\text{X mL})}$$

Where: X mL = Dil: Smpl mL (or volume of Makeup Vol sampled)
Y mL = Dil: Vol mL (or volume of Diluent added)

Key 2C: Weight % Factor for Samples 1,2,3 & 5

Wt% Factor = (Prep Factor) * (ICP Dilution) * 0.0001

Key 2D: Weight % Factor for Sample 4

Wt% Factor = (Makeup Vol mL) * (ICP Dilution) * 0.0001

Key 2E: Element Weight % for Samples 1 thru 5 (except Bi)

Weight % = ((Conc) - (Blank)) * (Wt% Factor)

Where: Conc = The measured µg/mL concentration of each element [See Key 1]
Blank = Average of last 10 system blanks [See Key 5]

Key 2F: Bismuth Weight % for Samples 1 thru 5

$$\text{Weight \%} = \frac{(\text{Conc Bi } \mu\text{g/mL}) * (\text{Wt\% Factor})}{(\text{ICP Dilution})}$$

Note: Bi is analyzed in sequential mode and the µg/mL concentration of the prepared base solution is entered from a worksheet. That is, the ICP dilution factor and blank have already been incorporated

ICP CALCULATION KEY 5

File: icp0621a

Last STD1 Run = 1820

Run#	STATS Ave[10] (ug/mL)	Std Dev	3x SD	10x SD		Spike Std B-1 (ug/mL)
Ag	0.0029	0.0042	0.0126	0.0419	Ag	
Al	0.0452	0.0295	0.0886	0.2953	Al	
As	0.0212	0.0522	0.1567	0.5223	As	80.00
B	0.0230	0.0239	0.0718	0.2395	B	
Ba	0.0009	0.0011	0.0033	0.0112	Ba	80.00
Be	0.0002	0.0001	0.0004	0.0012	Be	2.00
Ca	0.0006	0.0006	0.0017	0.0058	Ca	
Cd	0.0028	0.0020	0.0060	0.0201	Cd	2.00
Ce	0.0480	0.0694	0.2083	0.6942	Ce	
Co	0.0423	0.1013	0.3038	1.0128	Co	20.00
Cr	0.0034	0.0022	0.0065	0.0218	Cr	8.00
Cu	0.0052	0.0059	0.0177	0.0589	Cu	10.00
Dy	0.0042	0.0054	0.0163	0.0545	Dy	
Fe	0.0029	0.0022	0.0067	0.0222	Fe	
K	0.0305	0.1515	0.4545	1.5150	K	
La	0.0085	0.0145	0.0435	0.1448	La	
Li	0.0047	0.0046	0.0138	0.0462	Li	
Mg	0.0005	0.0004	0.0012	0.0038	Mg	
Mn	0.0009	0.0007	0.0021	0.0069	Mn	20.00
Mo	-0.0030	0.0239	0.0717	0.2391	Mo	
Na	0.0450	0.0498	0.1494	0.4979	Na	
Nd	0.0160	0.0352	0.1056	0.3519	Nd	
Ni	0.0069	0.0058	0.0173	0.0578	Ni	20.00
P	0.1778	0.2129	0.6388	2.1295	P	
Pb	0.0181	0.0303	0.0909	0.3028	Pb	20.00
Re	0.0078	0.0055	0.0164	0.0547	Re	
Rh	0.0743	0.1123	0.3368	1.1227	Rh	
Ru	0.0125	0.0118	0.0354	0.1180	Ru	
Sb	0.0045	0.2114	0.6341	2.1135	Sb	20.00
Se	0.0519	0.0371	0.1113	0.3710	Se	80.00
Si	0.0188	0.0187	0.0560	0.1867	Si	
Sr	0.0005	0.0004	0.0011	0.0036	Sr	
Te	0.0310	0.0270	0.0809	0.2696	Te	
Th	0.0350	0.0616	0.1847	0.6157	Th	
Ti	0.0026	0.0030	0.0090	0.0300	Ti	
Tl	0.2753	0.8964	2.6893	8.9644	Tl	80.00
U	0.2367	0.5878	1.7634	5.8779	U	
V	0.0028	0.0028	0.0084	0.0279	V	20.00
Zn	0.0028	0.0015	0.0046	0.0153	Zn	20.00
Zr	0.0028	0.0029	0.0088	0.0292	Zr	

ICP CALCULATION KEY 4

K	L	M	G1	G2	H	N	P1	P2	Q	R	S
				89-0621a3		<Sample ID>	89-0621a4	89-0621a4			
				5.00		<Dilution>	1.00	5.00			
	89-0621a1										
	89-0621a2		Spike	Spike+	Spike+			Spike	Spike		Spike
	Average		Added	Sample	Sample			Control	Control		STD
	(Wt %)	RPD	(Wt %)	(Wt %)	(Wt %)	% Dif	% Rec	(ug/mL)	(ug/mL)	% Dif	(ug/mL)	% rec
Ag	0.0021	20.0%		(0.0029)								
Al	0.1158	1.9%		0.1175								
As	N/A		0.0388	(0.0325)			83.8%	74.3	91.7	23.4%	80.0	92.9%
B	N/A			<DL								
Ba	0.0013	1.3%	0.0388	0.0392			97.7%	76.7	75.6	1.5%	80.0	95.9%
Be	N/A		0.0010	0.0009			97.6%	1.9	1.9	1.7%	2.0	93.2%
Ca	0.0863	1.7%		0.0853								
Cd	N/A		0.0010	(0.0021)			211.8%	3.1	3.6	16.0%	2.0	156.4%
Ce	N/A			<DL								
Co	N/A		0.0097	<DL			-55.9%	15.1	6.0	60.1%	20.0	75.6%
Cr	0.0824	0.4%	0.0039	0.0879			141.2%	8.1	8.6	6.7%	8.0	101.3%
Cu	N/A		0.0048	(0.0066)			137.1%	10.2	9.6	5.7%	10.0	101.8%
Dy	N/A			<DL								
Fe	1.9433	1.6%		1.9565								
K	N/A			<DL								
La	0.0063	5.4%		(0.0063)								
Li	N/A			<DL								
Mg	0.0193	1.4%		0.0192								
Mn	0.0073	1.7%	0.0097	0.0169			99.0%	19.8	19.7	0.5%	20.0	98.9%
Mo	N/A			<DL								
Na	9.6977	0.7%		9.8027								
Nd	N/A			<DL								
Ni	N/A		0.0097	0.0115			119.2%	19.6	19.6	0.3%	20.0	98.2%
P	1.6536	3.9%		1.6983								
Pb	0.1132	5.7%	0.0097	0.1231			101.5%	19.9	19.2	3.6%	20.0	99.5%
Re	N/A			<DL								
Rh	N/A			<DL								
Ru	N/A			<DL								
Sb	N/A		0.0097	<DL			572.0%	26.1	89.3	241.4%	20.0	130.7%
Se	N/A		0.0388	(0.0327)			84.5%	61.6	78.6	27.6%	80.0	76.9%
Si	0.0572	30.0%		0.0830								
Sr	0.0208	0.8%		0.0209								
Te	N/A			<DL								
Th	N/A			<DL								
Ti	N/A			<DL								
Tl	N/A		0.0388	<DL			102.9%	47.1	88.8	88.7%	80.0	58.8%
U	N/A			<DL								
V	N/A		0.0097	0.0091			94.2%	18.8	18.4	2.3%	20.0	94.1%
Zn	0.0092	1.1%	0.0097	0.0187			97.6%	19.9	19.8	0.5%	20.0	99.5%
Zr	N/A			(0.0012)								
Bi	0.6795	84.1%		1.8327								

03/29/90

ICP CALCULATION KEY 3

G1 G2 H I J

Samp Log#:	89-0621a1			89-0621a2			89-0621a5				
Dilution:	5.00			5.00			1.00				
Wt% Factor	0.11830			0.12333			0.02415				
ICP Run #	1795			1796			1816			DL	QL
	(Wt %)	(Wt %)	%Dif	(Wt %)	(Wt %)	%Dif	(Wt% *)	(Wt% *)	%Dif	(ug/mL)	(ug/mL)
Ag	(0.0024)			(0.0019)			<DL			0.0126	0.0419
Al	0.1147			0.1169			<DL			0.0886	0.2953
As	<DL			<DL			<DL			0.1567	0.5223
B	<DL			<DL			<DL			0.0718	0.2395
Ba	0.0013			(0.0013)			<DL			0.0033	0.0112
Be	<DL			<DL			<DL			0.0004	0.0012
Ca	0.0856			0.0870			0.0157			0.0017	0.0058
Cd	<DL			<DL			(0.0002)			0.0060	0.0201
Ce	<DL			<DL			<DL			0.2083	0.6942
Co	<DL			<DL			<DL			0.3038	1.0128
Cr	0.0822			0.0826			(0.0002)			0.0065	0.0218
Cu	(0.0023)			<DL			<DL			0.0177	0.0589
Dy	<DL			<DL			<DL			0.0163	0.0545
Fe	1.9282			1.9584			0.0010			0.0067	0.0222
K	<DL			<DL			(0.0122)			0.4545	1.5150
La	(0.0065)			(0.0062)			<DL			0.0435	0.1448
Li	<DL			<DL			0.0015			0.0138	0.0462
Mg	0.0191			0.0194			0.0034			0.0012	0.0038
Mn	0.0073			0.0072			0.0002			0.0021	0.0069
Mo	<DL			<DL			<DL			0.0717	0.2391
Na	9.6653			9.7302			0.0138			0.1494	0.4979
Nd	<DL			<DL			<DL			0.1056	0.3519
Ni	<DL			<DL			<DL			0.0173	0.0578
P	1.6212			1.6859			<DL			0.6388	2.1295
Pb	0.1100			0.1165			<DL			0.0909	0.3028
Re	<DL			<DL			<DL			0.0164	0.0547
Rh	<DL			<DL			<DL			0.3368	1.1227
Ru	<DL			<DL			<DL			0.0354	0.1180
Sb	<DL			<DL			<DL			0.6341	2.1135
Se	<DL			<DL			<DL			0.1113	0.3710
Si	0.0657			0.0486			0.0121			0.0560	0.1867
Sr	0.0207			0.0209			(0.0000)			0.0011	0.0036
Te	<DL			<DL			<DL			0.0809	0.2696
Th	<DL			<DL			<DL			0.1847	0.6157
Ti	<DL			<DL			<DL			0.0090	0.0300
Tl	<DL			<DL			<DL			2.6893	8.9644
U	<DL			<DL			<DL			1.7634	5.8779
V	<DL			<DL			<DL			0.0084	0.0279
Zn	0.0092			0.0091			0.0004			0.0046	0.0153
Zr	(0.0020)			<DL			<DL			0.0088	0.0292
Bi	0.9651			0.3939			<DL			N/A	N/A

* Methods blank - average sample weight used to calculate wt%.

03/29/90

ICP CALCULATION KEY 2

Date: 11/13/89 thru 11/14/89 Analyst: _____ File: icp0621
Project: SST Reported: 03/29/90
Procedure: PNL SP-7 Reviewer: _____

Sample Log#	89-0621a1		89-0621a2		89-0621a3		89-0621a4	89-0621a4	89-0621a5	
ID	S1 5x	S1 7x	S2 5x	S2 7x	SP+S3 5x	SP+S3 7x	SPK 1x	SPK 5x	BLK 1x	BLK 7x
Prep Type	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid
Sample Wt-g	1.061		1.018		1.050				1.039	
Makeup Vol-mL	250.0		250.0		250.0		250.0	250.0	250.0	
Dil: Smpl-mL										
Dil: Vol-mL										
Prep Factor	236.60		246.65		239.07				241.52	
Spike ID					B-1	B-1	B-1	B-1		
Spike Vol-mL					5.087		5.087	5.087		
Spike Dilution					49.14		49.14	49.14		
ICP Dilution	5.00		5.00		5.00		1.00	5.00	1.00	
Wt% Factor	0.11830		0.12333		0.11954		0.02500	0.12500	0.02415	
ICP Run #	1795		1796		1797		1818	1798	1816	
Weight % Ag	0.0024		0.0019		0.0029		-0.0001	0.0000	-0.0001	
Al	0.1147		0.1169		0.1175		0.0008	0.0077	-0.0002	
As	-0.0006		-0.0000		0.0325		0.0378	0.0466	-0.0004	
B	0.0050		0.0029		0.0033		0.0013	0.0008	0.0004	
Ba	0.0013		0.0013		0.0392		0.0390	0.0384	0.0000	
Be	0.0000		0.0000		0.0009		0.0009	0.0010	-0.0000	
Ca	0.0856		0.0870		0.0853		0.0170	0.0190	0.0157	
Cd	0.0006		0.0002		0.0021		0.0016	0.0018	0.0002	
Ce	0.0003		-0.0009		0.0010		-0.0019	-0.0030	-0.0022	
Co	-0.0133		-0.0174		-0.0054		0.0077	0.0031	-0.0028	
Cr	0.0822		0.0826		0.0879		0.0041	0.0044	0.0002	
Cu	0.0023		0.0018		0.0066		0.0052	0.0049	0.0004	
Dy	-0.0002		-0.0006		-0.0005		-0.0002	-0.0001	-0.0000	
Fe	1.9282		1.9584		1.9565		0.0116	0.0126	0.0010	
K	0.0358		0.0252		0.0236		0.0072	0.0098	0.0122	
La	0.0065		0.0062		0.0063		-0.0002	-0.0005	-0.0002	
Li	0.0014		0.0007		0.0010		0.0011	0.0014	0.0015	
Mg	0.0191		0.0194		0.0192		0.0037	0.0039	0.0034	
Mn	0.0073		0.0072		0.0169		0.0101	0.0100	0.0002	
Mo	-0.0039		-0.0047		-0.0044		-0.0005	-0.0047	-0.0007	
Na	9.6653		9.7302		9.8027		0.0131	0.0212	0.0138	
Nd	0.0014		0.0010		0.0021		-0.0005	-0.0002	-0.0008	
Ni	0.0015		0.0015		0.0115		0.0100	0.0100	-0.0002	
P	1.6212		1.6859		1.6983		-0.0044	-0.0301	0.0009	
Pb	0.1100		0.1165		0.1231		0.0101	0.0098	0.0002	
Re	0.0006		0.0006		0.0006		-0.0003	0.0008	-0.0001	
Rh	-0.0112		-0.0125		-0.0124		-0.0022	-0.0060	-0.0022	
Ru	-0.0048		-0.0056		-0.0052		-0.0005	-0.0010	-0.0004	
Sb	0.0308		0.0563		0.0554		0.0133	0.0454	0.0030	
Se	0.0021		-0.0073		0.0327		0.0313	0.0400	-0.0009	
Si	0.0657		0.0486		0.0830		0.0164	0.0172	0.0121	
Sr	0.0207		0.0209		0.0209		0.0001	0.0000	0.0000	
Te	-0.0037		-0.0039		-0.0026		-0.0007	0.0009	-0.0009	
Th	-0.0059		-0.0080		-0.0072		-0.0012	-0.0006	-0.0016	
Ti	0.0007		0.0006		0.0007		0.0001	0.0002	0.0001	
Tl	-0.0961		-0.0453		0.0399		0.0239	0.0452	-0.0175	
U	0.0124		-0.0103		0.0010		-0.0137	-0.0269	-0.0175	
V	-0.0003		-0.0003		0.0091		0.0096	0.0094	-0.0001	
Zn	0.0092		0.0091		0.0187		0.0101	0.0101	0.0004	
Zr	0.0020		0.0009		0.0012		-0.0001	-0.0000	-0.0001	
Bi	0.9651		0.3939		1.8327		-0.0103		-0.0070	

ICP CALCULATION KEY 1

Date: 11/13/89 thru 11/14/89
Project: SST
Procedure: PNL-SP-7
H&TE: WA55672

Data Entry By: _____

Data Verified By: _____

File: icp0621a

Sample ID:		89-0621a1	89-0621a2	89-0621a3	89-0621a4	89-0621a4	89-0621a5
ICP Run #		1795	1796	1797	1818	1798	1816
(ug/mL)	Ag	0.0229	0.0186	0.0268	0.0008	0.0032	-0.0010
	Al	1.0147	0.9927	1.0280	0.0767	0.1068	0.0356
	As	0.0162	0.0210	0.2929	1.5332	0.3942	0.0056
	B	0.0650	0.0465	0.0508	0.0765	0.0296	0.0399
	Ba	0.0122	0.0116	0.3287	1.5620	0.3085	0.0029
	Be	0.0002	0.0002	0.0081	0.0381	0.0079	0.0000
	Ca	0.7240	0.7062	0.7141	0.6813	0.1524	0.6490
	Cd	0.0077	0.0046	0.0200	0.0665	0.0176	0.0098
	Ce	0.0509	0.0409	0.0564	-0.0290	0.0241	-0.0440
	Co	-0.0700	-0.0990	-0.0030	0.3501	0.0669	-0.0750
	Cr	0.6986	0.6732	0.7387	0.1683	0.0386	0.0107
	Cu	0.0247	0.0196	0.0607	0.2122	0.0442	0.0227
	Dy	0.0027	-0.0010	0.0000	-0.0020	0.0031	0.0029
	Fe	16.3020	15.8830	16.3700	0.4682	0.1034	0.0446
	K	0.3335	0.2352	0.2275	0.3171	0.1086	0.5362
	La	0.0635	0.0585	0.0611	-0.0010	0.0048	0.0010
	Li	0.0167	0.0106	0.0132	0.0472	0.0159	0.0678
	Mg	0.1623	0.1579	0.1608	0.1473	0.0317	0.1393
	Mn	0.0628	0.0593	0.1419	0.4036	0.0810	0.0104
(ug/mL)	Mo	-0.0360	-0.0410	-0.0400	-0.0230	-0.0410	-0.0300
	Na	81.7450	78.9430	82.0510	0.5672	0.2143	0.6174
	Nd	0.0281	0.0238	0.0333	-0.0040	0.0145	-0.0180
	Ni	0.0198	0.0188	0.1035	0.4067	0.0866	0.0000
	P	13.8820	13.8480	14.3850	0.0009	-0.0630	0.2147
	Pb	0.9476	0.9625	1.0475	0.4229	0.0961	0.0276
	Re	0.0129	0.0129	0.0132	-0.0040	0.0142	0.0036
	Rh	-0.0200	-0.0270	-0.0290	-0.0140	0.0260	-0.0170
	Ru	-0.0280	-0.0330	-0.0310	-0.0070	0.0043	-0.0040
	Sb	0.2651	0.4614	0.4682	0.5366	0.3678	0.1267
	Se	0.0696	-0.0070	0.3257	1.3044	0.3716	0.0151
	Si	0.5745	0.4129	0.7129	0.6767	0.1561	0.5206
	Sr	0.1754	0.1697	0.1757	0.0026	0.0006	0.0022
	Te	0.0000	-0.0010	0.0095	0.0036	0.0379	-0.0050
	Th	-0.0150	-0.0300	-0.0250	-0.0120	0.0304	-0.0330
	Ti	0.0081	0.0075	0.0084	0.0062	0.0042	0.0049
	Tl	-0.5370	-0.0920	0.6088	1.2332	0.6368	-0.4490
	U	0.3414	0.1530	0.2454	-0.3130	0.0216	-0.4860
	V	0.0000	0.0000	0.0791	0.3858	0.0776	-0.0020
	Zn	0.0810	0.0770	0.1589	0.4076	0.0834	0.0210
	Zr	0.0200	0.0100	0.0131	0.0000	0.0027	0.0001
(ug/mL)	Bi	40.7900	15.9700	76.6600	-0.4100		-0.2900

Key 4L: Relative Percent Difference -- RPD

$$RPD = \left| \frac{(\text{Sample 1 [G1]}) - (\text{Sample 2 [G1]})}{((\text{Sample 1 [G1]}) + (\text{Sample 2 [G1]})) / 2} \right| * 100$$

Note: Both Sample 1 & 2 must be above (DL * Wt% Factor), otherwise no RPD is reported.

Key 4M: Spike Added to Sample 3 -- (Wt% Equivalence Sample 3)

$$\text{Wt\% Spike Added} = \frac{(\text{Spike True Value}) * (\text{Spike Vol mL})}{(\text{Sample 3 Wt g})}$$

Note: Spike True Value is obtained from the base ICP template [See Key 5]

Key 4N: Percent Spike Recovery from Sample Matrix

$$\text{\% Rec} = \frac{(\text{Wt\% Sample 3}) - (\text{Ave Wt\% Sample 1\&2})}{(\text{Wt\% Spike Added})} * 100$$

Key 4P: Measured Spike Control (µg/mL)

µg/mL = (Conc - Blank) * Spike Dilution * ICP Dilution

Where: Conc = The measured µg/mL concentration of each element [See Key 1]
Blank = Average of last 10 system blanks [See Key 5]

Note: P1 is the Initial solution and P2 is the Diluted solution

Key 4Q: Percent Difference for Serial Dilutions of Spike Control 4

Same as "H" above except P1 & P2 are substituted for G1 & G2

Key 4R: Spike Std (µg/mL)

Stock spike standard concentration as "given" in base ICP template -- [See Key 5]

Key 4S: Percent Recovery for Spike Control

$$\text{\% Rec} = \frac{\text{Spike Control [P1]}}{\text{Spike Std}} * 100$$

Key 3G: Weight Percent Reported

Logical Test Only -- For Initial solution [G1] and Diluted solution [G2]

If Wt% < (DL * Wt% Factor) Then Report "<DL"
If Wt% > (DL * Wt% Factor) and < (QL * Wt% Factor)
Then Report Weight % within parentheses
If Wt% > (QL * Wt% Factor) Then Report Weight %

Key 3H: Percent Difference -- For Serial Dilutions Only

$$\% \text{ Dif} = \frac{(G1 - G2)}{G1} * 100$$

Where: G1 = Wt% of Initial solution
G2 = Wt% of Diluted solution

Note: Both G1 and G2 must be above (QL * Wt% Factor) before value reported

Key 3I: Detection Limit -- DL (µg/mL)

This data is input from the "blank" Standards file. It represents 3 times the standard deviation of the last 10 blanks analyzed. [See Key 5]

Key 3J: Quantitaion Limit -- QL (µg/mL)

This data is input from the "blank" Standards file. It represents 10 times the standard deviation of the last 10 blanks analyzed. [See Key 5]

Key 4K: Average Wt% for Samples 1 & 2

$$\text{Average Wt\%} = \frac{(\text{Sample 1 [G1]}) + (\text{Sample 2 [G1]})}{2}$$

Note: Both Sample 1 & 2 must be above (DL * Wt% Factor), otherwise no average is reported.

90-3617-A-1/2/3

90-3618-A-1/2

90-3619-A-1/2/3

90-3620-A-1/2

90-4178-A-1/2/3

90-4179-A-1/2

90-4180-A-1/2/3/4/5

90-4180-C-1/2/5

E03-011

Samp Log#:	90-3617a1	90-3617a2		90-3618a1	90-3618a2		90-3617a3				
Dilution:	1.00	1.00		1.00	1.00		1.00				
Wt% Fctr:	0.51369	0.51622		0.52859	0.53376		0.52293				
ICP Run#:	2023	2022		2024	2025		2021			DL	QL
	(Wt %)	(Wt %)	RPD	(Wt %)	(Wt %)	RPD	(Wt %)	(Wt %)	RPD	(ug/mL)	(ug/mL)
Ag	<DL	<DL		<DL	<DL		<DL			0.0157	0.0525
Al	<DL	<DL		<DL	<DL		<DL			0.0528	0.1761
As	<DL	<DL		<DL	<DL		<DL			0.0889	0.2965
B	<DL	<DL		<DL	<DL		<DL			0.0639	0.2130
Ba	<DL	<DL		(0.0020)	(0.0023)	13.1%	<DL			0.0037	0.0123
Be	<DL	<DL		<DL	<DL		<DL			0.0002	0.0006
Ca	0.0549	0.0581	5.7%	0.0622	0.0584	6.3%	0.0222			0.0014	0.0048
Cd	<DL	<DL		<DL	<DL		<DL			0.0062	0.0207
Ce	<DL	<DL		<DL	<DL		<DL			0.2143	0.7145
Co	<DL	<DL		<DL	<DL		<DL			0.4199	1.3997
Cr	0.0749	0.0927	21.3%	0.0736	0.0807	9.2%	<DL			0.0229	0.0762
Cu	<DL	<DL		<DL	<DL		<DL			0.0163	0.0544
Dy	<DL	<DL		<DL	<DL		<DL			0.0139	0.0464
Fe	1.6476	1.7487	6.0%	1.6317	1.8423	12.1%	(0.0097)			0.0080	0.0268
K										0.5156	1.7188
La	<DL	<DL		<DL	<DL		<DL			0.0190	0.0634
Li	<DL	<DL		<DL	<DL		<DL			0.0109	0.0364
Mg	0.0120	0.0124	3.0%	0.0124	0.0132	6.4%	0.0042			0.0010	0.0032
Mn	0.0068	0.0073	7.8%	0.0076	0.0072	5.5%	(0.0011)			0.0015	0.0049
Mo	<DL	<DL		<DL	<DL		<DL			0.0130	0.0433
Na	9.1296	9.2627	1.4%	9.1069	10.0183	9.5%	(0.0776)			0.1319	0.4396
Nd	<DL	<DL		<DL	<DL		<DL			0.0942	0.3140
Ni										0.0215	0.0717
P	1.5981	1.7170	7.2%	1.7003	1.7399	2.3%	<DL			0.3847	1.2822
Pb	<DL	<DL		<DL	<DL		<DL			0.0674	0.2248
Re	<DL	<DL		<DL	<DL		<DL			0.0156	0.0522
Rh	<DL	<DL		<DL	<DL		<DL			0.1190	0.3967
Ru	<DL	<DL		<DL	<DL		<DL			0.0712	0.2374
Sb	<DL	<DL		<DL	<DL		<DL			0.1069	0.3562
Se	<DL	<DL		<DL	<DL		<DL			0.1081	0.3602
Si	0.8794	0.8770	0.3%	0.8753	0.9653	9.8%	(0.0373)			0.0587	0.1957
Sr	0.0266	0.0266	0.3%	0.0265	0.0289	8.8%	<DL			0.0013	0.0045
Te	<DL	<DL		<DL	<DL		<DL			0.0650	0.2167
Th	<DL	<DL		<DL	<DL		<DL			0.1658	0.5526
Ti	<DL	<DL		<DL	<DL		<DL			0.0121	0.0404
Tl	<DL	<DL		<DL	<DL		<DL			3.1009	10.3364
U	<DL	<DL		<DL	<DL		<DL			1.3258	4.4192
V	<DL	<DL		<DL	<DL		<DL			0.0107	0.0357
Zn	0.0097	0.0110	13.0%	0.0106	0.0107	1.5%	(0.0032)			0.0046	0.0154
Zr	<DL	<DL		<DL	<DL		<DL			0.0101	0.0337
Bi	2.0240	2.0132	0.5%	2.0139	2.1137	4.8%	<DL				

11/05/90

Date: 10/24/90
Project: SST
Procedure: PNL-SP-7
MT&E: WA55672

Data Entry By: JMG 11/9/90
Data Verified By: JMC 11/9/90

File: icp3617f

Mcell 12/7/90

Sample ID:	90-3617a1	90-3617a2	90-3618a1	90-3618a1	90-3617a3
ICP Run #	2023	2022	2024	2025	2021
(ug/mL) Ag	0.0014	-0.0030	-0.0010	-0.0040	-0.0030
Al	0.0067	0.0058	0.0125	0.0135	-0.0050
As	-0.0360	-0.0240	-0.0410	-0.0040	-0.0460
B	0.0549	0.0377	0.0441	0.0488	0.0624
Ba	0.0032	0.0034	0.0038	0.0043	0.0015
Be	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
Ca	0.1070	0.1127	0.1179	0.1096	0.0425
Cd	0.0010	0.0007	-0.0010	-0.0010	0.0008
Ce	-0.0520	-0.0610	-0.0490	-0.0750	-0.0710
Co	-0.1180	-0.1530	-0.1160	-0.1590	-0.1470
Cr	0.1448	0.1786	0.1383	0.1503	-0.0040
Cu	0.0147	0.0133	0.0136	0.0142	-0.0010
Dy	-0.0000	-0.0030	-0.0020	-0.0020	-0.0020
Fe	3.2073	3.3875	3.0868	3.4516	0.0185
K	527.7500	510.1400	636.4600	646.6500	531.1700
La	-0.0060	-0.0040	-0.0030	-0.0050	-0.0050
Li	-0.0060	-0.0070	-0.0060	-0.0060	-0.0060
Mg	0.0235	0.0241	0.0236	0.0249	0.0082
Mn	0.0134	0.0144	0.0145	0.0136	0.0022
(ug/mL) Mo	0.0026	0.0004	-0.0010	0.0016	-0.0020
Na	17.7610	17.9320	17.2170	18.7580	0.1369
Nd	-0.0120	-0.0220	-0.0090	-0.0260	-0.0150
Ni	0.2100	0.3729	0.4236	0.3627	0.0791
P	3.1248	3.3399	3.2304	3.2734	-0.0040
Pb	-0.0020	-0.0100	0.0327	-0.0030	-0.0240
Re	-0.0020	-0.0080	-0.0050	-0.0020	-0.0040
Rh	-0.0340	-0.0340	-0.0380	-0.0360	-0.0430
Ru	0.0054	0.0013	-0.0010	-0.0030	-0.0310
Sb	-0.0000	-0.0270	-0.0060	-0.0250	-0.0380
Se	0.0760	0.0097	0.0146	0.0323	0.0065
Si	1.7134	1.7003	1.6573	1.8099	0.0727
Sr	0.0519	0.0515	0.0501	0.0542	-0.0000
Te	-0.0160	-0.0290	-0.0310	-0.0350	-0.0200
Th	-0.0500	-0.0760	-0.0520	-0.0600	-0.0480
Ti	0.0015	-0.0010	-0.0020	0.0000	-0.0020
Tl	-0.3810	-0.1700	-0.3180	-0.3390	-0.0420
U	-0.2260	-0.2760	-0.1610	-0.3070	-0.4430
V	-0.0020	-0.0030	-0.0020	-0.0050	-0.0040
Zn	0.0197	0.0222	0.0209	0.0210	0.0070
Zr	-0.0020	0.0025	-0.0020	-0.0000	-0.0030
(ug/mL) Bi	3.9400	3.9000	3.8100	3.9600	-0.0100

Date: 10/24/90
Project: SST
Procedure: PNL-SP-7

Analyst: D.B. Campbell 11/9/90
Reviewer: MW Chen 11/9/90

File: icp3617f
Reported: 11/05/90

Sample Log#	90-3617a1	90-3617a2	90-3618a1	90-3618a2	90-3617a3	
ID	S1	S2	S1	S2	S1	S2
Prep Type	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g	0.532	0.530	0.517	0.512	0.523	
Makeup Vol-mL	250.0	250.0	250.0	250.0	250.0	
Dil: Smpl-mL	1.0068	1.0068	1.0068	1.0068	1.0068	
Dil: Vol-mL	10.00	10.00	10.00	10.00	10.00	
Prep Factor	5136.94	5162.16	5285.95	5337.56	5229.32	
Spike ID						
Spike Vol-mL						
Spike Dilution						
ICP Dilution	1.00	1.00	1.00	1.00	1.00	
Wt% Factor	0.51369	0.51622	0.52859	0.53376	0.52293	
ICP Run #	2023	2022	2024	2025	2021	
Weight % Ag	0.0008	-0.0014	-0.0004	-0.0020	-0.0015	
Al	-0.0003	-0.0008	0.0028	0.0033	-0.0064	
As	-0.0252	-0.0196	-0.0282	-0.0099	-0.0213	
B	0.0185	0.0097	0.0133	0.0160	0.0228	
Ba	0.0017	0.0018	0.0020	0.0023	0.0008	
Be	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	
Ca	0.0549	0.0581	0.0622	0.0584	0.0222	
Cd	0.0002	0.0000	-0.0009	-0.0009	0.0001	
Ce	-0.0246	-0.0293	-0.0237	-0.0378	-0.0350	
Co	-0.0487	-0.0671	-0.0491	-0.0725	-0.0648	
Cr	0.0749	0.0927	0.0736	0.0807	-0.0016	
Cu	0.0079	0.0072	0.0076	0.0080	-0.0002	
Dy	0.0000	-0.0015	-0.0010	-0.0010	-0.0010	
Fe	1.6476	1.7487	1.6317	1.8423	0.0097	
K	271.1246	263.3653	336.4529	345.1769	277.7888	
La	-0.0029	-0.0019	-0.0014	-0.0025	-0.0024	
Li	-0.0025	-0.0031	-0.0026	-0.0026	-0.0026	
Mg	0.0120	0.0124	0.0124	0.0132	0.0042	
Mn	0.0068	0.0073	0.0076	0.0072	0.0011	
Mo	0.0011	-0.0000	-0.0007	0.0006	-0.0013	
Na	9.1296	9.2627	9.1069	10.0183	0.0776	
Nd	-0.0053	-0.0105	-0.0039	-0.0130	-0.0070	
Ni	0.1080	0.1926	0.2241	0.1937	0.0415	
P	1.5981	1.7170	1.7003	1.7399	-0.0093	
Pb	-0.0051	-0.0093	0.0131	-0.0059	-0.0167	
Re	-0.0009	-0.0040	-0.0025	-0.0009	-0.0020	
Rh	-0.0152	-0.0153	-0.0178	-0.0169	-0.0202	
Ru	0.0099	0.0078	0.0068	0.0058	-0.0090	
Sb	0.0061	-0.0078	0.0031	-0.0070	-0.0136	
Se	0.0182	-0.0211	-0.0127	-0.0053	0.0053	
Si	0.8794	0.8770	0.8753	0.9653	0.0373	
Sr	0.0266	0.0266	0.0265	0.0289	-0.0000	
Te	-0.0107	-0.0174	-0.0189	-0.0212	-0.0130	
Th	-0.0233	-0.0368	-0.0250	-0.0296	-0.0227	
Ti	0.0009	-0.0004	-0.0010	0.0001	-0.0010	
Tl	-0.2297	-0.1220	-0.2031	-0.2163	-0.0566	
U	-0.0854	-0.1116	-0.0535	-0.1320	-0.2004	
V	-0.0009	-0.0014	-0.0009	-0.0025	-0.0019	
Zn	0.0097	0.0110	0.0106	0.0107	0.0032	
Zr	-0.0010	0.0013	-0.0010	0.0000	-0.0015	
Bi	2.0240	2.0132	2.0139	2.1137	-0.0052	

Samp Log#:	90-3619a1	90-3619a2		90-3620a1	90-3620a2		90-3619a3				
Dilution:	1.00	1.00		1.00	1.00		1.00				
Wt% Fctr:	0.53851	0.48583		0.53204	0.47158		0.50535				
ICP Run#:	2030	2029		2031	2032		2028			DL	QL
	(Wt %)	(Wt %)	RPD	(Wt %)	(Wt %)	RPD	(Wt %)	(Wt %)	RPD	(ug/mL)	(ug/mL)
Ag	<DL	<DL		<DL	<DL		<DL			0.0157	0.0525
Al	<DL	<DL		<DL	<DL		<DL			0.0528	0.1761
As	<DL	<DL		<DL	<DL		<DL			0.0889	0.2965
B	<DL	<DL		<DL	<DL		<DL			0.0639	0.2130
Ba	<DL	(0.0022)		<DL	<DL		<DL			0.0037	0.0123
Be	<DL	<DL		<DL	<DL		<DL			0.0002	0.0006
Ca	0.0585	0.0563	3.7%	0.0619	0.0559	10.2%	0.0221			0.0014	0.0048
Cd	<DL	<DL		<DL	<DL		<DL			0.0062	0.0207
Ce	<DL	<DL		<DL	<DL		<DL			0.2143	0.7145
Co	<DL	<DL		<DL	<DL		<DL			0.4199	1.3997
Cr	0.0787	0.0775	1.6%	0.0726	0.0763	5.0%	<DL			0.0229	0.0762
Cu	<DL	<DL		<DL	<DL		<DL			0.0163	0.0544
Dy	<DL	<DL		<DL	<DL		<DL			0.0139	0.0464
Fe	1.7976	1.7693	1.6%	1.7284	1.7981	4.0%	0.0169			0.0080	0.0268
K										0.5156	1.7188
La	<DL	<DL		<DL	<DL		<DL			0.0190	0.0634
Li	<DL	<DL		<DL	<DL		<DL			0.0109	0.0364
Mg	0.0135	0.0135	0.3%	0.0124	0.0131	5.6%	0.0031			0.0010	0.0032
Mn	0.0065	0.0054	18.0%	0.0071	0.0090	23.2%	(0.0019)			0.0015	0.0049
Mo	<DL	<DL		<DL	<DL		<DL			0.0130	0.0433
Na	10.0434	9.5021	5.5%	9.6355	9.8082	1.8%	(0.0730)			0.1319	0.4396
Nd	<DL	<DL		<DL	<DL		<DL			0.0942	0.3140
Ni										0.0215	0.0717
P	1.7259	1.6083	7.0%	1.6323	1.6147	1.1%	<DL			0.3847	1.2822
Pb	<DL	<DL		<DL	<DL		<DL			0.0674	0.2248
Re	<DL	<DL		<DL	<DL		<DL			0.0156	0.0522
Rh	<DL	<DL		<DL	<DL		<DL			0.1190	0.3967
Ru	<DL	<DL		<DL	<DL		<DL			0.0712	0.2374
Sb	<DL	<DL		<DL	<DL		<DL			0.1069	0.3562
Se	<DL	<DL		<DL	<DL		<DL			0.1081	0.3602
Si	0.9797	0.9476	3.3%	0.9571	0.9878	3.2%	<DL			0.0587	0.1957
Sr	0.0256	0.0258	0.9%	0.0243	0.0269	9.8%	<DL			0.0013	0.0045
Te	<DL	<DL		<DL	<DL		<DL			0.0650	0.2167
Th	<DL	<DL		<DL	<DL		<DL			0.1658	0.5526
Ti	<DL	<DL		<DL	<DL		<DL			0.0121	0.0404
Tl	<DL	<DL		<DL	<DL		<DL			3.1009	10.3364
U	<DL	<DL		<DL	<DL		<DL			1.3258	4.4192
V	<DL	<DL		<DL	<DL		<DL			0.0107	0.0357
Zn	0.0144	0.0139	3.4%	0.0142	0.0185	26.2%	(0.0032)			0.0046	0.0154
Zr	<DL	<DL		<DL	<DL		<DL			0.0101	0.0337
Bi	1.8579	2.0162	8.2%	1.9366	1.9476	0.6%	<DL				

11/05/90

Date: 10/24/90
Project: SST
Procedure: PNL-SP-7

Analyst: D.E. Dunkelberger 11/9/90
Reviewer: M.W. Ahn 11/9/90

File: icp3619f
Reported: 11/05/90

Sample Log#	90-3619a1	90-3619a2	90-3620a1	90-3620a2	90-3619a3	
ID	S1	S2	S1	S2	S1	S2
Prep Type	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g	0.502	0.556	0.508	0.573	0.535	
Makeup Vol-mL	250.0	250.0	250.0	250.0	250.0	
Dil: Smpl-mL	1.0198	1.0198	1.0198	1.0198	1.0198	
Dil: Vol-mL	10.00	10.00	10.00	10.00	10.00	
Prep Factor	5385.10	4858.31	5320.41	4715.84	5053.46	
Spike ID						
Spike Vol-mL						
Spike Dilution						
ICP Dilution	1.00	1.00	1.00	1.00	1.00	
Wt% Factor	0.53851	0.48583	0.53204	0.47158	0.50535	
ICP Run #	2030	2029	2031	2032	2028	
Weight % Ag	-0.0015	-0.0009	-0.0052	-0.0027	-0.0004	
Al	0.0065	0.0082	-0.0044	0.0052	-0.0057	
As	-0.0231	-0.0222	-0.0235	-0.0125	-0.0171	
B	0.0099	0.0004	-0.0084	-0.0056	0.0036	
Ba	0.0020	0.0022	0.0010	0.0010	0.0005	
Be	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	
Ca	0.0585	0.0563	0.0619	0.0559	0.0221	
Cd	0.0006	0.0002	-0.0014	-0.0001	-0.0001	
Ce	-0.0371	-0.0237	-0.0691	-0.0395	-0.0318	
Co	-0.0786	-0.0592	-0.1250	-0.0726	-0.0636	
Cr	0.0787	0.0775	0.0726	0.0763	0.0014	
Cu	0.0016	0.0018	0.0017	0.0065	-0.0001	
Dy	-0.0011	-0.0005	-0.0032	-0.0023	-0.0010	
Fe	1.7976	1.7693	1.7284	1.7981	0.0169	
K	245.6223	293.1526	244.5977	242.1795	303.6647	
La	-0.0025	-0.0018	-0.0062	-0.0045	-0.0028	
Li	-0.0032	-0.0024	-0.0042	-0.0037	-0.0025	
Mg	0.0135	0.0135	0.0124	0.0131	0.0031	
Mn	0.0065	0.0054	0.0071	0.0090	0.0019	
Mo	-0.0008	0.0015	-0.0029	-0.0011	-0.0002	
Na	10.0434	9.5021	9.6355	9.8082	0.0730	
Nd	-0.0131	-0.0060	-0.0449	-0.0379	-0.0052	
Ni	0.3703	0.2503	0.8762	1.7482	0.0519	
P	1.7259	1.6083	1.6323	1.6147	0.0287	
Pb	0.0020	0.0089	-0.0096	-0.0042	-0.0167	
Re	-0.0020	-0.0023	-0.0036	-0.0037	-0.0019	
Rh	-0.0181	-0.0168	-0.0397	-0.0262	-0.0175	
Ru	0.0106	0.0108	0.0010	0.0060	-0.0072	
Sb	-0.0038	-0.0015	-0.0224	-0.0132	0.0010	
Se	-0.0001	0.0137	-0.0281	0.0236	0.0092	
Si	0.9797	0.9476	0.9571	0.9878	0.0294	
Sr	0.0256	0.0258	0.0243	0.0269	-0.0000	
Te	-0.0042	-0.0135	-0.0249	-0.0230	-0.0211	
Th	-0.0244	-0.0250	-0.0678	-0.0459	-0.0280	
Ti	0.0001	0.0013	-0.0031	-0.0023	-0.0004	
Tl	-0.1725	-0.0424	-0.4747	-0.5009	-0.1194	
U	-0.1595	-0.0973	-0.3359	-0.1416	-0.1952	
V	-0.0015	-0.0008	-0.0036	-0.0018	-0.0014	
Zn	0.0144	0.0139	0.0142	0.0185	0.0032	
Zr	-0.0005	-0.0009	-0.0032	-0.0018	-0.0005	
Bi	1.8579	2.0162	1.9366	1.9476	-0.0051	

Date: 10/24/90
Project: SST
Procedure: PNL-SP-7
MT&E: WA55672

Data Entry By: JTG 11/1/90
Data Verified By: TMC 11/9/90

File: icp3619f

MWH 12/7/90

Sample ID:	90-3619a1	90-3619a2	90-3620a1	90-3620a2	90-3619a3
ICP Run #	2030	2029	2031	2032	2028
(ug/mL) Ag	-0.0030	-0.0020	-0.0100	-0.0060	-0.0010
Al	0.0193	0.0241	-0.0010	0.0183	-0.0040
As	-0.0290	-0.0300	-0.0310	-0.0100	-0.0390
B	0.0372	0.0197	0.0031	0.0069	0.0261
Ba	0.0036	0.0044	0.0019	0.0021	0.0010
Be	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
Ca	0.1087	0.1161	0.1165	0.1187	0.0439
Cd	0.0019	0.0012	-0.0020	0.0004	0.0006
Ce	-0.0730	-0.0530	-0.1340	-0.0880	-0.0670
Co	-0.1690	-0.1450	-0.2580	-0.1770	-0.1490
Cr	0.1453	0.1586	0.1355	0.1609	0.0018
Cu	0.0023	0.0031	0.0025	0.0131	-0.0010
Dy	-0.0020	-0.0010	-0.0060	-0.0050	-0.0020
Fe	3.3380	3.6418	3.2486	3.8129	0.0334
K	456.0700	603.3600	459.6900	513.5000	600.8600
La	-0.0050	-0.0040	-0.0120	-0.0100	-0.0060
Li	-0.0070	-0.0060	-0.0090	-0.0090	-0.0060
Mg	0.0252	0.0280	0.0234	0.0279	0.0064
Mn	0.0122	0.0113	0.0136	0.0193	0.0040
(ug/mL) Mo	-0.0010	0.0035	-0.0050	-0.0020	-0.0000
Na	18.6390	19.5470	18.0990	20.7870	0.1331
Nd	-0.0260	-0.0440	-0.0860	-0.0820	-0.0120
Ni	0.6874	0.5149	1.6466	3.7067	0.1025
P	3.2186	3.3242	3.0817	3.4376	0.0704
Pb	0.0118	0.0263	-0.0100	-0.0010	-0.0250
Re	-0.0040	-0.0050	-0.0070	-0.0000	-0.0040
Rh	-0.0380	-0.0390	-0.0790	-0.0600	-0.0390
Ru	0.0059	0.0084	-0.0120	-0.0010	-0.0280
Sb	-0.0190	-0.0150	-0.0540	-0.0400	-0.0100
Se	0.0404	0.0728	-0.0150	0.0954	0.0162
Si	1.8207	1.9518	1.8004	2.0961	0.0596
Sr	0.0475	0.0531	0.0458	0.0570	-0.0000
Te	-0.0030	-0.0230	-0.0420	-0.0440	-0.0370
Th	-0.0500	-0.0560	-0.1320	-0.1020	-0.0600
Ti	0.0000	0.0026	-0.0060	-0.0050	-0.0010
Tl	-0.2540	-0.0210	-0.8260	-0.9960	-0.1700
U	-0.3560	-0.2600	-0.6910	-0.3600	-0.4460
V	-0.0030	-0.0020	-0.0070	-0.0040	-0.0030
Zn	0.0277	0.0296	0.0276	0.0401	0.0072
Zr	-0.0010	-0.0020	-0.0060	-0.0040	-0.0010
(ug/mL) Bi	3.4500	4.1500	3.6400	4.1300	-0.0100

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

Prepared By:	Date:	Project:

Title/Subject:

24 OCT 90

TEMP FILE
OCT24-25.WK1

2018	ICV 1	
19	CH3	
20	CL 1	
21	90-3617	A3
22		A2
23		A1
24	3618	A1
25		A2
26	CH2	
27	CL 1	
28	90-3619	A3
29		A2
30		A1
31	3620	A1
32		A2
33	CH3	
34	CL 1	

ICP 3617F
2023, 2022, 2024, 2025, 2021

ICP 3619F
2030, 2029, 2031, 2032, 2028

E03-018

9 1 1 2 1 3 5 1 3 7 9

Date: Aug. 21 1990

Analyst: [illegible]
6-3089 P7-22

Review: [illegible]

COC # 274

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B; C16

Segment(s): 3

☐ Composite

☐ Prehomogenized ☑ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
NA	90-3617-A-1	ICP	0.5321	0.2168			250			10.93x	2% HCl	1.0068/10.001	
↓	90-3617-A-2	"	0.5295	0.2575			250			↓	"	↓	
↓	90-3617-A-3	"	—	—			250			↓	"	↓	Reagent blank
NA	90-3618-A-1	ICP	0.5171	0.2161			250			↓	"	↓	
↓	90-3618-A-2	"	0.5121	0.2274			250			↓	"	↓	
				Note: do not									
				use sample									
				dry weight									

E03-019

9 1 1 2 1 0 5 1 3 8 0

Date: Aug. 23 1990

Analyst: [illegible] 6-3089 P7-22

Review: [illegible]

COC# 276

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B, C16

Segment(s): 5

☐ Composite

☐ Prehomogenized ☑ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
NA	90-3619-A-1	ICP	0.5017				250			10.81x	2% HCl	1.0198/10.001	
↓	90-3619-A-2	"	0.5561				250			↓	"	↓	
↓	90-3619-A-3	"	—				250			↓	"	↓	reagent blank
NA	90-3620-A-1	ICP	0.5078				250			↓	"	↓	
↓	90-3620-A-2	"	0.5729				250			↓	"	↓	

E03-020

Base ICP entry template

Sample Analysis D10/24/90 10/25/90

Sample ID:		ICV-1	CH3	CL1	90-3617a3	90-3617a2	90-3617a1	90-3618a1	90-3618a2
ICP Run #		2018	2019	2020	2021	2022	2023	2024	2025
(ug/mL)	Ag	0.4821	0.0430	-0.0010	-0.0030	-0.0030	0.0014	-0.0010	-0.0040
	Al	2.1658	9.9519	-0.0070	-0.0050	0.0058	0.0067	0.0125	0.0135
	As	0.2862	1.9909	0.0023	-0.0460	-0.0240	-0.0360	-0.0410	-0.0040
	B	0.0211	4.9809	0.0336	0.0624	0.0377	0.0549	0.0441	0.0488
	Ba	2.0587	0.0022	0.0002	0.0015	0.0034	0.0032	0.0038	0.0043
	Be	0.4910	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Ca	47.3600	9.9710	0.0000	0.0425	0.1127	0.1070	0.1179	0.1096
	Cd	0.5108	9.9831	0.0000	0.0008	0.0007	0.0010	-0.0010	-0.0010
	Ce	0.0139	0.3082	0.0028	-0.0710	-0.0610	-0.0520	-0.0490	-0.0750
	Co	0.4915	0.2396	-0.0010	-0.1470	-0.1530	-0.1180	-0.1160	-0.1590
	Cr	0.5304	9.9792	0.0000	-0.0040	0.1786	0.1448	0.1383	0.1503
	Cu	0.5332	0.0547	0.0001	-0.0010	0.0133	0.0147	0.0136	0.0142
	Dy	0.0043	9.9523	0.0015	-0.0020	-0.0030	0.0000	-0.0020	-0.0020
	Fe	2.0344	0.0320	0.0000	0.0185	3.3875	3.2073	3.0868	3.4516
	K	51.0980	49.4920	-0.0260	531.1700	510.1400	527.7500	636.4600	646.6500
	La	0.0114	9.9704	-0.0010	-0.0050	-0.0040	-0.0060	-0.0030	-0.0050
	Li	0.0018	19.7750	-0.0010	-0.0060	-0.0070	-0.0060	-0.0060	-0.0060
	Mg	24.8720	0.0031	0.0000	0.0082	0.0241	0.0235	0.0236	0.0249
	Mn	0.5172	9.9774	0.0000	0.0022	0.0144	0.0134	0.0145	0.0136
(ug/mL)	Mo	0.0073	0.0347	0.0000	-0.0020	0.0004	0.0026	-0.0010	0.0016
	Na	51.1640	98.9360	-0.0290	0.1369	17.9320	17.7610	17.2170	18.7580
	Nd	0.0788	9.9554	-0.0020	-0.0150	-0.0220	-0.0120	-0.0090	-0.0260
	Ni	0.5022	0.0883	-0.0020	0.0791	0.3729	0.2100	0.4236	0.3627
	P	0.2581	9.7536	0.0782	-0.0040	3.3399	3.1248	3.2304	3.2734
	Pb	4.8571	0.3211	0.0054	-0.0240	-0.0100	-0.0020	0.0327	-0.0030
	Re	0.0141	9.9671	-0.0020	-0.0040	-0.0080	-0.0020	-0.0050	-0.0020
	Rh	-0.0030	0.4532	0.0050	-0.0430	-0.0340	-0.0340	-0.0380	-0.0360
	Ru	0.0100	9.9808	-0.0140	-0.0310	0.0013	0.0054	-0.0010	-0.0030
	Sb	0.2418	0.0459	-0.0100	-0.0380	-0.0270	0.0000	-0.0060	-0.0250
	Se	0.2280	9.9871	0.0226	0.0065	0.0097	0.0760	0.0146	0.0323
	Si	0.1013	9.9523	-0.0040	0.0727	1.7003	1.7134	1.6573	1.8099
	Sr	0.0148	0.0654	0.0000	0.0000	0.0515	0.0519	0.0501	0.0542
	Te	0.0438	0.3858	-0.0010	-0.0200	-0.0290	-0.0160	-0.0310	-0.0350
	Th	0.0120	9.9561	-0.0040	-0.0480	-0.0760	-0.0500	-0.0520	-0.0600
	Ti	0.0011	0.0412	-0.0010	-0.0020	-0.0010	0.0015	-0.0020	0.0000
	Tl	0.1059	9.8729	0.3390	-0.0420	-0.1700	-0.3810	-0.3180	-0.3390
	U	0.0310	1.3857	0.0155	-0.4430	-0.2760	-0.2260	-0.1610	-0.3070
	V	0.4999	0.0408	-0.0010	-0.0040	-0.0030	-0.0020	-0.0020	-0.0050
	Zn	3.8955	0.0129	0.0011	0.0070	0.0222	0.0197	0.0209	0.0210
	Zr	0.0076	0.9384	0.0001	-0.0030	0.0025	-0.0020	-0.0020	0.0000

CH2 2026	CL1 2027	90-3619a3 2028	90-3619a2 2029	90-3619a1 2030	90-3620a1 2031	90-3620a2 2032	CH3 2033	CL1 2034	CH3 2038
0.0906	-0.0030	-0.0010	-0.0020	-0.0030	-0.0100	-0.0060	0.0381	-0.0040	0.0407
0.3919	0.0106	-0.0040	0.0241	0.0193	-0.0010	0.0183	9.8835	0.0058	9.8530
10.0020	-0.0380	-0.0390	-0.0300	-0.0290	-0.0310	-0.0100	1.9459	-0.0460	1.9540
0.0314	-0.0010	0.0261	0.0197	0.0372	0.0031	0.0069	4.9362	0.0330	4.9369
9.9450	0.0000	0.0010	0.0044	0.0036	0.0019	0.0021	0.0010	-0.0010	0.0029
0.9936	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014	0.0000	0.0013
0.0347	-0.0010	0.0439	0.1161	0.1087	0.1165	0.1187	9.9344	0.0000	9.8612
0.0191	0.0016	0.0006	0.0012	0.0019	-0.0020	0.0004	9.9682	0.0000	9.7973
9.9024	-0.0200	-0.0670	-0.0530	-0.0730	-0.1340	-0.0880	0.2566	-0.0420	0.2755
9.8385	-0.0650	-0.1490	-0.1450	-0.1690	-0.2580	-0.1770	0.1738	-0.0750	0.2024
0.0172	-0.0010	0.0018	0.1586	0.1453	0.1355	0.1609	9.9428	-0.0020	9.8087
9.9363	-0.0010	-0.0010	0.0031	0.0023	0.0025	0.0131	0.0524	-0.0020	0.0531
0.0175	-0.0020	-0.0020	-0.0010	-0.0020	-0.0060	-0.0050	9.9231	-0.0020	9.8487
9.9189	0.0003	0.0334	3.6418	3.3380	3.2486	3.8129	0.0276	-0.0010	0.0317
-0.1550	-0.1530	600.8600	603.3600	456.0700	459.6900	513.5000	48.8210	-0.1690	49.1150
0.0661	-0.0010	-0.0060	-0.0040	-0.0050	-0.0120	-0.0100	9.9303	-0.0040	9.8356
-0.0050	-0.0050	-0.0060	-0.0060	-0.0070	-0.0090	-0.0090	19.6770	-0.0050	19.7620
9.9222	0.0000	0.0064	0.0280	0.0252	0.0234	0.0279	0.0023	0.0000	0.0027
0.0028	0.0000	0.0040	0.0113	0.0122	0.0136	0.0193	9.9356	0.0000	9.8137
9.9411	-0.0010	0.0000	0.0035	-0.0010	-0.0050	-0.0020	0.0359	-0.0010	0.0345
9.8382	-0.0530	0.1331	19.5470	18.6390	18.0990	20.7870	98.5930	-0.0910	98.6880
0.1217	-0.0070	-0.0120	-0.0140	-0.0260	-0.0860	-0.0820	9.8989	-0.0330	9.8310
9.9300	-0.0010	0.1025	0.5149	0.6874	1.6466	3.7067	0.0807	-0.0070	0.0838
4.0282	0.1721	0.0704	3.3242	3.2186	3.0817	3.4376	8.8072	0.0430	10.0220
9.8975	-0.0020	-0.0250	0.0263	0.0118	-0.0100	-0.0010	0.2930	-0.0080	0.3054
0.0132	-0.0040	-0.0040	-0.0050	-0.0040	-0.0070	-0.0080	9.9243	-0.0060	9.8248
9.9023	-0.0160	-0.0390	-0.0390	-0.0380	-0.0790	-0.0600	0.4144	-0.0360	0.4170
0.0958	-0.0130	-0.0280	0.0084	0.0059	-0.0120	-0.0010	9.9456	-0.0240	9.7904
9.9020	-0.0080	-0.0100	-0.0150	-0.0190	-0.0540	-0.0400	0.0500	-0.0170	0.0576
1.1738	0.0420	0.0162	0.0728	0.0404	-0.0150	0.0954	9.9515	0.0065	9.7399
0.2945	-0.0020	0.0596	1.9518	1.8207	1.8004	2.0961	9.8796	-0.0230	9.8338
9.9480	0.0000	0.0000	0.0531	0.0475	0.0458	0.0570	0.0644	-0.0010	0.0632
9.8919	0.0073	-0.0370	-0.0230	-0.0030	-0.0420	-0.0440	0.3712	-0.0290	0.3896
0.9069	-0.0380	-0.0600	-0.0560	-0.0500	-0.1320	-0.1020	9.8901	-0.0680	9.8445
9.9345	-0.0010	-0.0010	0.0026	0.0000	-0.0060	-0.0050	0.0353	-0.0060	0.0390
2.0975	0.3178	-0.1700	-0.0210	-0.2540	-0.8260	-0.9960	8.9831	-0.5080	9.4843
33.5070	-0.1640	-0.4460	-0.2600	-0.3560	-0.6910	-0.3600	1.1997	-0.2360	1.2548
9.9228	-0.0030	-0.0030	-0.0020	-0.0030	-0.0070	-0.0040	0.0376	-0.0020	0.0382
9.9047	0.0004	0.0072	0.0296	0.0277	0.0276	0.0401	0.0097	0.0000	0.0113
9.9374	0.0000	-0.0010	-0.0020	-0.0010	-0.0060	-0.0040	0.9308	-0.0030	0.9066

CL1 2039	90-4178a3 2040	90-4178a2 2041	90-4178a1 2042	90-4179a1 2043	90-4179a2 2044	CL1 2045	CH2 2046
-0.0020	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050	0.0913
0.0048	0.0048	0.2568	0.3226	0.3761	0.3828	-0.0090	0.3561
0.0155	0.0131	-0.0340	0.0334	0.0268	0.0083	0.0268	10.0430
0.0648	0.0270	0.0211	0.0139	0.0095	0.0103	0.0011	0.0311
0.0004	0.0224	0.0029	0.0036	0.0244	0.0039	-0.0010	10.0300
0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0016
0.0003	0.1021	0.1276	0.1467	0.2515	0.1698	0.0001	0.0310
0.0016	0.0000	-0.0020	-0.0010	-0.0020	-0.0020	-0.0010	0.0165
0.0181	-0.0640	-0.0580	-0.0810	-0.0770	-0.0880	-0.0320	9.9638
0.0421	-0.1250	-0.1190	-0.1590	-0.1540	-0.1500	-0.0480	9.8782
0.0000	-0.0020	0.1318	0.1716	0.1929	0.1937	-0.0030	0.0162
0.0016	0.0157	0.0600	0.0725	0.0572	0.0565	-0.0010	10.0130
-0.0010	-0.0040	-0.0040	-0.0050	-0.0060	-0.0060	-0.0050	0.0139
0.0012	0.0299	3.0802	4.0422	4.5240	4.5230	0.0000	9.9860
0.1141	466.8700	498.4500	470.3600	472.4800	509.0200	0.0000	-0.0390
0.0015	-0.0040	-0.0040	-0.0070	-0.0070	-0.0060	-0.0030	0.0639
0.0036	-0.0030	-0.0030	-0.0030	-0.0030	-0.0030	-0.0030	-0.0030
0.0001	0.0095	0.0276	0.0318	0.0321	0.0260	0.0000	9.9766
0.0004	0.0105	0.0172	0.0195	0.0347	0.0439	0.0000	0.0028
0.0014	-0.0030	-0.0030	-0.0050	-0.0030	-0.0030	-0.0050	9.9921
0.0074	0.1146	15.9890	21.0390	22.8590	23.0950	-0.0280	9.9873
-0.0020	-0.0130	-0.0170	-0.0300	-0.0250	-0.0350	-0.0120	0.0911
0.0021	0.1805	1.0989	1.6647	3.0087	1.6326	-0.0040	9.9752
0.0111	-0.0810	2.6903	3.3001	3.5957	3.8359	-0.1000	3.8174
-0.0010	-0.0140	0.0319	0.0346	0.0301	0.0565	-0.0110	9.9936
0.0017	-0.0050	0.0017	-0.0010	-0.0010	-0.0060	-0.0010	0.0172
0.0062	-0.0330	-0.0310	-0.0540	-0.0600	-0.0540	-0.0210	9.9852
-0.0020	-0.0130	0.0127	0.0170	0.0284	0.0212	-0.0090	0.1137
-0.0300	-0.0160	-0.0320	-0.0230	-0.0250	-0.0320	-0.0460	9.9678
0.0311	-0.0280	0.0164	0.0180	0.0033	0.0049	0.0082	1.2381
0.0073	0.0303	1.6919	2.2147	2.5033	2.4924	-0.0100	0.3069
0.0001	0.0000	0.0440	0.0573	0.0639	0.0639	0.0000	10.0320
-0.0110	-0.0480	-0.0360	-0.0350	-0.0170	-0.0230	-0.0300	9.9713
0.0177	-0.0300	-0.0300	-0.0330	-0.0280	-0.0510	-0.0260	0.8958
0.0000	0.0000	-0.0030	-0.0020	-0.0020	0.0000	-0.0030	10.0030
-0.5380	-0.6280	-0.7400	-1.0310	-1.3900	-1.3000	-1.6820	0.5157
0.1469	-0.3980	-0.2020	-0.2970	-0.2780	-0.2720	-0.1650	33.3620
-0.0010	-0.0040	-0.0050	-0.0330	-0.0040	-0.0040	-0.0030	9.9954
0.0011	0.0276	0.0424	0.0463	0.0719	0.0529	-0.0010	9.9632
0.0011	-0.0020	-0.0010	-0.0030	-0.0020	-0.0030	-0.0010	10.0110

```
>NORM ALLELE
Result file (<CR> for no storage) = SIMN1
 o you wish to normalise all standards [Y/N] ? N

The following standards are used in this programme(s) :
 CL01   CH04    CH03    CH02

Do you want to run CL01   [Y/N] ?

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL01
Programme       : ALLELE          24-Oct-90  13:30:25
[1] Direct Intensities
AG 5.05000 AL 8.61000 AS 13.9300 B0 4.46000 BA 5.74000 BE 5.80000 CA 3.41000
CD 7.79000 CE 12.7800 CO 38.8100 CR 5.34000 CU 11.1800 DY 6.89000 FE 5.78000
K1 27.0400 LA 7.79000 LI 5.07000 MG 2.74000 MN 5.32000 MO 4.20000 NA 5.98000
ND 5.02000 NI 4.45000 P4 5.80000 PB 7.54000 RE 4.68000 RH 8.48000 RU 9.15000
SB 3.47000 SE 7.93000 SI 5.36000 SR 5.77000 TE 4.14000 TH 7.18000 TI 3.41000
TL 4.43000 U  34.6200 V  9.48000 ZN 4.00000 ZR 6.80000
[1] Direct Intensities
AG 5.02000 AL 8.60000 AS 14.2600 B0 4.48000 BA 5.77000 BE 5.80000 CA 3.44000
CD 7.70000 CE 12.7600 CO 38.6800 CR 5.33000 CU 11.1200 DY 6.82000 FE 5.78000
K1 27.0600 LA 7.79000 LI 5.07000 MG 2.70000 MN 5.31000 MO 4.18000 NA 5.94000
ND 4.97000 NI 4.40000 P4 5.81000 PB 7.40000 RE 4.64000 RH 8.48000 RU 9.10000
SB 3.47000 SE 7.94000 SI 5.34000 SR 5.79000 TE 4.08000 TH 7.16000 TI 3.39000
TL 4.40000 U  34.4800 V  9.40000 ZN 3.94000 ZR 6.77000
[1] Direct Intensities
AG 5.07000 AL 8.62000 AS 13.7200 B0 4.52000 BA 5.72000 BE 5.80000 CA 3.48000
CD 7.69000 CE 12.7600 CO 38.7800 CR 5.31000 CU 11.1600 DY 6.80000 FE 5.77000
K1 27.1200 LA 7.78000 LI 5.10000 MG 2.76000 MN 5.29000 MO 4.28000 NA 5.97000
ND 5.00000 NI 4.40000 P4 5.69000 PB 7.41000 RE 4.65000 RH 8.46000 RU 9.24000
SB 3.48000 SE 7.93000 SI 5.35000 SR 5.74000 TE 4.10000 TH 7.19000 TI 3.42000
TL 4.46000 U  34.5100 V  9.49000 ZN 3.94000 ZR 6.79000
```

NAME	MV INT	RSD	BCOR
AG	5.05	0.50	0.00000
AL	8.61	0.12	0.00000
AS	13.97	1.95	0.00000
B0	4.49	0.68	0.00000
BA	5.74	0.44	0.00000
BE	5.80	0.00	0.00000
CA	3.44	1.02	0.00000
CD	7.73	0.71	0.00000
CE	12.77	0.09	0.00000
CO	38.76	0.18	0.00000
CR	5.33	0.29	0.00000
CU	11.15	0.27	0.00000
DY	6.84	0.69	0.00000
FE	5.78	0.10	0.00000
K1	27.07	0.15	0.00000
LA	7.79	0.07	0.00000
I	5.08	0.34	0.00000
MG	2.73	1.12	0.00000
MN	5.31	0.29	0.00000
MO	4.22	1.25	0.00000
NA	5.96	0.35	0.00000
ND	5.00	0.50	0.00000
NI	4.42	0.45	0.00000

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P4	5.77	1.15	0.00000
PB	7.45	1.05	0.00000
E	4.66	0.45	0.00000
RH	8.47	0.14	0.00000
RU	9.16	0.77	0.00000
SB	3.47	0.17	0.00000
SE	7.93	0.07	0.00000
SI	5.35	0.19	0.00000
SR	5.77	0.44	0.00000
TE	4.11	0.74	0.00000
TH	7.18	0.21	0.00000
TI	3.41	0.45	0.00000
TL	4.43	0.68	0.00000
U	34.54	0.21	0.00000
V	9.46	0.52	0.00000
ZN	3.96	0.87	0.00000
ZR	6.79	0.23	0.00000

Store [N/Y] ? Y

Channel	Old	New	Nominal	Drift
AG	5.17333	5.04667	5.66667	*
AL8	8.61333	8.61000	8.97333	*
AS	14.0133	13.9700	14.6267	*
B04	4.55000	4.48667	5.02333	*
BA02	5.84667	5.74333	6.40000	*
BE	5.89333	5.80000	6.33333	*
CA15	3.50667	3.44333	3.71667	*
CD	7.84333	7.72667	8.38667	*
CE18	13.1400	12.7667	14.1300	*
CO	39.9767	38.7567	42.4667	*
CR21	5.43333	5.32667	5.86667	*
CU	11.4467	11.1533	12.2467	*
DY26	7.02667	6.83667	7.62667	*
FE05	5.91000	5.77667	6.38333	*
K14	27.7633	27.0733	29.0567	*
LA13	7.98000	7.78667	8.61667	*
LI10	5.16667	5.08000	5.59000	*
MG6	2.74333	2.73333	3.11333	*
MN20	5.38000	5.30667	5.80000	*
MO23	4.31333	4.22000	4.62667	*
NA22	6.13667	5.96333	6.61667	*
ND16	5.12667	4.99667	5.63000	*
NI19	4.49333	4.41667	4.96667	*
P4	5.91000	5.76667	6.29000	*
PB	7.57000	7.45000	8.10333	*
RE25	4.71000	4.65667	5.18000	*
RH12	8.66000	8.47333	9.30667	*
RU03	9.28333	9.16333	9.96000	*
SB	3.47000	3.47333	3.88000	*
SE	8.05667	7.93333	8.60000	*
SI7	5.42667	5.35000	5.95000	*
SR17	5.83333	5.76667	6.43333	*
TE01	4.13000	4.10667	4.57000	*
TH	7.36667	7.17667	7.99333	*
TI11	3.45000	3.40667	3.83333	*
TL	4.61000	4.43000	5.17333	*
U	35.6500	34.5367	37.8467	*
V	9.70667	9.45667	10.4467	*

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```
ZN9      3.98667 3.96000 4.43000   *
:R24     6.93333 6.78667 7.49333   *
 ******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y


Do you want to run CH04   [Y/N] ? N


Do you want to run CH03   [Y/N] ?

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH03
Programme       : ALLELE          24-Oct-90  13:33:47
[1] Direct Intensities
AL 43.1900 B0 64.2500 CA 2642.00 CD 342.400 CR 133.100 DY 223.100 K1 108.800
LA 165.400 LI 304.000 MN 960.000 NA 181.100 ND 24.3800 P4 14.1700 RE 105.800
RU 88.6600 SE 28.6900 SI 33.2200 TH 23.8000 TL 5.99000
[1] Direct Intensities
AL 43.1000 B0 64.3000 CA 2634.00 CD 343.000 CR 133.300 DY 222.800 K1 108.800
LA 165.200 LI 302.800 MN 960.300 NA 180.800 ND 24.4300 P4 14.3200 RE 105.800
RU 88.6300 SE 28.4000 SI 33.2700 TH 23.8100 TL 6.01000
[1] Direct Intensities
AL 43.3800 B0 65.1300 CA 2656.00 CD 345.400 CR 134.200 DY 224.700 K1 109.500
LA 166.300 LI 305.300 MN 966.200 NA 182.100 ND 24.5200 P4 14.3800 RE 106.400
RU 89.1600 SE 28.5600 SI 33.4300 TH 23.9800 TL 6.01000

 JAME       MV INT       RSD      RCOR

AL           43.22      0.33  0.00000
B0           64.56      0.77  0.00000
CA         2644.00      0.42  0.00000
CD          343.60      0.46  0.00000
CR          133.53      0.44  0.00000
DY          223.53      0.46  0.00000
K1          109.03      0.37  0.00000
LA          165.63      0.35  0.00000
LI          304.03      0.41  0.00000
MN          962.17      0.36  0.00000
NA          181.33      0.38  0.00000
ND           24.44      0.29  0.00000
P4           14.29      0.76  0.00000
RE          106.00      0.33  0.00000
RU           88.82      0.34  0.00000
SE           28.55      0.51  0.00000
SI           33.31      0.33  0.00000
TH           23.86      0.42  0.00000
TL            6.00      0.19  0.00000


Store [N/Y] ? Y

 hannel  Old      New      Nominal Drift
AL8      42.5200 43.2233 42.0700   *
B04      63.4600 64.5600 62.2167   *
CA15     2580.67 2644.00 2528.67   *
CD       338.767 343.600 324.967   *
CR21     131.867 133.533 127.533   *
DY26     216.900 223.533 207.700   *
```

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```
K14      107.933 109.033 107.833   *
LA13     162.100 165.633 157.333   *
 I10     295.433 304.033 291.867   *
MN20     947.700 962.167 919.667   *
NA22     176.033 181.333 172.433   *
ND16     24.0133 24.4433 23.9433   *
P4       15.1667 14.2900 18.0067   *
RE25     103.900 106.000 100.847   *
RU03     87.9267 88.8167 85.9000   *
SE       28.4133 28.5500 28.1333   *
SI7      32.9600 33.3067 32.5300   *
TH       23.5833 23.8633 23.5967
TL       6.15000 6.00333 6.63333   *
[******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y


Do you want to run CH02   [Y/N] ?

Press <CR> when ready to start measurement
24:132H6n
Sample name     : CH02
Programme       : ALLELE          24-Oct-90  13:38:32
[1] Direct Intensities
AS 70.2200 BA 557.800 BE 384.600 CE 36.6900 CO 76.6600 CU 424.700 FE 223.500
MG 1886.00 MO 173.200 NI 70.0200 PB 44.1800 RH 35.1000 SB 19.4700 SR 1737.00
TE 26.9500 TI 93.9900 V  376.200 ZN 455.000 ZR 235.800
[1] Direct Intensities
AS 71.1900 BA 556.400 BE 383.500 CE 36.6300 CO 76.7500 CU 423.100 FE 223.200
MG 1886.00 MO 174.300 NI 70.0800 PB 44.1000 RH 35.0000 SB 19.3500 SR 1731.00
TE 26.8100 TI 93.7900 V  375.700 ZN 454.900 ZR 235.200
[1] Direct Intensities
AS 71.6800 BA 558.800 BE 385.500 CE 36.6900 CO 76.8000 CU 425.300 FE 223.800
MG 1891.00 MO 174.700 NI 70.2800 PB 44.3000 RH 35.1900 SB 19.5700 SR 1738.00
TE 26.9900 TI 94.1800 V  376.900 ZN 455.900 ZR 236.200

NAME       MV INT      RSD     BCOR

AS          71.03     1.05  0.00000
BA         557.67     0.22  0.00000
BE         384.53     0.26  0.00000
CE          36.67     0.09  0.00000
CO          76.74     0.09  0.00000
CU         424.37     0.27  0.00000
FE         223.50     0.13  0.00000
MG        1887.67     0.15  0.00000
MO         174.07     0.45  0.00000
NI          70.13     0.19  0.00000
PB          44.19     0.23  0.00000
RH          35.10     0.27  0.00000
SB          19.46     0.57  0.00000
SR        1735.33     0.22  0.00000
TE          26.92     0.35  0.00000
 I          93.99     0.21  0.00000
V          376.27     0.16  0.00000
ZN         455.27     0.12  0.00000
ZR         235.73     0.21  0.00000
```

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Store [N/Y] ? Y

```
Channel  Old      New      Nominal  Drift
 S       71.4833  71.0300  69.3000   *
BA02     548.467  557.667  521.533   *
BE       383.600  384.533  371.600   *
CE18     36.6833  36.6700  36.5333
CO       78.0800  76.7367  78.5267   *
CU       418.267  424.367  396.833   *
FE05     221.967  223.500  212.567   *
MG6      1893.67  1887.67  1814.00   *
MO23     174.533  174.067  168.133   *
NI19     70.2567  70.1267  67.7067   *
PB       44.4700  44.1933  43.6333   *
RH12     35.4067  35.0967  34.9167
SB       19.3167  19.4633  18.1633   *
SR17     1707.00  1735.33  1631.67   *
TE01     26.6533  26.9167  25.6533   *
TI11     94.0367  93.9867  90.4867   *
V        373.633  376.267  357.833   *
ZN9      456.033  455.267  441.633   *
ZR24     234.467  235.733  227.533   *
[******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y
More standards [Y/N] ? N
>
```

```
 SAMP ALLELE
Result file (<CR> for no storage) = SST1
Sample name     = ICV-1
Sample number   = 2018
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : ICV-1
Sample number   : 2018
Programme       : ALLELE          24-Oct-90  13:42:20
[1] Direct Intensities
Ag 10.6400 Al 16.1200 As 15.4100 B  4.78000 Ba 119.300 Be 192.000 Ca 12518.0
Cd 24.9200 Ce 12.8000 Co 40.6700 Cr 12.1500 Cu 33.2200 Dy 6.93000 Fe 50.0800
K  111.200 La 7.97000 Li 5.13000 Mg 4691.00 Mn 54.8000 Mo 4.40000 Na 95.9200
Nd 5.14000 Ni 7.74000 P  5.90000 Pb 25.2800 Re 4.80000 Rh 8.46000 Ru 9.16000
Sb 3.80000 Se 8.47000 Si 5.65000 Sr 8.31000 Te 4.15000 Th 7.18000 Ti 3.44000
Tl 4.47000 U  34.6200 V  27.8000 Zn 179.700 Zr 6.99000
[1] Direct Intensities
Ag 10.6500 Al 16.1000 As 15.4000 B  4.75000 Ba 119.300 Be 191.500 Ca 12503.0
Cd 24.6800 Ce 12.8000 Co 40.6200 Cr 12.1200 Cu 33.1600 Dy 6.94000 Fe 50.0100
K  110.500 La 7.98000 Li 5.09000 Mg 4688.00 Mn 54.8000 Mo 4.29000 Na 95.4900
Nd 5.17000 Ni 7.70000 P  6.10000 Pb 25.3100 Re 4.80000 Rh 8.47000 Ru 9.27000
Sb 3.89000 Se 8.34000 Si 5.61000 Sr 8.34000 Te 4.27000 Th 7.20000 Ti 3.40000
Tl 4.43000 U  34.6000 V  27.7800 Zn 179.700 Zr 6.96000
[1] Direct Intensities
Ag 10.6600 Al 16.1000 As 16.0000 B  4.69000 Ba 119.500 Be 191.800 Ca 12506.0
Cd 25.0500 Ce 12.8000 Co 40.5800 Cr 12.1100 Cu 33.1800 Dy 6.92000 Fe 50.1200
K  110.800 La 7.95000 Li 5.10000 Mg 4694.00 Mn 54.8000 Mo 4.34000 Na 95.6600
Nd 5.14000 Ni 7.71000 P  5.96000 Pb 25.3000 Re 4.80000 Rh 8.47000 Ru 9.30000
Sb 3.89000 Se 8.40000 Si 5.64000 Sr 8.35000 Te 4.20000 Th 7.21000 Ti 3.41000
Tl 4.44000 U  34.4900 V  27.8000 Zn 179.900 Zr 6.93000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	11.27	0.4821	0.18	0.00000	0.00000
Al	16.14	2.1658	0.15	0.00000	0.00000
As	16.19	0.2862	21.03	0.00000	0.00000
B	5.26	0.0211	18.09	0.00000	0.00000
Ba	112.45	2.0587	0.10	0.00000	0.00000
Be	185.69	0.4910	0.14	0.00000	0.00000
Ca	11961.8	)47.360	0.06	0.00000	0.00000
Cd	24.56	0.5108	1.09	0.00000	0.00000
Ce	14.16	0.0139	0.00	0.00000	0.00000
Co	44.24	0.4915	2.42	0.00000	0.00000
Cr	12.32	0.5304	0.31	0.00000	0.00000
Cu	32.75	0.5332	0.14	0.00000	0.00000
Dy	7.71	0.0043	10.71	0.00000	0.00000
Fe	48.33	2.0344	0.13	0.00000	0.00000
K	109.56	51.098	0.42	0.00000	0.00000
La	8.79	0.0114	8.49	0.00000	0.00000
Li	5.62	0.0018	78.07	0.00000	0.00000
Mg	4507.21	)24.872	0.06	0.00000	0.00000
Mn	53.07	0.5172	0.00	0.00000	0.00000
Mo	4.75	0.0073	44.66	0.00000	0.00000
Na	91.46	51.164	0.24	0.00000	0.00000
Nd	5.77	0.0288	11.38	0.00000	0.00000

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Ni	8.12	0.5022	0.63	0.00000	0.00000
P	6.59	0.2581	46.65	0.00000	0.00000
b	25.36	4.8571	0.09	0.00000	0.00000
Re	5.32	0.0141	0.00	0.00000	0.00000
Rh	9.30	-0.003	-86.60	0.00000	0.00000
Ru	10.04	0.0100	92.14	0.00000	0.00000
Sb	4.23	0.2418	13.44	0.00000	0.00000
Se	9.05	0.2280	13.84	0.00000	0.00000
Si	6.22	0.1013	7.35	0.00000	0.00000
Sr	8.85	0.0148	0.81	0.00000	0.00000
Te	4.66	0.0438	60.28	0.00000	0.00000
Th	8.01	0.0120	76.38	0.00000	0.00000
Ti	3.84	0.0011	208.17	0.00000	0.00000
Tl	5.19	0.1059	124.92	0.00000	0.00000
U	37.88	0.0310	209.98	0.00000	0.00000
V	27.81	0.4999	0.06	0.00000	0.00000
Zn	174.74	3.8955	0.07	0.00000	0.00000
Zr	7.66	0.0076	17.31	0.00000	0.00000

More samples [Y/N] ?
Sample name = CH3
Sample number = 2019
Sample code 1 =
Sample code 2 =
Sample code 3 =

Weight =

Press <CR> when ready to start measurement
24:132H6n
Sample name : CH3
Sample number : 2019
Programme : ALLELE 24-Oct-90 13:46:29
[1] Direct Intensities
Ag 5.54000 Al 43.0100 As 25.3100 B 63.8900 Ba 5.88000 Be 6.38000 Ca 2633.00
Cd 343.100 Ce 13.5200 Co 39.6800 Cr 133.200 Cu 13.4000 Dy 222.300 Fe 6.49000
K 108.300 La 165.000 Li 300.500 Mg 3.35000 Mn 959.600 Mo 4.81000 Na 179.600
Nd 24.3300 Ni 4.99000 P 14.1000 Pb 8.63000 Re 105.700 Rh 9.68000 Ru 88.6400
Sb 3.54000 Se 28.2200 Si 33.1700 Sr 17.0500 Te 5.01000 Th 23.7800 Ti 3.77000
Tl 6.00000 U 36.0900 V 10.9500 Zn 4.56000 Zr 28.2800
[1] Direct Intensities
Ag 5.54000 Al 43.1700 As 25.2100 B 64.5800 Ba 5.81000 Be 6.35000 Ca 2647.00
Cd 343.700 Ce 13.4800 Co 39.5800 Cr 133.500 Cu 13.4000 Dy 223.300 Fe 6.47000
K 108.400 La 165.700 Li 302.000 Mg 3.31000 Mn 962.400 Mo 4.81000 Na 180.000
Nd 24.4100 Ni 5.00000 P 14.1600 Pb 8.57000 Re 105.800 Rh 9.69000 Ru 88.9900
Sb 3.54000 Se 28.7100 Si 33.2500 Sr 17.0900 Te 4.96000 Th 23.8100 Ti 3.79000
Tl 5.96000 U 36.0000 V 10.9500 Zn 4.49000 Zr 28.3400
[1] Direct Intensities
Ag 5.56000 Al 42.9900 As 25.4700 B 64.5200 Ba 5.90000 Be 6.35000 Ca 2629.00
Cd 342.300 Ce 13.5100 Co 39.7400 Cr 133.100 Cu 13.4400 Dy 221.900 Fe 6.46000
K 107.900 La 164.800 Li 299.500 Mg 3.30000 Mn 958.000 Mo 4.81000 Na 178.800
Nd 24.3300 Ni 5.00000 P 13.9800 Pb 8.69000 Re 105.500 Rh 9.67000 Ru 88.3600
b 3.56000 Se 28.6400 Si 33.1000 Sr 17.0700 Te 4.99000 Th 23.7800 Ti 3.78000
Tl 5.99000 U 35.9900 V 10.9600 Zn 4.57000 Zr 28.1900

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.17	0.0430	2.31	0.00000	0.00000
Al	41.91	9.9519	0.20	0.00000	0.00000

E03-030

As	25.51	1.9909	1.15	0.00000	0.00000
B	62.00	4.9809	0.64	0.00000	0.00000
a	6.51	0.0022	39.38	0.00000	0.00000
Be	6.87	0.0015	3.09	0.00000	0.00000
Ca	2521.34	9.9710	0.36	0.00000	0.00000
Cd	324.43	9.9831	0.21	0.00000	0.00000
Ce	14.82	0.3082	2.83	0.00000	0.00000
Co	43.33	0.2396	8.88	0.00000	0.00000
Cr	127.28	9.9792	0.16	0.00000	0.00000
Cu	14.35	0.0547	1.02	0.00000	0.00000
Dy	206.75	9.9523	0.33	0.00000	0.00000
Fe	7.04	0.0320	2.19	0.00000	0.00000
K	107.03	49.492	0.33	0.00000	0.00000
La	156.89	9.9704	0.30	0.00000	0.00000
Li	288.64	19.775	0.43	0.00000	0.00000
Mg	3.68	0.0031	4.51	0.00000	0.00000
Mn	917.60	9.9774	0.23	0.00000	0.00000
Mo	5.19	0.0347	0.00	0.00000	0.00000
Na	170.67	98.936	0.35	0.00000	0.00000
Nd	23.86	9.9554	0.24	0.00000	0.00000
Ni	5.52	0.0883	1.00	0.00000	0.00000
P	17.72	9.7536	1.10	0.00000	0.00000
Pb	9.24	0.3211	5.08	0.00000	0.00000
Re	100.53	9.9671	0.15	0.00000	0.00000
Rh	10.47	0.4532	0.83	0.00000	0.00000
Ru	85.75	9.9808	0.40	0.00000	0.00000
Sb	3.95	0.0459	15.75	0.00000	0.00000
Se	28.11	9.9871	1.29	0.00000	0.00000
Si	32.40	9.9523	0.27	0.00000	0.00000
Sr	17.05	0.0654	0.18	0.00000	0.00000
Te	5.38	0.3858	2.86	0.00000	0.00000
Th	23.53	9.9561	0.10	0.00000	0.00000
Ti	4.19	0.0412	2.68	0.00000	0.00000
Tl	6.61	9.8729	1.34	0.00000	0.00000
U	39.30	1.3857	3.70	0.00000	0.00000
V	11.86	0.0408	0.39	0.00000	0.00000
Zn	4.99	0.0129	7.52	0.00000	0.00000
Zr	28.14	0.9384	0.35	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2020
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL1
Sample number   : 2020
Programme       : ALLELE        24-Oct-90  13:52:46
[1] Direct Intensities
Ag 5.01000 Al 8.60000 As 13.9400 B  4.98000 Ba 5.78000 Be 5.82000 Ca 3.46000
Cd 7.70000 Ce 12.7900 Co 38.8000 Cr 5.32000 Cu 11.1900 Dy 6.89000 Fe 5.79000
K  27.0200 La 7.77000 Li 5.09000 Mg 2.74000 Mn 5.34000 Mo 4.23000 Na 5.91000
Nd 4.99000 Ni 4.42000 P  5.80000 Pb 7.49000 Re 4.70000 Rh 8.49000 Ru 9.11000
Sb 3.46000 Se 8.01000 Si 5.34000 Sr 5.75000 Te 4.11000 Th 7.18000 Ti 3.39000
Tl 4.48000 U  34.6500 V  9.43000 Zn 4.00000 Zr 6.80000
```

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[1] Direct Intensities

Ag	5.01000	Al	8.58000	As	14.2200	B	4.89000	Ba	5.72000	Be	5.80000	Ca	3.37000
d	7.72000	Ce	12.7900	Co	38.7500	Cr	5.31000	Cu	11.1500	Dy	6.81000	Fe	5.76000
K	26.9900	La	7.76000	Li	5.06000	Mg	2.70000	Mn	5.28000	Mo	4.19000	Na	5.93000
Nd	4.99000	Ni	4.39000	P	5.90000	Pb	7.44000	Re	4.58000	Rh	8.51000	Ru	8.96000
Sb	3.40000	Se	7.94000	Si	5.34000	Sr	5.78000	Te	4.08000	Th	7.18000	Ti	3.40000
Tl	4.48000	U	34.5100	V	9.46000	Zn	3.98000	Zr	6.78000				

[1] Direct Intensities

Ag	5.08000	Al	8.58000	As	13.7900	B	4.80000	Ba	5.77000	Be	5.81000	Ca	3.43000
Cd	7.73000	Ce	12.7400	Co	38.7100	Cr	5.34000	Cu	11.1300	Dy	6.91000	Fe	5.78000
K	27.0800	La	7.80000	Li	5.05000	Mg	2.74000	Mn	5.30000	Mo	4.24000	Na	5.90000
Nd	5.00000	Ni	4.40000	P	5.80000	Pb	7.48000	Re	4.64000	Rh	8.46000	Ru	9.09000
Sb	3.51000	Se	7.99000	Si	5.34000	Sr	5.74000	Te	4.12000	Th	7.15000	Ti	3.39000
Tl	4.49000	U	34.5000	V	9.42000	Zn	4.05000	Zr	6.79000				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.65	-0.001	-303.09	0.00000	0.00000
Al	8.95	-0.007	-49.49	0.00000	0.00000
As	14.64	0.0023	1637.04	0.00000	0.00000
B	5.41	0.0336	22.31	0.00000	0.00000
Ba	6.41	0.0002	241.08	0.00000	0.00000
Be	6.34	0.0000	100.01	0.00000	0.00000
Ca	3.69	-0.000	-196.40	0.00000	0.00000
Cd	8.38	-0.000	-152.75	0.00000	0.00000
Ce	14.14	0.0028	433.16	0.00000	0.00000
Co	42.46	-0.001	-1351.8	0.00000	0.00000
Cr	5.86	-0.000	-458.25	0.00000	0.00000
Cu	12.25	0.0001	917.12	0.00000	0.00000
Dy	7.66	0.0015	158.74	0.00000	0.00000
Fe	6.38	0.0000		0.00000	0.00000
K	29.02	-0.026	-105.77	0.00000	0.00000
La	8.61	-0.001	-208.18	0.00000	0.00000
Li	5.58	-0.001	-156.12	0.00000	0.00000
Mg	3.11	-0.000	-346.43	0.00000	0.00000
Mn	5.80	0.0000		0.00000	0.00000
Mo	4.63	-0.000	*******	0.00000	0.00000
Na	6.57	-0.029	-30.55	0.00000	0.00000
Nd	5.63	-0.002	-173.15	0.00000	0.00000
Ni	4.95	-0.002	-114.57	0.00000	0.00000
P	6.38	0.0782	86.60	0.00000	0.00000
Pb	8.12	0.0054	132.29	0.00000	0.00000
Re	5.16	-0.002	-359.99	0.00000	0.00000
Rh	9.32	0.0050	188.75	0.00000	0.00000
Ru	9.86	-0.014	-74.04	0.00000	0.00000
Sb	3.87	-0.010	-330.44	0.00000	0.00000
Se	8.64	0.0226	77.26	0.00000	0.00000
Si	5.94	-0.004	0.00	0.00000	0.00000
Sr	6.42	-0.000	-208.14	0.00000	0.00000
Te	4.57	-0.001	-624.64	0.00000	0.00000
Th	7.99	-0.004	-259.76	0.00000	0.00000
Ti	3.82	-0.001	-43.30	0.00000	0.00000
Tl	5.22	0.3390	10.83	0.00000	0.00000
U	37.86	0.0155	503.20	0.00000	0.00000
V	10.43	-0.001	-104.09	0.00000	0.00000
Zn	4.48	0.0011	72.11	0.00000	0.00000
Zr	7.50	0.0001	300.04	0.00000	0.00000

```
More samples [Y/N] ? Sample name     = 903617
Sample number  = 2021
 ample code 1  = A3
Sample code 2  = BLK
Sample code 3  = DIRECT
Weight         =

Press <CR> when ready to start measurement
24;132H6n
Sample name    : 903617
Sample number  : 2021
Sample code 1  : A3
Sample code 2  : BLK
Sample code 3  : DIRECT
Programme      : ALLELE          24-Oct-90  13:56:49
[1] Direct Intensities
Ag 5.01000 Al 8.60000 As 13.8000 B  5.26000 Ba 5.00000 Be 5.80000 Ca 14.6700
Cd 7.81000 Ce 12.5800 Co 38.2100 Cr 5.27000 Cu 11.1100 Dy 6.80000 Fe 6.19000
K  897.400 La 7.71000 Li 4.97000 Mg 4.28000 Mn 5.51000 Mo 4.21000 Na 6.22000
Nd 4.97000 Ni 4.93000 P  5.74000 Pb 7.33000 Re 4.63000 Rh 8.38000 Ru 8.93000
Sb 3.47000 Se 7.98000 Si 5.56000 Sr 5.70000 Te 4.01000 Th 7.08000 Ti 3.39000
Tl 4.47000 U  34.0800 V  9.35000 Zn 4.28000 Zr 6.71000
[1] Direct Intensities
Ag 5.00000 Al 8.60000 As 13.7400 B  5.24000 Ba 5.80000 Be 5.80000 Ca 14.6500
Cd 7.75000 Ce 12.6100 Co 38.2100 Cr 5.28000 Cu 11.0900 Dy 6.78000 Fe 6.19000
K  893.700 La 7.73000 Li 4.98000 Mg 4.28000 Mn 5.50000 Mo 4.18000 Na 6.20000
Nd 4.98000 Ni 4.94000 P  5.75000 Pb 7.42000 Re 4.57000 Rh 8.36000 Ru 8.91000
Sb 3.37000 Se 7.90000 Si 5.53000 Sr 5.74000 Te 4.12000 Th 7.09000 Ti 3.38000
 l 4.43000 U  34.1000 V  9.33000 Zn 4.28000 Zr 6.74000
[1] Direct Intensities
Ag 5.02000 Al 8.58000 As 13.5900 B  5.21000 Ba 5.88000 Be 5.78000 Ca 14.6700
Cd 7.70000 Ce 12.6000 Co 38.1800 Cr 5.29000 Cu 11.1400 Dy 6.80000 Fe 6.16000
K  902.200 La 7.66000 Li 5.00000 Mg 4.30000 Mn 5.54000 Mo 4.19000 Na 6.19000
Nd 4.95000 Ni 4.94000 P  5.80000 Pb 7.34000 Re 4.65000 Rh 8.34000 Ru 8.90000
Sb 3.40000 Se 7.96000 Si 5.57000 Sr 5.72000 Te 4.05000 Th 7.12000 Ti 3.39000
Tl 4.37000 U  34.0000 V  9.30000 Zn 4.27000 Zr 6.70000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.63	-0.003	-27.27	0.00000	0.00000
Al	8.96	-0.005	-69.27	0.00000	0.00000
As	14.38	-0.046	-41.60	0.00000	0.00000
B	5.74	0.0624	3.36	0.00000	0.00000
Ba	6.48	0.0015	55.42	0.00000	0.00000
Be	6.33	-0.000	-173.21	0.00000	0.00000
Ca	14.45	0.0425	0.10	0.00000	0.00000
Cd	8.41	0.0008	206.52	0.00000	0.00000
Ce	13.97	-0.071	-8.99	0.00000	0.00000
Co	41.94	-0.147	-3.11	0.00000	0.00000
Cr	5.82	-0.004	-21.43	0.00000	0.00000
Cu	12.21	-0.001	-62.91	0.00000	0.00000
Dy	7.59	-0.002	-26.65	0.00000	0.00000
Fe	6.77	0.0185	4.29	0.00000	0.00000
	865.93	)531.17	0.49	0.00000	0.00000
.a	8.54	-0.005	-41.60	0.00000	0.00000
Li	5.50	-0.006	-15.80	0.00000	0.00000
Mg	4.61	0.0082	0.74	0.00000	0.00000
Mn	6.00	0.0022	9.91	0.00000	0.00000
Mo	4.60	-0.002	-57.28	0.00000	0.00000
Na	6.84	0.1369	6.34	0.00000	0.00000

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Nd	5.60	-0.015	-50.92	0.00000	0.00000
Ni	5.46	0.0791	1.11	0.00000	0.00000
[illegible]	6.29	-0.004	-964.09	0.00000	0.00000
Pb	8.02	-0.024	-56.92	0.00000	0.00000
Re	5.14	-0.004	-104.08	0.00000	0.00000
Rh	9.20	-0.043	-17.65	0.00000	0.00000
Ru	9.72	-0.031	-6.11	0.00000	0.00000
Sb	3.83	-0.038	-85.53	0.00000	0.00000
Se	8.61	0.0065	312.19	0.00000	0.00000
Si	6.14	0.0727	10.24	0.00000	0.00000
Sr	6.39	-0.000	-42.86	0.00000	0.00000
Te	4.53	-0.020	-119.31	0.00000	0.00000
Th	7.92	-0.048	-26.02	0.00000	0.00000
Ti	3.81	-0.002	-28.87	0.00000	0.00000
Tl	5.17	-0.042	-754.57	0.00000	0.00000
U	37.38	-0.443	-11.10	0.00000	0.00000
V	10.32	-0.004	-19.36	0.00000	0.00000
Zn	4.74	0.0070	1.82	0.00000	0.00000
Zr	7.43	-0.003	-29.74	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 903617
Sample number   = 2022
Sample code 1   = A2
Sample code 2   = P5295G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903617
Sample number   : 2022
Sample code 1   : A2
Sample code 2   : P5295G
Sample code 3   : DIRECT
Programme       : ALLELE          24-Oct-90  14:00:55
[1] Direct Intensities
Ag 5.01000 Al 8.61000 As 13.9300 B  4.95000 Ba 5.89000 Be 5.77000 Ca 33.2400
Cd 7.72000 Ce 12.5700 Co 38.0200 Cr 7.60000 Cu 11.6800 Dy 6.75000 Fe 79.5200
K  865.500 La 7.70000 Li 4.96000 Mg 7.26000 Mn 6.69000 Mo 4.21000 Na 37.5000
Nd 4.92000 Ni 6.89000 P  8.59000 Pb 7.39000 Re 4.56000 Rh 8.39000 Ru 9.12000
Sb 3.45000 Se 8.09000 Si 10.1000 Sr 14.6500 Te 4.01000 Th 7.00000 Ti 3.38000
Tl 4.41000 U  34.1400 V  9.32000 Zn 4.96000 Zr 6.81000
[1] Direct Intensities
Ag 5.01000 Al 8.64000 As 13.6600 B  4.97000 Ba 5.98000 Be 5.78000 Ca 33.1300
Cd 7.77000 Ce 12.6500 Co 38.2500 Cr 7.61000 Cu 11.7000 Dy 6.80000 Fe 79.4600
K  861.100 La 7.74000 Li 4.99000 Mg 7.28000 Mn 6.68000 Mo 4.19000 Na 37.3200
Nd 4.96000 Ni 6.90000 P  8.60000 Pb 7.40000 Re 4.58000 Rh 8.39000 Ru 9.19000
Sb 3.44000 Se 7.79000 Si 10.1200 Sr 14.6700 Te 4.05000 Th 7.08000 Ti 3.40000
Tl 4.41000 U  34.3000 V  9.35000 Zn 4.94000 Zr 6.82000
[1] Direct Intensities
Ag 5.00000 Al 8.64000 As 13.9100 B  4.90000 Ba 5.93000 Be 5.78000 Ca 33.2000
Cd 7.76000 Ce 12.6400 Co 38.2600 Cr 7.64000 Cu 11.7300 Dy 6.79000 Fe 79.6100
K  863.300 La 7.74000 Li 4.99000 Mg 7.26000 Mn 6.68000 Mo 4.28000 Na 37.4100
Nd 4.98000 Ni 6.81000 P  8.65000 Pb 7.45000 Re 4.59000 Rh 8.37000 Ru 9.21000
Sb 3.40000 Se 7.98000 Si 10.0900 Sr 14.6800 Te 4.06000 Th 7.07000 Ti 3.40000
Tl 4.39000 U  34.2800 V  9.32000 Zn 4.99000 Zr 6.90000

NAME      MV INT   CONCEN      ESD      BCOR      SCOR
```

E03-034

Ag	5.63	-0.003	-14.43	0.00000	0.00000
Al	8.99	0.0058	86.61	0.00000	0.00000
As	14.50	-0.024	-110.08	0.00000	0.00000
B	5.45	0.0377	7.95	0.00000	0.00000
Ba	6.58	0.0034	23.73	0.00000	0.00000
Be	6.31	-0.000	-24.74	0.00000	0.00000
Ca	32.16	0.1127	0.19	0.00000	0.00000
Cd	8.41	0.0007	113.39	0.00000	0.00000
Ce	13.99	-0.061	-29.72	0.00000	0.00000
Co	41.92	-0.153	-23.41	0.00000	0.00000
Cr	8.04	0.1786	0.91	0.00000	0.00000
Cu	12.76	0.0133	4.58	0.00000	0.00000
Dy	7.57	-0.003	-46.69	0.00000	0.00000
Fe	76.23	3.3875	0.10	0.00000	0.00000
K	832.80	)510.14	0.26	0.00000	0.00000
La	8.56	-0.004	-38.49	0.00000	0.00000
Li	5.49	-0.007	-17.32	0.00000	0.00000
Mg	7.47	0.0241	0.25	0.00000	0.00000
Mn	7.11	0.0144	0.42	0.00000	0.00000
Mo	4.63	0.0004	708.90	0.00000	0.00000
Na	36.35	17.932	0.29	0.00000	0.00000
Nd	5.59	-0.022	-70.50	0.00000	0.00000
Ni	7.31	0.3729	2.01	0.00000	0.00000
P	10.20	3.3399	1.13	0.00000	0.00000
Pb	8.07	-0.010	-87.67	0.00000	0.00000
Re	5.10	-0.008	-19.09	0.00000	0.00000
Rh	9.22	-0.034	-12.83	0.00000	0.00000
Ru	9.97	0.0013	472.60	0.00000	0.00000
Sb	3.84	-0.027	-61.06	0.00000	0.00000
Se	8.62	0.0097	758.77	0.00000	0.00000
Si	10.47	1.7003	0.32	0.00000	0.00000
Sr	14.80	0.0515	0.17	0.00000	0.00000
Te	4.51	-0.029	-39.69	0.00000	0.00000
Th	7.87	-0.076	-34.41	0.00000	0.00000
Ti	3.82	-0.001	-86.60	0.00000	0.00000
Tl	5.15	-0.170	-43.30	0.00000	0.00000
U	37.56	-0.276	-29.39	0.00000	0.00000
V	10.33	-0.003	-13.67	0.00000	0.00000
Zn	5.40	0.0222	2.51	0.00000	0.00000
Zr	7.55	0.0025	87.05	0.00000	0.00000

More samples [Y/N] ?
Sample name = 903617
Sample number = 2023
Sample code 1 = A1
Sample code 2 = P5321G
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24:132H6n
ample name : 903617
Sample number : 2023
Sample code 1 : A1
Sample code 2 : P5321G
Sample code 3 : DIRECT
Programme : ALLELE 24-Oct-90 14:05:32
[1] Direct Intensities

E03-035

Ag 5.07000 Al 8.62000 As 13.5400 B 5.15000 Ba 5.89000 Be 5.78000 Ca 31.5600
Cd 7.78000 Ce 12.6400 Co 38.2800 Cr 7.17000 Cu 11.7600 Dy 6.80000 Fe 75.2800
K 887.300 La 7.70000 Li 5.00000 Mg 7.15000 Mn 6.59000 Mo 4.22000 Na 36.9500
Nd 4.98000 Ni 5.79000 P 8.23000 Pb 7.49000 Re 4.64000 Rh 8.38000 Ru 9.16000
Sb 3.47000 Se 8.08000 Si 10.1200 Sr 14.7000 Te 4.06000 Th 7.08000 Ti 3.41000
Tl 4.36000 U 34.2800 V 9.35000 Zn 4.81000 Zr 6.73000
[1] Direct Intensities
Ag 5.06000 Al 8.61000 As 13.6800 B 5.14000 Ba 5.92000 Be 5.75000 Ca 31.7200
Cd 7.70000 Ce 12.6400 Co 38.2900 Cr 7.18000 Cu 11.7400 Dy 6.80000 Fe 75.7400
K 891.900 La 7.68000 Li 4.99000 Mg 7.16000 Mn 6.59000 Mo 4.29000 Na 37.1000
Nd 4.98000 Ni 5.80000 P 8.64000 Pb 7.38000 Re 4.58000 Rh 8.38000 Ru 9.19000
Sb 3.47000 Se 8.11000 Si 10.1200 Sr 14.7700 Te 4.01000 Th 7.08000 Ti 3.41000
Tl 4.38000 U 34.2600 V 9.36000 Zn 4.93000 Zr 6.74000
[1] Direct Intensities
Ag 5.06000 Al 8.67000 As 14.0800 B 5.15000 Ba 5.95000 Be 5.75000 Ca 31.8000
Cd 7.80000 Ce 12.6500 Co 38.3600 Cr 7.20000 Cu 11.7800 Dy 6.89000 Fe 75.8000
K 897.300 La 7.71000 Li 4.98000 Mg 7.20000 Mn 6.60000 Mo 4.28000 Na 37.2800
Nd 4.96000 Ni 5.80000 P 8.42000 Pb 7.46000 Re 4.60000 Rh 8.39000 Ru 9.27000
Sb 3.48000 Se 8.08000 Si 10.1800 Sr 14.7700 Te 4.14000 Th 7.12000 Ti 3.44000
Tl 4.37000 U 34.3400 V 9.40000 Zn 4.81000 Zr 6.74000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.68	0.0014	34.64	0.00000	0.00000
Al	9.00	0.0067	137.78	0.00000	0.00000
As	14.43	-0.036	-137.82	0.00000	0.00000
B	5.65	0.0549	0.87	0.00000	0.00000
Ba	6.56	0.0032	16.98	0.00000	0.00000
Be	6.29	-0.000	-43.30	0.00000	0.00000
Ca	30.73	0.1070	0.43	0.00000	0.00000
Cd	8.42	0.0010	158.74	0.00000	0.00000
Ce	14.01	-0.052	-4.68	0.00000	0.00000
Co	42.04	-0.118	-9.76	0.00000	0.00000
Cr	7.63	0.1448	0.82	0.00000	0.00000
Cu	12.81	0.0147	3.30	0.00000	0.00000
Dy	7.62	-0.000	-779.57	0.00000	0.00000
Fe	72.51	3.2073	0.41	0.00000	0.00000
K	860.55	)527.75	0.58	0.00000	0.00000
La	8.53	-0.006	-16.97	0.00000	0.00000
Li	5.50	-0.006	-11.11	0.00000	0.00000
Mg	7.38	0.0235	0.60	0.00000	0.00000
Mn	7.03	0.0134	0.45	0.00000	0.00000
Mo	4.67	0.0026	87.37	0.00000	0.00000
Na	36.07	17.761	0.53	0.00000	0.00000
Nd	5.61	-0.012	-49.48	0.00000	0.00000
Ni	6.28	0.2100	0.42	0.00000	0.00000
P	9.95	3.1248	7.70	0.00000	0.00000
Pb	8.10	-0.002	-853.06	0.00000	0.00000
Re	5.16	-0.002	-215.71	0.00000	0.00000
Rh	9.22	-0.034	-6.41	0.00000	0.00000
Ru	10.00	0.0054	131.22	0.00000	0.00000
Sb	3.88	-0.000	-757200	0.00000	0.00000
Se	8.75	0.0760	11.06	0.00000	0.00000
Si	10.50	1.7134	0.72	0.00000	0.00000
Sr	14.87	0.0519	0.45	0.00000	0.00000
Te	4.54	-0.016	-178.84	0.00000	0.00000
Th	7.92	-0.050	-27.71	0.00000	0.00000
Ti	3.85	0.0015	129.90	0.00000	0.00000
Tl	5.12	-0.381	-16.67	0.00000	0.00000
U	37.41	-0.226	-17.11	0.00000	0.00000

E03-036

V	10.36	-0.002	-30.53	0.00000	0.00000
Zn	5.29	0.0197	7.78	0.00000	0.00000
r	7.45	-0.002	-11.55	0.00000	0.00000

More samples [Y/N] ?
Sample name = 903618
Sample number = 2024
Sample code 1 = A1
Sample code 2 = P5171G
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 903618
Sample number : 2024
Sample code 1 : A1
Sample code 2 : P5171G
Sample code 3 : DIRECT
Programme : ALLELE 24-Oct-90 14:09:41
[1] Direct Intensities
Ag 5.00000 Al 8.65000 As 14.1500 B 4.97000 Ba 5.95000 Be 5.80000 Ca 34.4700
Cd 7.69000 Ce 12.6200 Co 38.3100 Cr 7.10000 Cu 11.6900 Dy 6.80000 Fe 72.8000
K 1068.60 La 7.76000 Li 4.99000 Mg 7.17000 Mn 6.69000 Mo 4.17000 Na 36.0800
Nd 4.99000 Ni 7.18000 P 8.35000 Pb 7.56000 Re 4.61000 Rh 8.35000 Ru 9.10000
Sb 3.41000 Se 7.99000 Si 9.95000 Sr 14.4000 Te 4.00000 Th 7.10000 Ti 3.37000
Tl 4.35000 U 34.3500 V 9.30000 Zn 4.90000 Zr 6.75000
[1] Direct Intensities
Ag 5.08000 Al 8.64000 As 13.4800 B 5.00000 Ba 5.95000 Be 5.79000 Ca 34.5700
Cd 7.74000 Ce 12.6600 Co 38.3300 Cr 7.10000 Cu 11.7000 Dy 6.81000 Fe 73.0600
K 1071.40 La 7.73000 Li 4.97000 Mg 7.19000 Mn 6.69000 Mo 4.27000 Na 36.2400
Nd 4.98000 Ni 7.24000 P 8.75000 Pb 7.59000 Re 4.60000 Rh 8.36000 Ru 9.21000
Sb 3.50000 Se 7.91000 Si 10.0000 Sr 14.4100 Te 4.11000 Th 7.11000 Ti 3.40000
Tl 4.40000 U 34.3700 V 9.38000 Zn 4.89000 Zr 6.74000
[1] Direct Intensities
Ag 5.01000 Al 8.67000 As 13.5800 B 5.08000 Ba 5.96000 Be 5.80000 Ca 34.6600
Cd 7.65000 Ce 12.6700 Co 38.3100 Cr 7.10000 Cu 11.7500 Dy 6.79000 Fe 73.0900
K 1071.10 La 7.73000 Li 5.00000 Mg 7.18000 Mn 6.71000 Mo 4.18000 Na 36.1500
Nd 4.97000 Ni 7.18000 P 8.46000 Pb 7.56000 Re 4.62000 Rh 8.41000 Ru 9.16000
Sb 3.48000 Se 7.99000 Si 10.0000 Sr 14.4600 Te 4.00000 Th 7.06000 Ti 3.39000
Tl 4.39000 U 34.3700 V 9.46000 Zn 4.92000 Zr 6.76000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.65	-0.001	-261.53	0.00000	0.00000
Al	9.01	0.0125	35.25	0.00000	0.00000
As	14.40	-0.041	-154.90	0.00000	0.00000
B	5.53	0.0441	10.73	0.00000	0.00000
Ba	6.60	0.0038	2.75	0.00000	0.00000
Be	6.33	-0.000	-173.21	0.00000	0.00000
Ca	33.48	0.1179	0.31	0.00000	0.00000
Cd	8.36	-0.001	-135.28	0.00000	0.00000
e	14.02	-0.049	-22.68	0.00000	0.00000
Co	42.05	-0.116	-2.62	0.00000	0.00000
Cr	7.55	0.1383	0.00	0.00000	0.00000
Cu	12.77	0.0136	5.74	0.00000	0.00000
Dy	7.59	-0.002	-27.27	0.00000	0.00000
Fe	70.03	3.0868	0.24	0.00000	0.00000
K	1071.83	1436.46	0.15	0.00000	0.00000

E03-037

La	8.57	-0.003	-37.11	0.00000	0.00000
.i	5.50	-0.006	-16.37	0.00000	0.00000
.g	7.39	0.0236	0.22	0.00000	0.00000
Mn	7.13	0.0145	0.83	0.00000	0.00000
Mo	4.61	-0.001	-413.07	0.00000	0.00000
Na	35.17	17.217	0.27	0.00000	0.00000
Nd	5.61	-0.009	-60.00	0.00000	0.00000
Ni	7.62	0.4236	1.24	0.00000	0.00000
P	10.07	3.2304	7.51	0.00000	0.00000
Pb	8.22	0.0327	14.43	0.00000	0.00000
Re	5.14	-0.005	-21.43	0.00000	0.00000
Rh	9.21	-0.038	-32.15	0.00000	0.00000
Ru	9.95	-0.001	-826.14	0.00000	0.00000
Sb	3.87	-0.006	-472.54	0.00000	0.00000
Se	8.63	0.0146	153.95	0.00000	0.00000
Si	10.36	1.6573	0.62	0.00000	0.00000
Sr	14.57	0.0501	0.37	0.00000	0.00000
Te	4.51	-0.031	-90.73	0.00000	0.00000
Th	7.91	-0.052	-30.53	0.00000	0.00000
Ti	3.81	-0.002	-76.38	0.00000	0.00000
Tl	5.13	-0.318	-52.91	0.00000	0.00000
U	37.68	-0.161	-6.66	0.00000	0.00000
V	10.37	-0.002	-104.35	0.00000	0.00000
Zn	5.34	0.0209	1.62	0.00000	0.00000
Zr	7.46	-0.002	-27.27	0.00000	0.00000

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More samples [Y/N] ?
Sample name     = 903618
Sample number   = 2025
Sample code 1   = A2
Sample code 2   = P5121G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903618
Sample number   : 2025
Sample code 1   : A2
Sample code 2   : P5121G
Sample code 3   : DIRECT
Programme       : ALLELE          24-Oct-90  14:13:58
[1] Direct Intensities
Ag 5.00000 Al 8.66000 As 14.3000 B  5.10000 Ba 5.98000 Be 5.80000 Ca 32.4900
Cd 7.80000 Ce 12.6000 Co 38.1800 Cr 7.27000 Cu 11.7400 Dy 6.80000 Fe 81.1400
K  1088.00 La 7.69000 Li 5.00000 Mg 7.41000 Mn 6.63000 Mo 4.20000 Na 38.8100
Nd 4.95000 Ni 6.80000 P  8.56000 Pb 7.50000 Re 4.61000 Rh 8.37000 Ru 9.19000
Sb 3.48000 Se 8.09000 Si 10.4100 Sr 15.1600 Te 4.08000 Th 7.08000 Ti 3.41000
Tl 4.35000 U  34.2500 V  9.27000 Zn 4.89000 Zr 6.78000
[1] Direct Intensities
Ag 4.99000 Al 8.65000 As 13.7500 B  5.07000 Ba 5.98000 Be 5.79000 Ca 32.1800
Cd 7.70000 Ce 12.5800 Co 38.2000 Cr 7.24000 Cu 11.7400 Dy 6.78000 Fe 80.4000
   1078.20 La 7.70000 Li 4.98000 Mg 7.40000 Mn 6.60000 Mo 4.32000 Na 38.5600
Nd 4.95000 Ni 6.80000 P  8.60000 Pb 7.40000 Re 4.65000 Rh 8.37000 Ru 9.14000
Sb 3.40000 Se 7.98000 Si 10.4100 Sr 15.0500 Te 3.99000 Th 7.08000 Ti 3.41000
Tl 4.39000 U  34.2200 V  9.28000 Zn 4.92000 Zr 6.79000
[1] Direct Intensities
Ag 5.00000 Al 8.66000 As 13.8000 B  5.05000 Ba 5.99000 Be 5.80000 Ca 32.5200
Cd 7.60000 Ce 12.5800 Co 38.0000 Cr 7.25000 Cu 11.7400 Dy 4.79000 Fe 81.2000
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E03-038

K 1095.00 La 7.71000 Li 4.97000 Mg 7.47000 Mn 6.59000 Mo 4.22000 Na 39.2100
Nd 4.94000 Ni 6.80000 P 8.51000 Pb 7.42000 Re 4.66000 Rh 8.39000 Ru 9.08000
b 3.42000 Se 7.93000 Si 10.4100 Sr 15.2200 Te 4.01000 Th 7.07000 Ti 3.40000
Tl 4.39000 U 34.1500 V 9.30000 Zn 4.91000 Zr 6.77000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.62	-0.004	-11.55	0.00000	0.00000
Al	9.02	0.0135	12.37	0.00000	0.00000
As	14.61	-0.004	-1520.7	0.00000	0.00000
B	5.58	0.0488	4.29	0.00000	0.00000
Ba	6.62	0.0043	2.41	0.00000	0.00000
Be	6.33	-0.000	-173.21	0.00000	0.00000
Ca	31.40	0.1096	0.65	0.00000	0.00000
Cd	8.36	-0.001	-375.01	0.00000	0.00000
Ce	13.96	-0.075	-6.41	0.00000	0.00000
Co	41.89	-0.159	-10.66	0.00000	0.00000
Cr	7.70	0.1503	0.79	0.00000	0.00000
Cu	12.79	0.0142	0.00	0.00000	0.00000
Dy	7.58	-0.002	-23.09	0.00000	0.00000
Fe	77.55	3.4516	0.61	0.00000	0.00000
K	1047.88	)646.65	0.80	0.00000	0.00000
La	8.54	-0.005	-11.54	0.00000	0.00000
Li	5.50	-0.006	-15.80	0.00000	0.00000
Mg	7.62	0.0249	0.81	0.00000	0.00000
Mn	7.04	0.0136	1.60	0.00000	0.00000
Mo	4.65	0.0016	241.09	0.00000	0.00000
Na	37.72	18.758	1.00	0.00000	0.00000
Nd	5.58	-0.026	-11.55	0.00000	0.00000
Ni	7.24	0.3627	0.00	0.00000	0.00000
P	10.13	3.2734	1.62	0.00000	0.00000
Pb	8.09	-0.003	-529.25	0.00000	0.00000
Re	5.16	-0.002	-158.74	0.00000	0.00000
Rh	9.21	-0.036	-11.95	0.00000	0.00000
Ru	9.93	-0.003	-206.53	0.00000	0.00000
Sb	3.84	-0.025	-104.08	0.00000	0.00000
Se	8.66	0.0323	122.78	0.00000	0.00000
Si	10.76	1.8099	0.00	0.00000	0.00000
Sr	15.24	0.0542	0.92	0.00000	0.00000
Te	4.50	-0.035	-59.07	0.00000	0.00000
Th	7.90	-0.060	-5.77	0.00000	0.00000
Ti	3.83	0.0000		0.00000	0.00000
Tl	5.12	-0.339	-43.30	0.00000	0.00000
U	37.52	-0.307	-15.55	0.00000	0.00000
V	10.28	-0.005	-8.81	0.00000	0.00000
Zn	5.35	0.0210	1.61	0.00000	0.00000
Zr	7.49	-0.000	-149.99	0.00000	0.00000

More samples [Y/N] ?
Sample name = CH2
Sample number = 2026
Sample code 1 =

Sample code 2 =
Sample code 3 = Weight =

Press <CR> when ready to start measurement

E03-039

24;132H6n
Sample name : CH2

Sample number : 2026
Programme : ALLELE 24-Oct-90 14:20:52

1] Direct Intensities

Ag	6.08000	Al	9.96000	As	70.8000	B	4.89000	Ba	555.300	Be	382.100	Ca	12.5800
Cd	8.32000	Ce	36.4100	Co	76.0100	Cr	5.54000	Cu	422.500	Dy	7.18000	Fe	221.600
K	26.7800	La	8.79000	Li	5.00000	Mg	1872.00	Mn	5.58000	Mo	173.400	Na	23.2700
Nd	5.20000	Ni	69.6100	P	9.29000	Pb	43.5800	Re	4.78000	Rh	34.8000	Ru	9.92000
Sb	19.3500	Se	10.3100	Si	6.14000	Sr	1729.00	Te	26.6800	Th	8.69000	Ti	93.4300
Tl	4.75000	U	70.4900	V	373.400	Zn	450.800	Zr	234.300				

[1] Direct Intensities

Ag	6.13000	Al	9.95000	As	71.5400	B	4.89000	Ba	556.400	Be	383.200	Ca	12.6400
Cd	8.42000	Ce	36.5400	Co	76.2200	Cr	5.54000	Cu	422.900	Dy	7.25000	Fe	222.400
K	26.8000	La	8.81000	Li	5.00000	Mg	1879.00	Mn	5.56000	Mo	173.700	Na	23.2800
Nd	5.24000	Ni	69.9000	P	9.26000	Pb	44.1800	Re	4.80000	Rh	34.9500	Ru	9.93000
Sb	19.3400	Se	10.3900	Si	6.20000	Sr	1732.00	Te	26.7900	Th	8.69000	Ti	93.6500
Tl	4.75000	U	70.7300	V	374.600	Zn	452.200	Zr	235.000				

[1] Direct Intensities

Ag	6.09000	Al	9.99000	As	70.7900	B	4.81000	Ba	552.200	Be	381.000	Ca	12.5700
Cd	8.36000	Ce	36.3600	Co	76.1400	Cr	5.56000	Cu	419.800	Dy	7.22000	Fe	221.200
K	26.8800	La	8.89000	Li	5.01000	Mg	1868.00	Mn	5.59000	Mo	172.100	Na	23.1000
Nd	5.26000	Ni	69.4900	P	9.05000	Pb	43.6900	Re	4.79000	Rh	34.7600	Ru	9.93000
Sb	19.2300	Se	10.3600	Si	6.18000	Sr	1718.00	Te	26.5400	Th	8.69000	Ti	93.1000
Tl	4.78000	U	70.4800	V	372.300	Zn	449.900	Zr	233.600				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.72	0.0906	2.51	0.00000	0.00000
Al	10.27	0.3919	1.53	0.00000	0.00000
As	69.31	10.002	0.75	0.00000	0.00000
B	5.38	0.0314	12.26	0.00000	0.00000
Ba	518.70	9.9450	0.40	0.00000	0.00000
Be	369.25	0.9936	0.29	0.00000	0.00000
Ca	12.47	0.0347	0.41	0.00000	0.00000
Cd	8.99	0.0191	7.86	0.00000	0.00000
Ce	36.31	9.9024	0.39	0.00000	0.00000
Co	77.94	9.8385	0.28	0.00000	0.00000
Cr	6.08	0.0172	5.25	0.00000	0.00000
Cu	394.38	9.9363	0.41	0.00000	0.00000
Dy	7.98	0.0175	9.24	0.00000	0.00000
Fe	210.89	9.9189	0.28	0.00000	0.00000
K	28.81	-0.155	-20.89	0.00000	0.00000
La	9.60	0.0661	5.07	0.00000	0.00000
Li	5.52	-0.005	-7.53	0.00000	0.00000
Mg	1799.91	9.9222	0.30	0.00000	0.00000
Mn	6.06	0.0028	5.66	0.00000	0.00000
Mo	167.17	9.9411	0.50	0.00000	0.00000
Na	22.93	9.8382	0.59	0.00000	0.00000
Nd	5.85	0.1217	12.91	0.00000	0.00000
Ni	67.27	9.9300	0.32	0.00000	0.00000
P	11.01	4.0282	3.81	0.00000	0.00000
Pb	43.27	9.8975	0.88	0.00000	0.00000
Re	5.31	0.0132	7.50	0.00000	0.00000
Rh	34.67	9.9023	0.38	0.00000	0.00000
Ru	10.69	0.0958	0.76	0.00000	0.00000
Sb	18.02	9.9020	0.42	0.00000	0.00000
Se	10.89	1.1738	1.67	0.00000	0.00000
Si	6.73	0.2945	3.71	0.00000	0.00000
Sr	1623.21	9.9480	0.43	0.00000	0.00000
Te	25.43	9.8919	0.56	0.00000	0.00000
Th	9.41	9.9069	0.00	0.00000	0.00000

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Ti	89.92	9.9345	0.31	0.00000	0.00000
Tl	5.48	2.0975	5.25	0.00000	0.00000
[illegible]	73.00	33.507	0.39	0.00000	0.00000
V	355.15	9.9228	0.32	0.00000	0.00000
Zn	437.47	9.9047	0.26	0.00000	0.00000
Zr	226.16	9.9374	0.31	0.00000	0.00000

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More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2027
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL1
Sample number   : 2027
Programme       : ALLELE          24-Oct-90  14:33:20
[1] Direct Intensities
Ag 5.04000 Al 8.62000 As 13.7200 B  4.46000 Ba 5.69000 Be 5.80000 Ca 3.29000
Cd 7.74000 Ce 12.6900 Co 38.4800 Cr 5.30000 Cu 11.0900 Dy 6.80000 Fe 5.78000
K  26.8000 La 7.75000 Li 5.00000 Mg 2.68000 Mn 5.27000 Mo 4.17000 Na 5.91000
Nd 4.98000 Ni 4.42000 P  5.93000 Pb 7.55000 Re 4.60000 Rh 8.41000 Ru 9.00000
Sb 3.48000 Se 8.08000 Si 5.35000 Sr 5.75000 Te 4.10000 Th 7.10000 Ti 3.39000
Tl 4.45000 U  34.3400 V  9.39000 Zn 3.95000 Zr 6.78000
[1] Direct Intensities
Ag 5.01000 Al 8.67000 As 13.5500 B  4.49000 Ba 5.72000 Be 5.80000 Ca 3.29000
Cd 7.80000 Ce 12.7300 Co 38.5000 Cr 5.30000 Cu 11.1400 Dy 6.80000 Fe 5.78000
K  26.7700 La 7.78000 Li 5.01000 Mg 2.67000 Mn 5.28000 Mo 4.24000 Na 5.89000
Nd 4.97000 Ni 4.40000 P  6.01000 Pb 7.40000 Re 4.58000 Rh 8.42000 Ru 9.08000
Sb 3.45000 Se 8.01000 Si 5.31000 Sr 5.73000 Te 4.10000 Th 7.10000 Ti 3.40000
Tl 4.52000 U  34.3600 V  9.36000 Zn 3.99000 Zr 6.78000
[1] Direct Intensities
Ag 5.00000 Al 8.65000 As 13.9900 B  4.48000 Ba 5.74000 Be 5.81000 Ca 3.30000
Cd 7.80000 Ce 12.7400 Co 38.5500 Cr 5.34000 Cu 11.1500 Dy 6.81000 Fe 5.79000
K  26.9000 La 7.78000 Li 5.01000 Mg 2.71000 Mn 5.31000 Mo 4.18000 Na 5.81000
Nd 5.00000 Ni 4.41000 P  5.80000 Pb 7.38000 Re 4.66000 Rh 8.46000 Ru 9.11000
Sb 3.45000 Se 7.97000 Si 5.37000 Sr 5.77000 Te 4.17000 Th 7.14000 Ti 3.41000
Tl 4.47000 U  34.3800 V  9.33000 Zn 3.99000 Zr 6.80000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.64	-0.003	-69.39	0.00000	0.00000
Al	9.01	0.0106	68.64	0.00000	0.00000
As	14.42	-0.038	-102.41	0.00000	0.00000
B	5.01	-0.001	-152.74	0.00000	0.00000
Ba	6.38	-0.000	-94.38	0.00000	0.00000
Be	6.34	0.0000	173.26	0.00000	0.00000
Ca	3.57	-0.001	-3.85	0.00000	0.00000
Cd	8.44	0.0016	64.95	0.00000	0.00000
Ce	14.09	-0.020	-56.69	0.00000	0.00000
Co	42.23	-0.065	-14.62	0.00000	0.00000
Cr	5.85	-0.001	-173.21	0.00000	0.00000
Cu	12.22	-0.001	-120.54	0.00000	0.00000
Dy	7.60	-0.002	-17.32	0.00000	0.00000
Fe	6.39	0.0003	86.61	0.00000	0.00000
K	28.83	-0.153	-27.23	0.00000	0.00000

E03-041

La	8.60	-0.001	-103.92	0.00000	0.00000
Li	5.52	-0.005	-7.87	0.00000	0.00000
Mg	3.07	-0.000	-44.61	0.00000	0.00000
Mn	5.78	-0.000	-104.08	0.00000	0.00000
Mo	4.60	-0.001	-162.25	0.00000	0.00000
Na	6.53	-0.053	-56.70	0.00000	0.00000
Nd	5.62	-0.007	-114.55	0.00000	0.00000
Ni	4.96	-0.001	-150.01	0.00000	0.00000
P	6.49	0.1721	72.27	0.00000	0.00000
Pb	8.10	-0.002	-1394.1	0.00000	0.00000
Re	5.14	-0.004	-96.08	0.00000	0.00000
Rh	9.26	-0.016	-61.06	0.00000	0.00000
Ru	9.86	-0.013	-56.86	0.00000	0.00000
Sb	3.87	-0.008	-129.90	0.00000	0.00000
Se	8.68	0.0420	64.24	0.00000	0.00000
Si	5.94	-0.002	-458.30	0.00000	0.00000
Sr	6.42	-0.000	-119.99	0.00000	0.00000
Te	4.59	0.0073	242.48	0.00000	0.00000
Th	7.93	-0.038	-36.46	0.00000	0.00000
Ti	3.83	-0.001	-150.01	0.00000	0.00000
Tl	5.22	0.3178	72.11	0.00000	0.00000
U	37.67	-0.164	-11.32	0.00000	0.00000
V	10.36	-0.003	-31.04	0.00000	0.00000
Zn	4.45	0.0004	138.56	0.00000	0.00000
Zr	7.49	0.0000		0.00000	0.00000

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More samples [Y/N] ?
Sample name     = 903619
Sample number   = 2028
Sample code 1   = A3
Sample code 2   = BLK
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903619
Sample number   : 2028
Sample code 1   : A3
Sample code 2   : BLK
Sample code 3   : DIRECT
Programme       : ALLELE          24-Oct-90  14:38:30
[1] Direct Intensities
Ag 4.99000 Al 8.59000 As 13.6400 B  4.80000 Ba 5.78000 Be 5.80000 Ca 15.1500
Cd 7.68000 Ce 12.5500 Co 38.0000 Cr 5.34000 Cu 11.0600 Dy 6.78000 Fe 6.47000
K  1018.50 La 7.68000 Li 4.96000 Mg 3.93000 Mn 5.66000 Mo 4.24000 Na 6.20000
Nd 4.96000 Ni 5.06000 P  5.78000 Pb 7.34000 Re 4.57000 Rh 8.35000 Ru 8.89000
Sb 3.40000 Se 7.80000 Si 5.52000 Sr 5.70000 Te 4.02000 Th 7.02000 Ti 3.39000
Tl 4.40000 U  33.9200 V  9.31000 Zn 4.24000 Zr 6.73000
[1] Direct Intensities
Ag 5.05000 Al 8.59000 As 13.8000 B  4.80000 Ba 5.81000 Be 5.78000 Ca 15.0000
Cd 7.80000 Ce 12.6400 Co 38.2500 Cr 5.35000 Cu 11.0900 Dy 6.80000 Fe 6.53000
K  1008.90 La 7.69000 Li 5.01000 Mg 3.94000 Mn 5.70000 Mo 4.15000 Na 6.19000
Nd 4.98000 Ni 5.09000 P  5.89000 Pb 7.40000 Re 4.68000 Rh 8.38000 Ru 8.98000
Sb 3.49000 Se 8.01000 Si 5.51000 Sr 5.78000 Te 4.01000 Th 7.11000 Ti 3.40000
Tl 4.41000 U  34.1000 V  9.34000 Zn 4.30000 Zr 6.75000
[1] Direct Intensities
Ag 5.07000 Al 8.61000 As 13.9000 B  4.80000 Ba 5.80000 Be 5.74000 Ca 14.9800
Cd 7.74000 Ce 12.6300 Co 38.3200 Cr 5.36000 Cu 11.1500 Dy 6.77000 Fe 6.51000
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E03-042

K 1008.60 La 7.70000 Li 4.99000 Mg 3.95000 Mn 5.70000 Mo 4.25000 Na 6.20000
Nd 4.98000 Ni 5.12000 P 5.81000 Pb 7.33000 Re 4.60000 Rh 8.38000 Ru 8.94000
b 3.48000 Se 8.09000 Si 5.52000 Sr 5.78000 Te 4.04000 Th 7.10000 Ti 3.39000
Tl 4.40000 U 34.1500 V 9.38000 Zn 4.31000 Zr 6.78000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.66	-0.001	-416.32	0.00000	0.00000
Al	8.96	-0.004	-86.59	0.00000	0.00000
As	14.41	-0.039	-41.36	0.00000	0.00000
B	5.32	0.0261	0.00	0.00000	0.00000
Ba	6.45	0.0010	28.64	0.00000	0.00000
Be	6.31	-0.000	-100.00	0.00000	0.00000
Ca	14.81	0.0439	0.80	0.00000	0.00000
Cd	8.41	0.0006	305.52	0.00000	0.00000
Ce	13.98	-0.067	-30.83	0.00000	0.00000
Co	41.93	-0.149	-29.69	0.00000	0.00000
Cr	5.89	0.0018	42.85	0.00000	0.00000
Cu	12.20	-0.001	-85.92	0.00000	0.00000
Dy	7.58	-0.002	-28.64	0.00000	0.00000
Fe	7.07	0.0334	4.20	0.00000	0.00000
K	975.73	)600.86	0.57	0.00000	0.00000
La	8.53	-0.006	-10.35	0.00000	0.00000
Li	5.50	-0.006	-26.96	0.00000	0.00000
Mg	4.27	0.0064	0.83	0.00000	0.00000
Mn	6.16	0.0040	6.08	0.00000	0.00000
Mo	4.62	-0.000	-826.16	0.00000	0.00000
Na	6.84	0.1331	2.47	0.00000	0.00000
Nd	5.61	-0.012	-49.48	0.00000	0.00000
Ni	5.61	0.1025	4.46	0.00000	0.00000
P	6.37	0.0704	94.77	0.00000	0.00000
Pb	8.01	-0.025	-40.56	0.00000	0.00000
Re	5.14	-0.004	-142.16	0.00000	0.00000
Rh	9.21	-0.039	-16.76	0.00000	0.00000
Ru	9.74	-0.028	-19.89	0.00000	0.00000
Sb	3.87	-0.010	-295.97	0.00000	0.00000
Se	8.63	0.0162	449.29	0.00000	0.00000
Si	6.11	0.0596	3.46	0.00000	0.00000
Sr	6.42	-0.000	-346.39	0.00000	0.00000
Te	4.49	-0.037	-18.33	0.00000	0.00000
Th	7.90	-0.060	-49.33	0.00000	0.00000
Ti	3.82	-0.001	-43.30	0.00000	0.00000
Tl	5.15	-0.170	-21.65	0.00000	0.00000
U	37.38	-0.446	-25.20	0.00000	0.00000
V	10.34	-0.003	-30.99	0.00000	0.00000
Zn	4.74	0.0072	11.71	0.00000	0.00000
Zr	7.46	-0.001	-75.50	0.00000	0.00000

More samples [Y/N] ?
Sample name = 903619
Sample number = 2029
Sample code 1 = A2
Sample code 2 = P5561G
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24:132H6n
Sample name : 903619

E03-043

Sample number : 2029
Sample code 1 : A2
ample code 2 : P5561G
Sample code 3 : DIRECT
Programme : ALLELE 24-Oct-90 14:42:38

[1] Direct Intensities

Ag	4.99000	Al	8.69000	As	13.9400	B	4.72000	Ba	5.95000	Be	5.80000	Ca	34.1800
Cd	7.78000	Ce	12.5700	Co	38.0100	Cr	7.35000	Cu	11.2700	Dy	6.77000	Fe	85.2800
K	1022.70	La	7.67000	Li	4.99000	Mg	8.01000	Mn	6.39000	Mo	4.31000	Na	40.5200
Nd	4.96000	Ni	7.80000	P	8.51000	Pb	7.50000	Re	4.60000	Rh	8.34000	Ru	9.13000
Sb	3.44000	Se	8.08000	Si	10.8000	Sr	14.9800	Te	4.00000	Th	7.06000	Ti	3.41000
Tl	4.38000	U	34.1300	V	9.30000	Zn	5.31000	Zr	6.74000				

[1] Direct Intensities

Ag	5.06000	Al	8.68000	As	13.6600	B	4.75000	Ba	6.00000	Be	5.78000	Ca	34.1200
Cd	7.74000	Ce	12.6700	Co	38.2600	Cr	7.39000	Cu	11.2500	Dy	6.89000	Fe	84.9800
K	1014.20	La	7.74000	Li	4.99000	Mg	8.01000	Mn	6.39000	Mo	4.24000	Na	40.2000
Nd	4.96000	Ni	7.80000	P	8.49000	Pb	7.55000	Re	4.61000	Rh	8.38000	Ru	9.29000
Sb	3.49000	Se	8.02000	Si	10.8100	Sr	14.9300	Te	4.15000	Th	7.09000	Ti	3.46000
Tl	4.44000	U	34.2500	V	9.38000	Zn	5.28000	Zr	6.74000				

[1] Direct Intensities

Ag	5.02000	Al	8.71000	As	13.8000	B	4.70000	Ba	6.01000	Be	5.79000	Ca	34.0400
Cd	7.78000	Ce	12.6800	Co	38.3500	Cr	7.34000	Cu	11.3300	Dy	6.80000	Fe	84.9400
K	1011.40	La	7.78000	Li	5.00000	Mg	8.00000	Mn	6.39000	Mo	4.29000	Na	40.0100
Nd	4.99000	Ni	7.80000	P	8.80000	Pb	7.59000	Re	4.62000	Rh	8.39000	Ru	9.27000
Sb	3.42000	Se	8.13000	Si	10.8100	Sr	14.9400	Te	4.01000	Th	7.10000	Ti	3.42000
Tl	4.46000	U	34.3900	V	9.48000	Zn	5.30000	Zr	6.77000				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.64	-0.002	-150.51	0.00000	0.00000
Al	9.05	0.0241	18.33	0.00000	0.00000
As	14.46	-0.030	-82.35	0.00000	0.00000
B	5.25	0.0197	10.63	0.00000	0.00000
Ba	6.63	0.0044	13.21	0.00000	0.00000
Be	6.32	-0.000	-100.01	0.00000	0.00000
Ca	33.04	0.1161	0.23	0.00000	0.00000
Cd	8.42	0.0012	57.73	0.00000	0.00000
Ce	14.01	-0.053	-48.02	0.00000	0.00000
Co	41.94	-0.145	-32.03	0.00000	0.00000
Cr	7.80	0.1586	1.30	0.00000	0.00000
Cu	12.37	0.0031	32.03	0.00000	0.00000
Dy	7.61	-0.001	-374.72	0.00000	0.00000
Fe	81.47	3.6418	0.23	0.00000	0.00000
K	979.67	)603.36	0.60	0.00000	0.00000
La	8.56	-0.004	-98.26	0.00000	0.00000
Li	5.51	-0.006	-6.66	0.00000	0.00000
Mg	8.18	0.0280	0.11	0.00000	0.00000
Mn	6.83	0.0113	0.00	0.00000	0.00000
Mo	4.68	0.0035	60.09	0.00000	0.00000
Na	39.03	19.547	0.75	0.00000	0.00000
Nd	5.60	-0.014	-64.95	0.00000	0.00000
Ni	8.20	0.5149	0.00	0.00000	0.00000
P	10.18	3.3242	6.12	0.00000	0.00000
b	8.20	0.0263	46.65	0.00000	0.00000
Re	5.14	-0.005	-21.43	0.00000	0.00000
Rh	9.21	-0.039	-25.60	0.00000	0.00000
Ru	10.02	0.0084	130.77	0.00000	0.00000
Sb	3.86	-0.015	-154.52	0.00000	0.00000
Se	8.74	0.0728	43.37	0.00000	0.00000
Si	11.14	1.9519	0.11	0.00000	0.00000

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Sr	15.06	0.0531	0.29	0.00000	0.00000
Te	4.52	-0.023	-157.25	0.00000	0.00000
h	7.91	-0.056	-22.30	0.00000	0.00000
Ti	3.86	0.0026	113.39	0.00000	0.00000
Tl	5.17	-0.021	-1247.9	0.00000	0.00000
U	37.57	-0.260	-46.48	0.00000	0.00000
V	10.38	-0.002	-128.84	0.00000	0.00000
Zn	5.72	0.0296	1.14	0.00000	0.00000
Zr	7.46	-0.002	-47.24	0.00000	0.00000

More samples [Y/N] ?
Sample name = 903619
Sample number = 2030
Sample code 1 = A1
Sample code 2 = P5017G
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24:132H6n
Sample name : 903619
Sample number : 2030
Sample code 1 : A1
Sample code 2 : P5017G
Sample code 3 : DIRECT
Programme : ALLELE 24-Oct-90 14:46:47
[1] Direct Intensities

Ag	5.01000	Al	8.66000	As	13.9600	B	4.91000	Ba	5.95000	Be	5.79000	Ca	31.4000
Cd	7.79000	Ce	12.5600	Co	38.0100	Cr	7.14000	Cu	11.2200	Dy	6.78000	Fe	76.4000
K	754.700	La	7.71000	Li	4.95000	Mg	7.35000	Mn	6.43000	Mo	4.24000	Na	37.7600
Nd	4.94000	Ni	8.77000	P	8.49000	Pb	7.49000	Re	4.60000	Rh	8.37000	Ru	9.17000
Sb	3.46000	Se	8.00000	Si	10.2900	Sr	13.7400	Te	4.06000	Th	7.08000	Ti	3.41000
Tl	4.34000	U	34.0100	V	9.27000	Zn	5.16000	Zr	6.74000				

[1] Direct Intensities

Ag	5.00000	Al	8.67000	As	13.6700	B	4.93000	Ba	5.91000	Be	5.80000	Ca	31.1800
Cd	7.80000	Ce	12.6200	Co	38.2000	Cr	7.11000	Cu	11.1900	Dy	6.80000	Fe	75.9600
K	748.800	La	7.74000	Li	4.97000	Mg	7.30000	Mn	6.44000	Mo	4.18000	Na	37.5900
Nd	4.97000	Ni	8.78000	P	8.49000	Pb	7.40000	Re	4.65000	Rh	8.39000	Ru	9.14000
Sb	3.42000	Se	7.97000	Si	10.2800	Sr	13.6900	Te	4.10000	Th	7.09000	Ti	3.40000
Tl	4.37000	U	34.2000	V	9.34000	Zn	5.12000	Zr	6.77000				

[1] Direct Intensities

Ag	5.04000	Al	8.70000	As	13.7800	B	4.96000	Ba	5.97000	Be	5.80000	Ca	33.8900
Cd	7.78000	Ce	12.6000	Co	38.1400	Cr	7.32000	Cu	11.3400	Dy	6.79000	Fe	83.0000
K	820.500	La	7.69000	Li	5.00000	Mg	7.80000	Mn	6.56000	Mo	4.19000	Na	40.6000
Nd	4.93000	Ni	9.25000	P	8.55000	Pb	7.59000	Re	4.59000	Rh	8.36000	Ru	9.32000
Sb	3.45000	Se	8.08000	Si	10.7500	Sr	14.5000	Te	4.14000	Th	7.11000	Ti	3.41000
Tl	4.46000	U	34.2500	V	9.47000	Zn	5.35000	Zr	6.75000				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.64	-0.003	-69.39	0.00000	0.00000
Al	9.04	0.0193	31.23	0.00000	0.00000
As	14.47	-0.029	-87.84	0.00000	0.00000
B	5.45	0.0372	5.63	0.00000	0.00000
Ba	6.59	0.0036	15.27	0.00000	0.00000
Be	6.33	-0.000	-173.21	0.00000	0.00000
Ca	31.17	0.1087	5.24	0.00000	0.00000
Cd	8.45	0.0019	15.79	0.00000	0.00000
Co	13.97	-0.073	-17.62	0.00000	0.00000

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Co	41.86	-0.169	-15.18	0.00000	0.00000
Cr	7.63	0.1453	6.10	0.00000	0.00000
Cu	12.34	0.0023	82.11	0.00000	0.00000
Dy	7.58	-0.002	-21.43	0.00000	0.00000
Fe	75.21	3.3380	5.43	0.00000	0.00000
K	747.61	)456.07	5.32	0.00000	0.00000
La	8.55	-0.005	-34.32	0.00000	0.00000
Li	5.49	-0.007	-23.59	0.00000	0.00000
Mg	7.68	0.0252	5.80	0.00000	0.00000
Mn	6.92	0.0122	6.18	0.00000	0.00000
Mo	4.61	-0.001	-192.87	0.00000	0.00000
Na	37.52	18.639	5.17	0.00000	0.00000
Nd	5.58	-0.026	-41.63	0.00000	0.00000
Ni	9.28	0.6874	6.07	0.00000	0.00000
P	10.06	3.2186	1.26	0.00000	0.00000
Pb	8.15	0.0118	219.32	0.00000	0.00000
Re	5.14	-0.004	-74.18	0.00000	0.00000
Rh	9.21	-0.038	-15.28	0.00000	0.00000
Ru	10.00	0.0059	206.65	0.00000	0.00000
Sb	3.85	-0.019	-69.39	0.00000	0.00000
Se	8.68	0.0404	68.23	0.00000	0.00000
Si	10.79	1.8207	5.28	0.00000	0.00000
Sr	14.15	0.0475	5.53	0.00000	0.00000
Te	4.56	-0.003	-600.03	0.00000	0.00000
Th	7.92	-0.050	-18.33	0.00000	0.00000
Ti	3.83	0.0000		0.00000	0.00000
Tl	5.14	-0.254	-156.11	0.00000	0.00000
U	37.47	-0.356	-33.03	0.00000	0.00000
V	10.36	-0.003	-104.99	0.00000	0.00000
Zn	5.64	0.0277	9.83	0.00000	0.00000
Zr	7.46	-0.001	-45.83	0.00000	0.00000

More samples [Y/N] ?
Sample name = 903620
Sample number = 2031
Sample code 1 = A1
Sample code 2 = P5078G
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 903620
Sample number : 2031
Sample code 1 : A1
Sample code 2 : P5078G
Sample code 3 : DIRECT
Programme : ALLELE 24-Oct-90 14:52:08
[1] Direct Intensities
Ag 4.95000 Al 8.62000 As 13.7400 B 4.55000 Ba 5.91000 Be 5.69000 Ca 34.1500
Cd 7.67000 Ce 12.4100 Co 37.7400 Cr 7.04000 Cu 11.2500 Dy 6.69000 Fe 76.4900
K 778.400 La 7.63000 Li 4.92000 Mg 7.15000 Mn 6.40000 Mo 4.17000 Na 37.6400
Nd 4.88000 Ni 15.2400 P 8.30000 Pb 7.41000 Re 4.60000 Rh 8.26000 Ru 9.06000
Sb 3.40000 Se 7.80000 Si 10.3700 Sr 13.6000 Te 3.99000 Th 6.96000 Ti 3.35000
Tl 4.25000 U 33.7800 V 9.19000 Zn 5.25000 Zr 6.64000

E03-046

[1] Direct Intensities
Ag 4.93000 Al 8.60000 As 13.5000 B 4.49000 Ba 5.82000 Be 5.70000 Ca 34.1500
Cd 7.56000 Ce 12.4500 Co 37.7900 Cr 7.06000 Cu 11.2500 Dy 6.70000 Fe 76.4500
K 781.700 La 7.59000 Li 4.94000 Mg 7.11000 Mn 6.41000 Mo 4.14000 Na 37.7500

Nd 4.81000 Ni 15.2000 P 8.46000 Pb 7.43000 Re 4.57000 Rh 8.26000 Ru 9.04000
Sb 3.40000 Se 7.96000 Si 10.3700 Sr 13.7100 Te 4.06000 Th 6.95000 Ti 3.35000
Tl 4.36000 U 33.8000 V 9.23000 Zn 5.17000 Zr 6.64000
[1] Direct Intensities
Ag 4.91000 Al 8.60000 As 14.1400 B 4.53000 Ba 5.81000 Be 5.73000 Ca 34.2900
Cd 7.70000 Ce 12.4800 Co 37.8000 Cr 7.09000 Cu 11.2700 Dy 6.73000 Fe 76.5800
K 781.700 La 7.59000 Li 4.94000 Mg 7.18000 Mn 6.60000 Mo 4.09000 Na 37.7200
Nd 4.80000 Ni 15.2700 P 8.42000 Pb 7.40000 Re 4.58000 Rh 8.27000 Ru 9.10000
Sb 3.36000 Se 7.95000 Si 10.4100 Sr 13.6600 Te 3.98000 Th 6.96000 Ti 3.36000
Tl 4.29000 U 33.8000 V 9.23000 Zn 5.20000 Zr 6.67000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.55	-0.010	-17.14	0.00000	0.00000
Al	8.97	-0.001	-346.28	0.00000	0.00000
As	14.46	-0.031	-183.01	0.00000	0.00000
B	5.06	0.0031	83.32	0.00000	0.00000
Ba	6.50	0.0019	53.30	0.00000	0.00000
Be	6.24	-0.000	-22.30	0.00000	0.00000
Ca	33.12	0.1165	0.26	0.00000	0.00000
Cd	8.31	-0.002	-88.45	0.00000	0.00000
Ce	13.83	-0.134	-10.97	0.00000	0.00000
Co	41.54	-0.258	-3.28	0.00000	0.00000
Cr	7.51	0.1355	1.45	0.00000	0.00000
Cu	12.34	0.0025	11.18	0.00000	0.00000
Dy	7.51	-0.006	-16.01	0.00000	0.00000
Fe	73.36	3.2486	0.09	0.00000	0.00000
[illegible]	753.32	)459.69	0.25	0.00000	0.00000
La	8.44	-0.012	-14.17	0.00000	0.00000
Li	5.46	-0.009	-14.29	0.00000	0.00000
Mg	7.35	0.0234	0.80	0.00000	0.00000
Mn	7.04	0.0136	0.45	0.00000	0.00000
Mo	4.54	-0.005	-46.63	0.00000	0.00000
Na	36.63	18.099	0.18	0.00000	0.00000
Nd	5.47	-0.086	-26.15	0.00000	0.00000
Ni	15.30	1.6466	0.32	0.00000	0.00000
P	9.90	3.0817	3.17	0.00000	0.00000
Pb	8.07	-0.010	-41.66	0.00000	0.00000
Re	5.11	-0.007	-20.83	0.00000	0.00000
Rh	9.10	-0.079	-2.75	0.00000	0.00000
Ru	9.87	-0.012	-31.60	0.00000	0.00000
Sb	3.80	-0.054	-26.65	0.00000	0.00000
Se	8.57	-0.015	-298.78	0.00000	0.00000
Si	10.74	1.8004	0.46	0.00000	0.00000
Sr	13.87	0.0458	0.32	0.00000	0.00000
Te	4.48	-0.042	-45.09	0.00000	0.00000
Th	7.79	-0.132	-2.62	0.00000	0.00000
Ti	3.78	-0.006	-10.83	0.00000	0.00000
Tl	5.05	-0.826	-42.83	0.00000	0.00000
U	37.12	-0.691	-1.55	0.00000	0.00000
V	10.22	-0.007	-9.62	0.00000	0.00000
Zn	5.64	0.0276	3.24	0.00000	0.00000
Zr	7.36	-0.006	-12.67	0.00000	0.00000

More samples [Y/N] ?
Sample name = 903620
Sample number = 2032
Sample code 1 = A2
Sample code 2 = P5722G

E03-047

Sample code 3 = DIRECT

Weight =

Press <CR> when ready to start measurement
24:132H6n
Sample name : 903620
Sample number : 2032
Sample code 1 : A2
Sample code 2 : P5729G
Sample code 3 : DIRECT
Programme : ALLELE 24-Oct-90 14:56:22
[1] Direct Intensities
Ag 4.99000 Al 8.66000 As 13.9700 B 4.56000 Ba 5.82000 Be 5.74000 Ca 34.7700
Cd 7.78000 Ce 12.5000 Co 37.9800 Cr 7.39000 Cu 11.6700 Dy 6.72000 Fe 88.5600
K 868.000 La 7.62000 Li 4.93000 Mg 8.00000 Mn 7.16000 Mo 4.21000 Na 42.3500
Nd 4.89000 Ni 28.7300 P 8.68000 Pb 7.44000 Re 4.60000 Rh 8.29000 Ru 9.20000
Sb 3.45000 Se 8.14000 Si 11.1800 Sr 15.6400 Te 4.00000 Th 6.99000 Ti 3.35000
Tl 4.23000 U 34.1000 V 9.25000 Zn 5.78000 Zr 6.69000
[1] Direct Intensities
Ag 4.96000 Al 8.68000 As 13.9600 B 4.61000 Ba 5.81000 Be 5.71000 Ca 34.8100
Cd 7.76000 Ce 12.5800 Co 38.0800 Cr 7.39000 Cu 11.6900 Dy 6.73000 Fe 88.8000
K 868.200 La 7.64000 Li 4.95000 Mg 8.00000 Mn 7.14000 Mo 4.11000 Na 42.4100
Nd 4.81000 Ni 28.7900 P 8.76000 Pb 7.42000 Re 4.59000 Rh 8.32000 Ru 9.14000
Sb 3.38000 Se 8.27000 Si 11.2100 Sr 15.6100 Te 4.04000 Th 7.01000 Ti 3.37000
Tl 4.30000 U 34.0800 V 9.27000 Zn 5.78000 Zr 6.69000
[1] Direct Intensities
Ag 4.98000 Al 8.68000 As 13.8100 B 4.54000 Ba 5.95000 Be 5.75000 Ca 34.8000
Cd 7.68000 Ce 12.5900 Co 38.1900 Cr 7.39000 Cu 11.7300 Dy 6.71000 Fe 89.0200
K 870.200 La 7.63000 Li 4.97000 Mg 8.00000 Mn 7.16000 Mo 4.22000 Na 42.4900
Nd 4.81000 Ni 28.8000 P 8.65000 Pb 7.48000 Re 4.54000 Rh 8.33000 Ru 9.13000
Sb 3.40000 Se 7.98000 Si 11.2400 Sr 15.6300 Te 3.98000 Th 7.02000 Ti 3.36000
Tl 4.29000 U 34.2700 V 9.41000 Zn 5.75000 Zr 6.69000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.60	-0.006	-21.82	0.00000	0.00000
Al	9.03	0.0183	18.23	0.00000	0.00000
As	14.57	-0.010	-158.17	0.00000	0.00000
B	5.10	0.0069	43.27	0.00000	0.00000
Ba	6.51	0.0021	66.94	0.00000	0.00000
Be	6.27	-0.000	-31.23	0.00000	0.00000
Ca	33.69	0.1187	0.07	0.00000	0.00000
Cd	8.40	0.0004	396.88	0.00000	0.00000
Ce	13.93	-0.088	-23.49	0.00000	0.00000
Co	41.83	-0.177	-15.60	0.00000	0.00000
Cr	7.82	0.1609	0.00	0.00000	0.00000
Cu	12.75	0.0131	5.62	0.00000	0.00000
Dy	7.52	-0.005	-8.57	0.00000	0.00000
Fe	85.00	3.8129	0.28	0.00000	0.00000
K	838.09	)513.50	0.14	0.00000	0.00000
La	8.47	-0.010	-6.38	0.00000	0.00000
Li	5.47	-0.009	-15.38	0.00000	0.00000
Mg	8.17	0.0279	0.00	0.00000	0.00000
Mn	7.56	0.0193	0.63	0.00000	0.00000
Mo	4.59	-0.002	-152.07	0.00000	0.00000
Na	41.08	20.787	0.19	0.00000	0.00000
Nd	5.48	-0.082	-28.87	0.00000	0.00000
Ni	28.22	3.7067	0.16	0.00000	0.00000
P	10.32	3.4576	1.94	0.00000	0.00000

E03-048

Pb	8.10	-0.001	-917.01	0.00000	0.00000
Re	5.10	-0.008	-40.18	0.00000	0.00000
Rh	9.15	-0.060	-13.01	0.00000	0.00000
Ru	9.95	-0.001	-567.87	0.00000	0.00000
Sb	3.82	-0.040	-56.93	0.00000	0.00000
Se	8.79	0.0954	73.86	0.00000	0.00000
Si	11.52	2.0961	0.51	0.00000	0.00000
Sr	15.70	0.0570	0.15	0.00000	0.00000
Te	4.48	-0.044	-30.55	0.00000	0.00000
Th	7.83	-0.102	-8.99	0.00000	0.00000
Ti	3.79	-0.005	-21.43	0.00000	0.00000
Tl	5.03	-0.996	-24.17	0.00000	0.00000
U	37.47	-0.360	-27.00	0.00000	0.00000
V	10.31	-0.004	-59.44	0.00000	0.00000
Zn	6.18	0.0401	0.96	0.00000	0.00000
Zr	7.40	-0.004	0.00	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CH3
Sample number   = 2033
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH3
Sample number   : 2033
Programme       : ALLELE          24-Oct-90  15:02:20
[1] Direct Intensities
Ag 5.52000 Al 42.6600 As 24.3600 B  63.1900 Ba 5.80000 Be 6.29000 Ca 2615.00
Cd 341.300 Ce 13.3900 Co 39.5000 Cr 132.300 Cu 13.3300 Dy 220.700 Fe 6.40000
K  106.700 La 163.800 Li 297.400 Mg 3.16000 Mn 952.600 Mo 4.80000 Na 177.800
Nd 24.1700 Ni 4.93000 P  13.3600 Pb 8.55000 Re 104.900 Rh 9.58000 Ru 88.0000
Sb 3.53000 Se 28.2800 Si 32.8100 Sr 16.8100 Te 4.95000 Th 23.5900 Ti 3.73000
Tl 5.81000 U  35.8100 V  10.8100 Zn 4.42000 Zr 28.0000
[1] Direct Intensities
Ag 5.47000 Al 42.8000 As 25.5900 B  63.7900 Ba 5.80000 Be 6.35000 Ca 2625.00
Cd 342.500 Ce 13.3700 Co 39.4000 Cr 132.700 Cu 13.2900 Dy 222.000 Fe 6.35000
K  107.100 La 164.500 Li 299.600 Mg 3.15000 Mn 955.400 Mo 4.80000 Na 179.000
Nd 24.2300 Ni 4.94000 P  13.3100 Pb 8.46000 Re 105.000 Rh 9.57000 Ru 88.3500
Sb 3.57000 Se 28.4800 Si 32.9800 Sr 16.9500 Te 4.95000 Th 23.6900 Ti 3.73000
Tl 5.81000 U  35.7600 V  10.8100 Zn 4.39000 Zr 28.0900
[1] Direct Intensities
Ag 5.48000 Al 43.0000 As 25.2700 B  64.4000 Ba 5.80000 Be 6.34000 Ca 2640.00
Cd 343.800 Ce 13.3800 Co 39.3500 Cr 133.400 Cu 13.3300 Dy 222.900 Fe 6.38000
K  107.500 La 165.300 Li 300.600 Mg 3.17000 Mn 960.000 Mo 4.89000 Na 179.800
Nd 24.3400 Ni 4.97000 P  13.1500 Pb 8.57000 Re 105.800 Rh 9.58000 Ru 88.8000
Sb 3.56000 Se 28.5900 Si 33.1200 Sr 16.9800 Te 4.96000 Th 23.7600 Ti 3.72000
Tl 5.91000 U  35.9100 V  10.8900 Zn 4.39000 Zr 28.2000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.11	0.0381	5.97	0.00000	0.00000
Al	41.68	9.8835	0.50	0.00000	0.00000
As	25.27	1.9459	5.75	0.00000	0.00000
B	61.49	4.9362	1.02	0.00000	0.00000
Ba	6.45	0.0010	0.00	0.00000	0.00000

E03-049

Be	6.84	0.0014	6.10	0.00000	0.00000
Ca	2512.09	9.9344	0.48	0.00000	0.00000
Cd	323.96	9.9682	0.37	0.00000	0.00000
Ce	14.70	0.2566	1.63	0.00000	0.00000
Co	43.09	0.1738	11.57	0.00000	0.00000
Cr	126.84	9.9428	0.44	0.00000	0.00000
Cu	14.26	0.0524	1.07	0.00000	0.00000
Dy	206.16	9.9231	0.51	0.00000	0.00000
Fe	6.95	0.0276	4.19	0.00000	0.00000
K	105.98	48.821	0.50	0.00000	0.00000
La	156.30	9.9303	0.48	0.00000	0.00000
Li	287.24	19.677	0.56	0.00000	0.00000
Mg	3.52	0.0023	2.34	0.00000	0.00000
Mn	913.78	9.9356	0.39	0.00000	0.00000
Mo	5.21	0.0359	8.52	0.00000	0.00000
Na	170.10	98.593	0.58	0.00000	0.00000
Nd	23.76	9.8989	0.45	0.00000	0.00000
Ni	5.47	0.0807	3.93	0.00000	0.00000
P	16.61	8.8072	1.46	0.00000	0.00000
Pb	9.14	0.2930	5.44	0.00000	0.00000
Re	100.12	9.9243	0.49	0.00000	0.00000
Rh	10.37	0.4144	0.52	0.00000	0.00000
Ru	85.49	9.9456	0.51	0.00000	0.00000
Sb	3.95	0.0500	26.02	0.00000	0.00000
Se	28.04	9.9515	0.77	0.00000	0.00000
Si	32.21	9.8796	0.56	0.00000	0.00000
Sr	16.91	0.0644	0.81	0.00000	0.00000
Te	5.35	0.3712	0.68	0.00000	0.00000
Th	23.43	9.8901	0.52	0.00000	0.00000
Ti	4.14	0.0353	1.80	0.00000	0.00000
Tl	6.48	8.9831	4.08	0.00000	0.00000
U	39.11	1.1997	5.92	0.00000	0.00000
V	11.75	0.0376	3.35	0.00000	0.00000
Zn	4.86	0.0097	3.94	0.00000	0.00000
Zr	27.97	0.9308	0.47	0.00000	0.00000

```
More samples [Y/N] ? Y
Sample name     = CL1
Sample number   = 2034
Sample code 1   =
Sample code 2   =
Sample code 3   =

Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL1
Sample number   : 2034
Programme       : ALLELE          24-Oct-90  15:07:57
[1] Direct Intensities
Ag 5.00000 Al 8.63000 As 13.8000 B  4.96000 Ba 5.66000 Be 5.80000 Ca 3.29000
Cd 7.74000 Ce 12.6300 Co 38.4100 Cr 5.30000 Cu 11.0900 Dy 6.80000 Fe 5.72000
K  26.8000 La 7.73000 Li 4.99000 Mg 2.65000 Mn 5.27000 Mo 4.23000 Na 5.80000
Nd 4.92000 Ni 4.36000 P  5.80000 Pb 7.39000 Re 4.58000 Rh 8.36000 Ru 8.95000
Sb 3.46000 Se 8.02000 Si 5.28000 Sr 5.65000 Te 4.04000 Th 7.02000 Ti 3.35000
Tl 4.34000 U  34.2200 V  9.34000 Zn 3.95000 Zr 6.69000
[1] Direct Intensities
Ag 5.00000 Al 8.63000 As 13.5400 B  4.02000 Ba 5.70000 Be 5.7[illegible]000 Ca 3.32000
```

E03-050

```
Cd 7.74000 Ce 12.6800 Co 38.4200 Cr 5.30000 Cu 11.0800 Dy 6.80000 Fe 5.77000
K  26.8000 La 7.75000 Li 4.99000 Mg 2.63000 Mn 5.24000 Mo 4.19000 Na 5.80000
 d 4.91000 Ni 4.36000 P  5.81000 Pb 7.41000 Re 4.60000 Rh 8.37000 Ru 8.96000
Sb 3.46000 Se 7.90000 Si 5.28000 Sr 5.66000 Te 4.04000 Th 7.09000 Ti 3.33000
Tl 4.38000 U  34.2500 V  9.36000 Zn 3.96000 Zr 6.70000
[1] Direct Intensities
Ag 5.00000 Al 8.61000 As 13.7700 B  4.81000 Ba 5.74000 Be 5.79000 Ca 3.35000
Cd 7.68000 Ce 12.6900 Co 38.5900 Cr 5.29000 Cu 11.1000 Dy 6.80000 Fe 5.76000
K  26.7900 La 7.70000 Li 5.02000 Mg 2.67000 Mn 5.27000 Mo 4.19000 Na 5.81000
Nd 4.97000 Ni 4.40000 P  5.80000 Pb 7.46000 Re 4.60000 Rh 8.40000 Ru 9.00000
Sb 3.42000 Se 7.92000 Si 5.30000 Sr 5.69000 Te 4.04000 Th 7.09000 Ti 3.37000
Tl 4.33000 U  34.3800 V  9.50000 Zn 3.94000 Zr 6.74000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.62	-0.004	0.00	0.00000	0.00000
Al	8.99	0.0058	100.01	0.00000	0.00000
As	14.38	-0.046	-50.29	0.00000	0.00000
B	5.40	0.0330	18.92	0.00000	0.00000
Ba	6.36	-0.001	-92.31	0.00000	0.00000
Be	6.32	-0.000	-114.57	0.00000	0.00000
Ca	3.60	-0.000	-24.32	0.00000	0.00000
Cd	8.38	-0.000	-519.70	0.00000	0.00000
Ce	14.04	-0.042	-32.14	0.00000	0.00000
Co	42.20	-0.075	-35.70	0.00000	0.00000
Cr	5.84	-0.002	-19.25	0.00000	0.00000
Cu	12.18	-0.002	-17.32	0.00000	0.00000
Dy	7.59	-0.002	0.00	0.00000	0.00000
Fe	6.36	-0.001	-99.22	0.00000	0.00000
K	28.79	-0.169	-2.09	0.00000	0.00000
La	8.56	-0.004	-41.94	0.00000	0.00000
Li	5.51	-0.005	-21.65	0.00000	0.00000
Mg	3.03	-0.000	-24.00	0.00000	0.00000
Mn	5.76	-0.000	-37.11	0.00000	0.00000
Mo	4.61	-0.001	-138.57	0.00000	0.00000
Na	6.47	-0.091	-3.61	0.00000	0.00000
Nd	5.57	-0.033	-50.76	0.00000	0.00000
Ni	4.93	-0.007	-53.29	0.00000	0.00000
P	6.34	0.0430	15.75	0.00000	0.00000
Pb	8.07	-0.008	-120.19	0.00000	0.00000
Re	5.12	-0.006	-18.23	0.00000	0.00000
Rh	9.21	-0.036	-21.53	0.00000	0.00000
Ru	9.78	-0.024	-13.68	0.00000	0.00000
Sb	3.86	-0.017	-86.60	0.00000	0.00000
Se	8.61	0.0065	482.11	0.00000	0.00000
Si	5.89	-0.023	-18.23	0.00000	0.00000
Sr	6.34	-0.001	-20.82	0.00000	0.00000
Te	4.51	-0.029	0.00	0.00000	0.00000
Th	7.89	-0.068	-33.40	0.00000	0.00000
Ti	3.78	-0.006	-35.29	0.00000	0.00000
Tl	5.10	-0.508	-33.07	0.00000	0.00000
U	37.60	-0.236	-33.57	0.00000	0.00000
V	10.39	-0.002	-153.84	0.00000	0.00000
Zn	4.42	-0.000	-100.00	0.00000	0.00000
Zr	7.42	-0.003	-34.51	0.00000	0.00000

```
More samples [Y/N] ? N
>
```

E03-051

Samp Log#:	90-4178a1	90-4178a2		90-4179a1	90-4179a2		90-4178a3				
Dilution:	1.00	1.00		1.00	1.00		1.00				
Wt% Fctr:	0.45441	0.60477		0.40452	0.40197		0.45382				
ICP Run#:	2042	2041		2043	2044		2040			DL	QL
	(Wt %)	(Wt %)	RPD	(Wt %)	(Wt %)	RPD	(Wt %)	(Wt %)	RPD	(ug/mL)	(ug/mL)
Ag	<DL	<DL		<DL	<DL		<DL			0.0157	0.0525
Al	0.1433	0.1509	5.2%	0.1492	0.1509	1.2%	<DL			0.0528	0.1761
As	<DL	<DL		<DL	<DL		<DL			0.0889	0.2965
B	<DL	<DL		<DL	<DL		<DL			0.0639	0.2130
Ba	<DL	<DL		0.0099	(0.0016)	144.5%	0.0102			0.0037	0.0123
Be	<DL	<DL		<DL	<DL		<DL			0.0002	0.0006
Ca	0.0666	0.0771	14.6%	0.1017	0.0682	39.4%	0.0463			0.0014	0.0048
Cd	<DL	<DL		<DL	<DL		<DL			0.0062	0.0207
Ce	<DL	<DL		<DL	<DL		<DL			0.2143	0.7145
Co	<DL	<DL		<DL	<DL		<DL			0.4199	1.3997
Cr	0.0784	0.0803	2.4%	0.0784	0.0782	0.2%	<DL			0.0229	0.0762
Cu	0.0333	0.0367	9.9%	0.0234	0.0230	1.8%	(0.0074)			0.0163	0.0544
Dy	<DL	<DL		<DL	<DL		<DL			0.0139	0.0464
Fe	1.8368	1.8629	1.4%	1.8301	1.8181	0.7%	0.0136			0.0080	0.0268
K										0.5156	1.7188
La	<DL	<DL		<DL	<DL		<DL			0.0190	0.0634
Li	<DL	<DL		<DL	<DL		<DL			0.0109	0.0364
Mg	0.0144	0.0166	14.3%	0.0129	0.0104	21.7%	0.0042			0.0010	0.0032
Mn	0.0088	0.0103	15.9%	0.0140	0.0176	22.9%	0.0047			0.0015	0.0049
Mo	<DL	<DL		<DL	<DL		<DL			0.0130	0.0433
Na	9.5655	9.6766	1.2%	9.2516	9.2881	0.4%	<DL			0.1319	0.4396
Nd	<DL	<DL		<DL	<DL		<DL			0.0942	0.3140
Ni										0.0215	0.0717
P	1.4934	1.6187	8.1%	1.4490	1.5364	5.9%	<DL			0.3847	1.2822
Pb	<DL	<DL		<DL	<DL		<DL			0.0674	0.2248
Re	<DL	<DL		<DL	<DL		<DL			0.0156	0.0522
Rh	<DL	<DL		<DL	<DL		<DL			0.1190	0.3967
Ru	<DL	<DL		<DL	<DL		<DL			0.0712	0.2374
Sb	<DL	<DL		<DL	<DL		<DL			0.1069	0.3562
Se	<DL	<DL		<DL	<DL		<DL			0.1081	0.3602
Si	1.0057	1.0224	1.6%	1.0121	1.0013	1.1%	<DL			0.0587	0.1957
Sr	0.0260	0.0266	2.2%	0.0258	0.0257	0.6%	<DL			0.0013	0.0045
Te	<DL	<DL		<DL	<DL		<DL			0.0650	0.2167
Th	<DL	<DL		<DL	<DL		<DL			0.1658	0.5526
Ti	<DL	<DL		<DL	<DL		<DL			0.0121	0.0404
Tl	<DL	<DL		<DL	<DL		<DL			3.1009	10.3364
U	<DL	<DL		<DL	<DL		<DL			1.3258	4.4192
V	<DL	<DL		<DL	<DL		<DL			0.0107	0.0357
Zn	0.0206	0.0251	19.5%	0.0287	0.0209	31.5%	0.0121			0.0046	0.0154
Zr	<DL	<DL		<DL	<DL		<DL			0.0101	0.0337
Bi	1.8903	1.9474	3.0%	1.9255	1.9857	3.1%	<DL				

11/05/90

E03-052

Date: 10/25/90
Project: SST
Procedure: PNL-SP-7

Analyst: 11/9/90
Reviewer: 11/9/90

File: icp4178f
Reported: 11/05/90

Sample Log#	90-4178a1	90-4178a2	90-4179a1	90-4179a1	90-4178a3	
ID	S1	S2	S1	S2	S1	S2
Prep Type	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g	0.603	0.453	0.677	0.681	0.603	
Makeup Vol-mL	250.0	250.0	250.0	250.0	250.0	
Dil: Smpl-mL	1.005	1.005	1.005	1.005	1.005	
Dil: Vol-mL	10.00	10.00	10.00	10.00	10.00	
Prep Factor	4544.08	6047.74	4045.23	4019.69	4538.25	
Spike ID						
Spike Vol-mL						
Spike Dilution						
ICP Dilution	1.00	1.00	1.00	1.00	1.00	
Wt% Factor	0.45441	0.60477	0.40452	0.40197	0.45382	
ICP Run #	2042	2041	2043	2044	2040	
Weight % Ag	-0.0022	-0.0029	-0.0019	-0.0019	-0.0022	
Al	0.1433	0.1509	0.1492	0.1509	-0.0011	
As	0.0053	-0.0299	0.0007	-0.0068	0.0083	
B	-0.0023	0.0013	-0.0038	-0.0034	0.0037	
Ba	0.0017	0.0018	0.0099	0.0016	0.0102	
Be	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	
Ca	0.0666	0.0771	0.1017	0.0682	0.0463	
Cd	-0.0008	-0.0016	-0.0011	-0.0011	-0.0003	
Ce	-0.0349	-0.0326	-0.0295	-0.0337	-0.0272	
Co	-0.0618	-0.0580	-0.0530	-0.0510	-0.0462	
Cr	0.0784	0.0803	0.0784	0.0782	-0.0005	
Cu	0.0333	0.0367	0.0234	0.0230	0.0074	
Dy	-0.0023	-0.0024	-0.0024	-0.0024	-0.0018	
Fe	1.8368	1.8629	1.8301	1.8181	0.0136	
K	213.7557	301.4764	191.1469	204.6281	211.8973	
La	-0.0030	-0.0022	-0.0027	-0.0023	-0.0016	
Li	-0.0009	-0.0012	-0.0008	-0.0008	-0.0009	
Mg	0.0144	0.0166	0.0129	0.0104	0.0042	
Mn	0.0088	0.0103	0.0140	0.0176	0.0047	
Mo	-0.0025	-0.0021	-0.0014	-0.0014	-0.0015	
Na	9.5655	9.6766	9.2516	9.2881	0.0572	
Nd	-0.0129	-0.0093	-0.0095	-0.0134	-0.0052	
Ni	0.7566	0.6648	1.2172	0.6564	0.0820	
P	1.4934	1.6187	1.4490	1.5364	-0.0430	
Pb	0.0119	0.0143	0.0088	0.0193	-0.0100	
Re	-0.0003	0.0012	-0.0003	-0.0023	-0.0022	
Rh	-0.0226	-0.0161	-0.0225	-0.0200	-0.0130	
Ru	0.0140	0.0160	0.0171	0.0141	0.0004	
Sb	-0.0050	-0.0121	-0.0053	-0.0081	-0.0018	
Se	-0.0139	-0.0123	-0.0208	-0.0202	-0.0113	
Si	1.0057	1.0224	1.0121	1.0013	0.0131	
Sr	0.0260	0.0266	0.0258	0.0257	-0.0000	
Te	-0.0181	-0.0247	-0.0088	-0.0112	-0.0240	
Th	-0.0129	-0.0153	-0.0095	-0.0186	-0.0115	
Ti	-0.0008	-0.0017	-0.0007	0.0001	0.0001	
Tl	-0.4986	-0.4876	-0.5891	-0.5492	-0.3151	
U	-0.1078	-0.0860	-0.0883	-0.0853	-0.1535	
V	-0.0149	-0.0029	-0.0015	-0.0015	-0.0017	
Zn	0.0206	0.0251	0.0287	0.0209	0.0121	
Zr	-0.0013	-0.0006	-0.0008	-0.0012	-0.0009	
Bi	1.8903	1.9474	1.9255	1.9857	-0.0045	

Date: 10/25/90
Project: SST
Procedure: PNL-SP-7
MT&E: WA55672

Data Entry By: JAG 11/9/90
Data Verified By: TMC 11/9/90

File: icp4178f

Sample ID: 90-4178a1 90-4178a2 90-4179a1 90-4179a1 90-4178a3

ICP Run #		2042	2041	2043	2044	2040
(ug/mL)	Ag	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050
	Al	0.3226	0.2568	0.3761	0.3828	0.0048
	As	0.0334	-0.0340	0.0268	0.0083	0.0131
	B	0.0139	0.0211	0.0095	0.0103	0.0270
	Ba	0.0036	0.0029	0.0244	0.0039	0.0224
	Be	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
	Ca	0.1467	0.1276	0.2515	0.1698	0.1021
	Cd	-0.0010	-0.0020	-0.0020	-0.0020	-0.0000
	Ce	-0.0810	-0.0580	-0.0770	-0.0880	-0.0640
	Co	-0.1590	-0.1190	-0.1540	-0.1500	-0.1250
	Cr	0.1716	0.1318	0.1929	0.1937	-0.0020
	Cu	0.0725	0.0600	0.0572	0.0565	0.0157
	Dy	-0.0050	-0.0040	-0.0060	-0.0060	-0.0040
	Fe	4.0422	3.0802	4.5240	4.5230	0.0299
	K	470.3600	498.4500	472.4800	509.0200	466.8700
	La	-0.0070	-0.0040	-0.0070	-0.0060	-0.0040
	Li	-0.0030	-0.0030	-0.0030	-0.0030	-0.0030
	Mg	0.0318	0.0276	0.0321	0.0260	0.0095
	Mn	0.0195	0.0172	0.0347	0.0439	0.0105
(ug/mL)	Mo	-0.0050	-0.0030	-0.0030	-0.0030	-0.0030
	Na	21.0390	15.9890	22.8590	23.0950	0.1146
	Nd	-0.0300	-0.0170	-0.0250	-0.0350	-0.0130
	Ni	1.6647	1.0989	3.0087	1.6326	0.1805
	P	3.3001	2.6903	3.5957	3.8359	-0.0810
	Pb	0.0346	0.0319	0.0301	0.0565	-0.0140
	Re	-0.0010	0.0017	-0.0010	-0.0060	-0.0050
	Rh	-0.0540	-0.0310	-0.0600	-0.0540	-0.0330
	Ru	0.0170	0.0127	0.0284	0.0212	-0.0130
	Sb	-0.0230	-0.0320	-0.0250	-0.0320	-0.0160
	Se	0.0180	0.0164	0.0033	0.0049	-0.0280
	Si	2.2147	1.6919	2.5033	2.4924	0.0303
	Sr	0.0573	0.0440	0.0639	0.0639	-0.0000
	Te	-0.0350	-0.0360	-0.0170	-0.0230	-0.0480
	Th	-0.0330	-0.0300	-0.0280	-0.0510	-0.0300
	Ti	-0.0020	-0.0030	-0.0020	-0.0000	-0.0000
	Tl	-1.0310	-0.7400	-1.3900	-1.3000	-0.6280
	U	-0.2970	-0.2020	-0.2780	-0.2720	-0.3980
	V	-0.0330	-0.0050	-0.0040	-0.0040	-0.0040
	Zn	0.0463	0.0424	0.0719	0.0529	0.0276
	Zr	-0.0030	-0.0010	-0.0020	-0.0030	-0.0020
(ug/mL)	Bi	4.1600	3.2200	4.7600	4.9400	-0.0100

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

Prepared By:	Date:	Project:

Title/Subject:

25 OCT 90

TEMP FILE
OCT24=25.WK1

2038	CH3	
39	CL1	
40	90-4178	A3
41		A2
42		A1
43	4179	A1
44		A2
45	CL1	
46	CH3	

TCP 4178F

2042, 2041, 2043, 2044, 2040

E03-055

9 1 1 2 1 2 5 1 4 1 6

Date: Sept. 12 1990

Analyst: [signature] 6-3089 P7-22

Review: JTS

COC # 292

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B, C16

Segment(s): Composite

☑ Composite

☐ Prehomogenized

☑ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
NA	90-4178-A-1	ICP	0.6025	pg 125			250			10.95x	2% HCl	1.0050/10.001	
	90-4178-A-2	"	0.4527				250				2% HCl		
	90-4178-A-3	"	—				250				2% HCl		blank
	90-4179-A-1	"	0.6768				250				2% HCl		
	90-4179-A-2	"	0.6811				250				2% HCl		
		M+TE	360-06-01-016								BNW	52917	

E03-056

```
 SAMP
Programme name =  ALLELE
 esult file (<CR> for no storage) =

Aborted
>

Aborted
>LGF
>NORM ALLELE
Result file (<CR> for no storage) = SIMN1
Do you wish to normalise all standards [Y/N] ? N

The following standards are used in this programme(s) :
 CL01   CH04    CH03    CH02

Do you want to run CL01   [Y/N] ?

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL01
Programme       : ALLELE          25-Oct-90  14:50:35
[1] Direct Intensities
AG 4.89000 AL 8.46000 AS 13.4700 B0 4.35000 BA 5.57000 BE 5.60000 CA 3.61000
CD 7.45000 CE 12.2900 CO 37.1900 CR 5.14000 CU 10.7300 DY 6.63000 FE 5.48000
K1 25.9800 LA 7.50000 LI 4.82000 MG 2.59000 MN 5.10000 MO 4.20000 NA 5.70000
ND 4.80000 NI 4.28000 P4 5.69000 PB 7.11000 RE 4.40000 RH 8.18000 RU 8.70000
SB 3.36000 SE 7.80000 SI 5.17000 SR 5.57000 TE 3.97000 TH 6.81000 TI 3.27000
 L 4.29000 U  33.1400 V  9.09000 ZN 3.91000 ZR 6.53000
[1] Direct Intensities
AG 4.88000 AL 8.44000 AS 13.2100 B0 4.29000 BA 5.56000 BE 5.61000 CA 3.61000
CD 7.40000 CE 12.2900 CO 37.2500 CR 5.15000 CU 10.7100 DY 6.68000 FE 5.50000
K1 26.0000 LA 7.48000 LI 4.80000 MG 2.61000 MN 5.12000 MO 4.09000 NA 5.72000
ND 4.80000 NI 4.26000 P4 5.67000 PB 7.18000 RE 4.45000 RH 8.18000 RU 8.79000
SB 3.40000 SE 7.64000 SI 5.17000 SR 5.59000 TE 3.89000 TH 6.81000 TI 3.30000
TL 4.28000 U  33.1700 V  9.14000 ZN 3.81000 ZR 6.53000
[1] Direct Intensities
AG 4.81000 AL 8.40000 AS 13.3400 B0 4.29000 BA 5.55000 BE 5.60000 CA 3.66000
CD 7.51000 CE 12.2400 CO 37.1500 CR 5.15000 CU 10.6800 DY 6.66000 FE 5.50000
K1 25.9900 LA 7.49000 LI 4.92000 MG 2.65000 MN 5.12000 MO 4.11000 NA 5.69000
ND 4.80000 NI 4.24000 P4 5.62000 PB 7.26000 RE 4.54000 RH 8.16000 RU 8.71000
SB 3.37000 SE 7.78000 SI 5.12000 SR 5.57000 TE 3.96000 TH 6.90000 TI 3.33000
TL 4.24000 U  33.1400 V  9.16000 ZN 3.80000 ZR 6.52000
```

NAME	MV INT	RSD	BCOR
AG	4.86	0.90	0.00000
AL	8.43	0.36	0.00000
AS	13.34	0.97	0.00000
B0	4.31	0.80	0.00000
BA	5.56	0.18	0.00000
BE	5.60	0.10	0.00000
CA	3.63	0.80	0.00000
D	7.45	0.74	0.00000
CE	12.27	0.24	0.00000
CO	37.20	0.14	0.00000
CR	5.15	0.11	0.00000
CU	10.71	0.24	0.00000
DY	6.66	0.38	0.00000
FE	5.49	0.21	0.00000

E03-057

K1	25.99	0.04	0.00000
LA	7.49	0.13	0.00000
I	4.85	1.33	0.00000
MG	2.62	1.17	0.00000
MN	5.11	0.23	0.00000
MO	4.13	1.42	0.00000
NA	5.70	0.27	0.00000
ND	4.80	0.00	0.00000
NI	4.26	0.47	0.00000
P4	5.66	0.64	0.00000
PB	7.18	1.04	0.00000
RE	4.46	1.59	0.00000
RH	8.17	0.14	0.00000
RU	8.73	0.56	0.00000
SB	3.38	0.62	0.00000
SE	7.74	1.13	0.00000
SI	5.15	0.56	0.00000
SR	5.58	0.21	0.00000
TE	3.94	1.11	0.00000
TH	6.84	0.76	0.00000
TI	3.30	0.91	0.00000
TL	4.27	0.62	0.00000
U	33.15	0.05	0.00000
V	9.13	0.39	0.00000
ZN	3.84	1.58	0.00000
ZR	6.53	0.09	0.00000

store [N/Y] ? Y

Channel	Old	New	Nominal	Drift
AG	4.87333	4.86000	5.66667	*
AL8	8.40000	8.43333	8.97333	*
AS	13.4800	13.3400	14.6267	*
B04	4.33667	4.31000	5.02333	*
BA02	5.57667	5.56000	6.40000	*
BE	5.62667	5.60333	6.33333	*
CA15	4.15333	3.62667	3.71667	*
CD	7.48667	7.45333	8.38667	*
CE18	12.5067	12.2733	14.1300	*
CO	38.1967	37.1967	42.4667	*
CR21	5.16667	5.14667	5.86667	*
CU	10.8967	10.7067	12.2467	*
DY26	6.68333	6.65667	7.62667	*
FE05	5.54000	5.49333	6.38333	*
K14	26.3833	25.9900	29.0567	*
LA13	7.58333	7.49000	8.61667	*
LI10	4.89333	4.84667	5.59000	*
MG6	2.55667	2.61667	3.11333	*
MN20	5.12000	5.11333	5.80000	*
MO23	4.12333	4.13333	4.62667	*
NA22	5.71667	5.70333	6.61667	*
ND16	4.80667	4.80000	5.63000	*
NI19	4.24000	4.26000	4.96667	*
P4	5.62667	5.66000	6.29000	*
PB	7.24333	7.18333	8.10333	*
RE25	4.49333	4.46333	5.18000	*
RH12	8.25333	8.17333	9.30667	*
RU03	8.96333	8.73333	9.96000	*
SB	3.29000	3.37667	3.89000	*

```
SE      7.87333 7.74000 8.60000   *
SI7     5.15667 5.15333 5.95000   *
SR17    5.61333 5.57667 6.43333   *
TE01    3.93333 3.94000 4.57000   *
TH      6.97333 6.84000 7.99333   *
TI11    3.25667 3.30000 3.83333   *
TL      4.35000 4.27000 5.17333   *
U       33.9667 33.1500 37.8467   *
V       9.19000 9.13000 10.4467   *
ZN9     3.91000 3.84000 4.43000   *
ZR24    6.58667 6.52667 7.49333   *
[******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y


Do you want to run CH04   [Y/N] ? N


Do you want to run CH03   [Y/N] ?

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH03
Programme       : ALLELE          25-Oct-90  14:53:47
[1] Direct Intensities
AL 43.3100 B0 63.8100 CA 2740.00 CD 334.600 CR 130.500 DY 224.800 K1 110.400
LA 167.500 LI 315.400 MN 953.000 NA 186.000 ND 24.8900 P4 14.3100 RE 105.300
RU 87.1800 SE 27.8100 SI 32.6000 TH 23.7600 TL 5.74000
[1] Direct Intensities
AL 43.3400 B0 64.2800 CA 2738.00 CD 334.300 CR 130.500 DY 224.500 K1 110.500
LA 167.400 LI 315.200 MN 952.400 NA 185.700 ND 24.9000 P4 14.6000 RE 105.300
RU 87.1800 SE 28.3000 SI 32.6300 TH 23.7500 TL 5.75000
[1] Direct Intensities
AL 43.4100 B0 64.6500 CA 2749.00 CD 335.300 CR 130.800 DY 225.200 K1 111.200
LA 168.000 LI 316.800 MN 954.800 NA 186.600 ND 24.9600 P4 15.1300 RE 105.800
RU 87.4900 SE 28.2500 SI 32.6800 TH 23.8000 TL 5.78000
```

NAME	MV INT	RSD	BCOR
AL	43.35	0.12	0.00000
B0	64.25	0.66	0.00000
CA	2742.33	0.21	0.00000
CD	334.73	0.15	0.00000
CR	130.60	0.13	0.00000
DY	224.83	0.16	0.00000
K1	110.70	0.39	0.00000
LA	167.63	0.19	0.00000
LI	315.80	0.28	0.00000
MN	953.40	0.13	0.00000
NA	186.10	0.25	0.00000
ND	24.92	0.15	0.00000
P4	14.68	2.83	0.00000
RE	105.47	0.27	0.00000
RU	87.28	0.21	0.00000
SE	28.12	0.96	0.00000
SI	32.64	0.12	0.00000
TH	23.77	0.11	0.00000
TL	5.76	0.36	0.00000

E03-058

```
Store [N/Y] ? Y

 hannel  Old      New      Nominal  Drift
AL8      43.1800  43.3533  42.0700   *
B04      63.6467  64.2467  62.2167   *
CA15     2696.00  2742.33  2528.67   *
CD       329.533  334.733  324.967   *
CR21     129.300  130.600  127.533   *
DY26     220.367  224.833  207.700   *
K14      111.100  110.700  107.833   *
LA13     165.033  167.633  157.333   *
LI10     315.600  315.800  291.867   *
MN20     942.867  953.400  919.667   *
NA22     184.967  186.100  172.433   *
ND16     24.6233  24.9167  23.9433   *
P4       16.1933  14.6800  18.0067   *
RE25     103.967  105.467  100.847   *
RU03     86.5067  87.2833  85.9000
SE       28.0733  28.1200  28.1333
SI7      32.5733  32.6367  32.5300
TH       23.6367  23.7700  23.5967
TL       5.98333  5.75667  6.63333   *
[******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y


Do you want to run CH02   [Y/N] ?

 ress <CR> when ready to start measurement
24;132H6n
Sample name     : CH02
Programme       : ALLELE          25-Oct-90  14:57:45
[1] Direct Intensities
AS 69.5600 BA 560.300 BE 395.200 CE 36.2900 CO 74.5400 CU 423.300 FE 220.700
MG 1864.00 MO 173.100 NI 68.9700 PB 44.0600 RH 35.3600 SB 17.9700 SR 1765.00
TE 26.1100 TI 94.3400 V  371.400 ZN 449.300 ZR 241.400
[1] Direct Intensities
AS 68.9400 BA 556.500 BE 392.000 CE 36.2000 CO 74.2900 CU 420.000 FE 219.300
MG 1852.00 MO 172.000 NI 68.5500 PB 43.6500 RH 35.2100 SB 17.8000 SR 1751.00
TE 25.9400 TI 93.6600 V  369.000 ZN 446.700 ZR 239.500
[1] Direct Intensities
AS 69.3300 BA 556.800 BE 392.600 CE 36.1900 CO 74.4000 CU 420.600 FE 219.400
MG 1855.00 MO 172.200 NI 68.6300 PB 43.5400 RH 35.2400 SB 17.8000 SR 1753.00
TE 26.0000 TI 93.7900 V  369.500 ZN 447.200 ZR 239.900

NAME       MV INT      RSD     BCOR

AS          69.28     0.45  0.00000
BA         557.87     0.38  0.00000
BE         393.27     0.43  0.00000
CE          36.23     0.15  0.00000
CO          74.41     0.17  0.00000
CU         421.30     0.42  0.00000
 E         219.80     0.36  0.00000
 1G       1857.00     0.34  0.00000
MO         172.43     0.34  0.00000
NI          68.72     0.32  0.00000
PB          43.75     0.63  0.00000
RH          35.27     0.23  0.00000
SB          17.96     0.55  0.00000
```

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SR        1756.33      0.43  0.00000
 E          26.02      0.33  0.00000
 I          93.93      0.38  0.00000
V          369.97      0.34  0.00000
ZN         447.73      0.31  0.00000
ZR         240.27      0.42  0.00000


Store [N/Y] ? Y

Channel  Old      New      Nominal Drift
AS       68.5867 69.2767 69.3000
BA02     553.400 557.867 521.533   *
BE       387.867 393.267 371.600   *
CE18     36.2400 36.2267 36.5333   *
CO       75.1700 74.4100 78.5267   *
CU       422.067 421.300 396.833   *
FE05     217.367 219.800 212.567   *
MG6      1844.00 1857.00 1814.00   *
MO23     170.767 172.433 168.133   *
NI19     67.8433 68.7167 67.7067   *
PB       43.3000 43.7500 43.6333
RH12     35.4267 35.2700 34.9167
SB       17.6800 17.8567 18.1633   *
SR17     1739.00 1756.33 1631.67   *
TE01     25.7733 26.0167 25.6533
TI11     93.2000 93.9300 90.4867   *
'        367.367 369.967 357.833   *
:N9      447.200 447.733 441.633   *
ZR24     238.367 240.267 227.533   *
[******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y
More standards [Y/N] ? N
>
```

```
 SAMP ALLELE
 esult file (<CR> for no storage) = SST1
 HSample name     = 1
Sample number  = 2038
Sample code 1  =
Sample code 2  =
Sample code 3  =
Weight        =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH3
Sample number   : 2038
Programme       : ALLELE          25-Oct-90  15:01:36
[1] Direct Intensities
Ag 5.25000 Al 42.6400 As 23.9000 B  62.4700 Ba 5.66000 Be 6.00000 Ca 2693.00
Cd 323.700 Ce 12.7800 Co 37.3800 Cr 126.600 Cu 12.6900 Dy 220.900 Fe 6.13000
K  109.000 La 164.000 Li 312.600 Mg 3.10000 Mn 925.600 Mo 4.64000 Na 183.700
Nd 24.4900 Ni 4.77000 P  14.6200 Pb 8.19000 Re 102.790 Rh 9.16000 Ru 84.5600
Sb 3.35000 Se 27.2600 Si 31.9000 Sr 16.5700 Te 4.80000 Th 23.3500 Ti 3.64000
Tl 5.60000 U  33.9800 V  10.2700 Zn 4.31000 Zr 27.5500
[1] Direct Intensities
Ag 5.37000 Al 42.9300 As 24.4900 B  63.8000 Ba 5.75000 Be 6.13000 Ca 2713.00
Cd 330.300 Ce 13.0100 Co 38.2200 Cr 128.900 Cu 12.9900 Dy 221.900 Fe 6.18000
K  109.200 La 165.500 Li 311.800 Mg 3.12000 Mn 941.000 Mo 4.70000 Na 183.600
Nd 24.6500 Ni 4.81000 P  14.8000 Pb 8.35000 Re 104.100 Rh 9.35000 Ru 86.2800
Sb 3.50000 Se 27.9100 Si 32.3100 Sr 16.6800 Te 4.80000 Th 23.5800 Ti 3.65000
 l 5.80000 U  34.7700 V  10.6000 Zn 4.37000 Zr 27.8000
 1] Direct Intensities
Ag 5.38000 Al 42.9500 As 24.4200 B  64.2000 Ba 5.75000 Be 6.15000 Ca 2707.00
Cd 330.300 Ce 13.0100 Co 38.2500 Cr 129.100 Cu 12.9800 Dy 221.800 Fe 6.21000
K  109.400 La 165.500 Li 311.900 Mg 3.13000 Mn 940.600 Mo 4.80000 Na 183.900
Nd 24.5900 Ni 4.82000 P  14.6800 Pb 8.36000 Re 104.200 Rh 9.40000 Ru 86.0700
Sb 3.53000 Se 27.6000 Si 32.3300 Sr 16.6700 Te 4.80000 Th 23.5900 Ti 3.67000
Tl 5.64000 U  34.8000 V  10.6600 Zn 4.35000 Zr 27.8000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.14	0.0407	15.28	0.00000	0.00000
Al	41.58	9.8530	0.50	0.00000	0.00000
As	25.31	1.9540	2.95	0.00000	0.00000
B	61.49	4.9369	1.53	0.00000	0.00000
Ba	6.55	0.0029	32.48	0.00000	0.00000
Be	6.80	0.0013	16.62	0.00000	0.00000
Ca	2493.63	9.8612	0.38	0.00000	0.00000
Cd	318.55	9.7973	1.19	0.00000	0.00000
Ce	14.75	0.2755	20.12	0.00000	0.00000
Co	43.20	0.2024	65.56	0.00000	0.00000
Cr	125.21	9.8087	1.13	0.00000	0.00000
Cu	14.29	0.0531	7.82	0.00000	0.00000
Dy	204.67	9.8487	0.26	0.00000	0.00000
Fe	7.04	0.0317	5.94	0.00000	0.00000
K	106.44	49.115	0.24	0.00000	0.00000
a	154.89	9.8356	0.55	0.00000	0.00000
.i	288.46	19.762	0.14	0.00000	0.00000
Mg	3.60	0.0027	3.06	0.00000	0.00000
Mn	902.64	9.8137	0.94	0.00000	0.00000
Mo	5.19	0.0345	13.94	0.00000	0.00000
Na	170.26	98.688	0.09	0.00000	0.00000
Nd	23.63	9.9310	0.41	0.00000	0.00000

E03-060

Ni	5.49	0.0838	4.90	0.00000	0.00000
'	18.03	10.022	1.01	0.00000	0.00000
b	9.19	0.3054	8.54	0.00000	0.00000
Re	99.17	9.8248	0.79	0.00000	0.00000
Rh	10.37	0.4170	11.21	0.00000	0.00000
Ru	84.31	9.7904	1.22	0.00000	0.00000
Sb	3.96	0.0576	115.72	0.00000	0.00000
Se	27.63	9.7399	1.64	0.00000	0.00000
Si	32.09	9.8338	0.90	0.00000	0.00000
Sr	16.70	0.0632	0.55	0.00000	0.00000
Te	5.39	0.3896	0.00	0.00000	0.00000
Th	23.35	9.8445	0.81	0.00000	0.00000
Ti	4.17	0.0390	4.32	0.00000	0.00000
Tl	6.56	9.4843	7.51	0.00000	0.00000
U	39.16	1.2548	34.03	0.00000	0.00000
V	11.78	0.0382	15.22	0.00000	0.00000
Zn	4.93	0.0113	6.07	0.00000	0.00000
Zr	27.44	0.9066	0.68	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2039
Sample code 1   =
Sample code 2   =
Sample code 3   =

'eight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL1
Sample number   : 2039
Programme       : ALLELE          25-Oct-90  15:05:42
[1] Direct Intensities
Ag 4.81000 Al 8.41000 As 13.2200 B  5.18000 Ba 5.59000 Be 5.66000 Ca 3.76000
Cd 7.59000 Ce 12.3000 Co 37.3800 Cr 5.14000 Cu 10.8000 Dy 6.61000 Fe 5.51000
K  26.1500 La 7.49000 Li 4.89000 Mg 2.67000 Mn 5.15000 Mo 4.17000 Na 5.72000
Nd 4.80000 Ni 4.27000 P  5.69000 Pb 7.18000 Re 4.51000 Rh 8.20000 Ru 8.75000
Sb 3.35000 Se 7.79000 Si 5.18000 Sr 5.59000 Te 3.95000 Th 6.91000 Ti 3.33000
Tl 4.15000 U  33.2900 V  9.07000 Zn 3.88000 Zr 6.54000
[1] Direct Intensities
Ag 4.89000 Al 8.47000 As 13.5100 B  5.08000 Ba 5.59000 Be 5.60000 Ca 3.70000
Cd 7.47000 Ce 12.2900 Co 37.2900 Cr 5.13000 Cu 10.7500 Dy 6.62000 Fe 5.49000
K  26.1400 La 7.51000 Li 4.90000 Mg 2.63000 Mn 5.14000 Mo 4.16000 Na 5.70000
Nd 4.80000 Ni 4.28000 P  5.60000 Pb 7.17000 Re 4.47000 Rh 8.18000 Ru 8.71000
Sb 3.33000 Se 7.68000 Si 5.18000 Sr 5.58000 Te 3.90000 Th 6.80000 Ti 3.28000
Tl 4.20000 U  33.2500 V  8.98000 Zn 3.81000 Zr 6.57000
[1] Direct Intensities
Ag 4.81000 Al 8.47000 As 13.5500 B  5.00000 Ba 5.57000 Be 5.62000 Ca 3.70000
Cd 7.46000 Ce 12.3600 Co 37.3900 Cr 5.16000 Cu 10.7700 Dy 6.68000 Fe 5.56000
K  26.2600 La 7.54000 Li 4.92000 Mg 2.62000 Mn 5.17000 Mo 4.14000 Na 5.73000
Nd 4.79000 Ni 4.27000 P  5.72000 Pb 7.19000 Re 4.46000 Rh 8.19000 Ru 8.69000
 b 3.32000 Se 7.94000 Si 5.16000 Sr 5.59000 Te 3.90000 Th 6.90000 Ti 3.28000
Tl 4.22000 U  33.3900 V  9.18000 Zn 3.98000 Zr 6.55000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.64	-0.002	-197.94	0.00000	0.00000
Al	8.99	0.0048	207.87	0.00000	0.00000

E03-061

As	14.71	0.0155	207.80	0.00000	0.00000
B	5.76	0.0648	11.61	0.00000	0.00000
Ba	6.42	0.0004	49.49	0.00000	0.00000
Be	6.36	0.0001	130.92	0.00000	0.00000
Ca	3.80	0.0003	37.12	0.00000	0.00000
Cd	8.44	0.0016	135.64	0.00000	0.00000
Ce	14.17	0.0181	87.37	0.00000	0.00000
Co	42.62	0.0421	35.15	0.00000	0.00000
Cr	5.86	-0.000	-458.22	0.00000	0.00000
Cu	12.31	0.0016	37.75	0.00000	0.00000
Dy	7.61	-0.001	-189.30	0.00000	0.00000
Fe	6.41	0.0012	135.22	0.00000	0.00000
K	29.24	0.1141	34.44	0.00000	0.00000
La	8.64	0.0015	107.85	0.00000	0.00000
Li	5.64	0.0036	26.96	0.00000	0.00000
Mg	3.14	0.0001	113.39	0.00000	0.00000
Mn	5.84	0.0004	38.19	0.00000	0.00000
Mo	4.65	0.0014	65.47	0.00000	0.00000
Na	6.63	0.0074	114.56	0.00000	0.00000
Nd	5.63	-0.002	-173.12	0.00000	0.00000
Ni	4.98	0.0021	43.31	0.00000	0.00000
P	6.30	0.0111	624.58	0.00000	0.00000
Pb	8.10	-0.001	-300.24	0.00000	0.00000
Re	5.20	0.0017	158.76	0.00000	0.00000
Rh	9.32	0.0062	60.00	0.00000	0.00000
Ru	9.94	-0.002	-183.30	0.00000	0.00000
Sb	3.84	-0.030	-35.25	0.00000	0.00000
Se	8.66	0.0311	206.07	0.00000	0.00000
Si	5.97	0.0073	57.73	0.00000	0.00000
Sr	6.44	0.0001	57.74	0.00000	0.00000
Te	4.55	-0.011	-123.72	0.00000	0.00000
Th	8.02	0.0177	202.77	0.00000	0.00000
Ti	3.83	-0.000	-865.98	0.00000	0.00000
Tl	5.09	-0.538	-45.07	0.00000	0.00000
U	38.00	0.1469	45.07	0.00000	0.00000
V	10.40	-0.001	-187.81	0.00000	0.00000
Zn	4.48	0.0011	170.88	0.00000	0.00000
Zr	7.52	0.0011	57.28	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904178
Sample number = 2040
Sample code 1 = A3
Sample code 2 = BLK
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 904178
Sample number : 2040
Sample code 1 : A3
Sample code 2 : BLK
Sample code 3 : DIRECT
Programme : ALLELE 25-Oct-90 15:15:14
[1] Direct Intensities
Ag 4.79000 Al 8.43000 As 13.3700 B 4.66000 Ba 6.80000 Be 5.58000 Ca 31.6300
Cd 7.41000 Ce 12.0800 Co 36.6100 Cr 5.08000 Cu 11.3600 Dy 6.50000 Fe 6.08000
K 818.600 La 7.41000 Li 4.80000 Mg 4.38000 Mn 6.08000 Mo 4.01000 Na 5.90000

E03-062

Nd 4.75000 Ni 5.45000 P 5.59000 Pb 7.14000 Re 4.41000 Rh 8.08000 Ru 8.68000
Sb 3.34000 Se 7.75000 Si 5.25000 Sr 5.53000 Te 3.89000 Th 6.77000 Ti 3.30000
l 4.15000 U 32.6800 V 8.89000 Zn 5.01000 Zr 6.47000
1] Direct Intensities
Ag 4.80000 Al 8.44000 As 13.1900 B 4.64000 Ba 6.79000 Be 5.53000 Ca 31.5600
Cd 7.46000 Ce 12.1400 Co 36.7900 Cr 5.15000 Cu 11.3400 Dy 6.59000 Fe 6.14000
K 816.700 La 7.40000 Li 4.80000 Mg 4.39000 Mn 6.10000 Mo 4.08000 Na 5.91000
Nd 4.78000 Ni 5.41000 P 5.64000 Pb 7.12000 Re 4.42000 Rh 8.08000 Ru 8.61000
Sb 3.38000 Se 7.62000 Si 5.22000 Sr 5.59000 Te 3.81000 Th 6.80000 Ti 3.29000
Tl 4.21000 U 32.7200 V 9.01000 Zn 5.10000 Zr 6.46000
[1] Direct Intensities
Ag 4.80000 Al 8.48000 As 13.6800 B 4.60000 Ba 6.80000 Be 5.56000 Ca 31.5600
Cd 7.47000 Ce 12.1400 Co 36.8000 Cr 5.15000 Cu 11.3600 Dy 6.59000 Fe 6.18000
K 815.600 La 7.46000 Li 4.80000 Mg 4.39000 Mn 6.14000 Mo 4.14000 Na 5.92000
Nd 4.79000 Ni 5.41000 P 5.53000 Pb 7.14000 Re 4.41000 Rh 8.09000 Ru 8.60000
Sb 3.34000 Se 7.68000 Si 5.24000 Sr 5.59000 Te 3.80000 Th 6.80000 Ti 3.30000
Tl 4.17000 U 32.7500 V 9.04000 Zn 5.09000 Zr 6.48000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.60	-0.005	-9.12	0.00000	0.00000
Al	8.99	0.0048	158.75	0.00000	0.00000
As	14.70	0.0131	337.99	0.00000	0.00000
B	5.33	0.0270	9.45	0.00000	0.00000
Ba	7.55	0.0224	0.47	0.00000	0.00000
Be	6.29	-0.000	-53.93	0.00000	0.00000
Ca	29.49	0.1021	0.14	0.00000	0.00000
Cd	8.38	-0.000	-482.25	0.00000	0.00000
e	13.99	-0.064	-22.59	0.00000	0.00000
Co	42.02	-0.125	-23.08	0.00000	0.00000
Cr	5.85	-0.002	-202.07	0.00000	0.00000
Cu	12.85	0.0157	1.79	0.00000	0.00000
Dy	7.54	-0.004	-53.75	0.00000	0.00000
Fe	7.00	0.0299	7.86	0.00000	0.00000
K	764.63	)466.87	0.19	0.00000	0.00000
La	8.55	-0.004	-49.22	0.00000	0.00000
Li	5.55	-0.003	0.00	0.00000	0.00000
Mg	4.84	0.0095	0.33	0.00000	0.00000
Mn	6.76	0.0105	3.08	0.00000	0.00000
Mo	4.57	-0.003	-114.82	0.00000	0.00000
Na	6.81	0.1146	4.84	0.00000	0.00000
Nd	5.61	-0.013	-78.06	0.00000	0.00000
Ni	6.10	0.1805	1.99	0.00000	0.00000
P	6.19	-0.081	-75.10	0.00000	0.00000
Pb	8.05	-0.014	-23.10	0.00000	0.00000
Re	5.13	-0.005	-11.55	0.00000	0.00000
Rh	9.22	-0.033	-6.42	0.00000	0.00000
Ru	9.86	-0.013	-42.18	0.00000	0.00000
Sb	3.86	-0.016	-98.97	0.00000	0.00000
Se	8.55	-0.028	-114.82	0.00000	0.00000
Si	6.03	0.0303	18.33	0.00000	0.00000
Sr	6.43	-0.000	-519.45	0.00000	0.00000
Te	4.47	-0.048	-46.25	0.00000	0.00000
Th	7.95	-0.030	-34.64	0.00000	0.00000
i	3.83	-0.000	-173.21	0.00000	0.00000
Tl	5.08	-0.628	-32.73	0.00000	0.00000
U	37.43	-0.398	-8.10	0.00000	0.00000
V	10.30	-0.004	-52.91	0.00000	0.00000
Zn	5.64	0.0276	4.02	0.00000	0.00000
Zr	7.44	-0.002	-17.65	0.00000	0.00000

E03-063

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ore samples [Y/N] ?
Sample name     = 904178
Sample number   = 2041
Sample code 1   = A2
Sample code 2   = P4527G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 904178
Sample number   : 2041
Sample code 1   : A2
Sample code 2   : P4527G
Sample code 3   : DIRECT
Programme       : ALLELE          25-Oct-90  15:19:31
[1] Direct Intensities.
Ag 4.80000 Al 9.36000 As 13.3600 B  4.57000 Ba 5.73000 Be 5.59000 Ca 38.5100
Cd 7.33000 Ce 12.1300 Co 36.7400 Cr 6.80000 Cu 13.1600 Dy 6.57000 Fe 71.4100
K  868.700 La 7.45000 Li 4.80000 Mg 7.75000 Mn 6.72000 Mo 4.10000 Na 34.4800
Nd 4.78000 Ni 11.3100 P  8.19000 Pb 7.28000 Re 4.48000 Rh 8.08000 Ru 8.89000
Sb 3.31000 Se 7.73000 Si 9.80000 Sr 13.2800 Te 3.89000 Th 6.78000 Ti 3.28000
Tl 4.19000 U  32.9000 V  8.93000 Zn 5.75000 Zr 6.48000
[1] Direct Intensities
Ag 4.80000 Al 9.31000 As 12.8100 B  4.57000 Ba 5.73000 Be 5.59000 Ca 38.5900
'd 7.38000 Ce 12.1600 Co 36.8000 Cr 6.80000 Cu 13.1600 Dy 6.56000 Fe 71.5700
(  871.600 La 7.41000 Li 4.80000 Mg 7.74000 Mn 6.76000 Mo 4.16000 Na 34.5800
Nd 4.77000 Ni 11.3500 P  7.93000 Pb 7.34000 Re 4.47000 Rh 8.11000 Ru 8.80000
Sb 3.35000 Se 7.79000 Si 9.81000 Sr 13.2700 Te 3.89000 Th 6.80000 Ti 3.28000
Tl 4.11000 U  32.9500 V  8.99000 Zn 5.78000 Zr 6.53000
[1] Direct Intensities
Ag 4.81000 Al 9.32000 As 13.2800 B  4.55000 Ba 5.70000 Be 5.56000 Ca 38.5900
Cd 7.45000 Ce 12.1100 Co 36.7200 Cr 6.80000 Cu 13.1900 Dy 6.58000 Fe 71.5300
K  871.100 La 7.41000 Li 4.80000 Mg 7.74000 Mn 6.76000 Mo 4.00000 Na 34.5800
Nd 4.75000 Ni 11.3700 P  8.14000 Pb 7.28000 Re 4.49000 Rh 8.08000 Ru 8.81000
Sb 3.33000 Se 7.80000 Si 9.80000 Sr 13.3000 Te 3.80000 Th 6.79000 Ti 3.26000
Tl 4.18000 U  32.9400 V  8.98000 Zn 5.64000 Zr 6.49000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.61	-0.005	-10.19	0.00000	0.00000
Al	9.82	0.2568	2.95	0.00000	0.00000
As	14.44	-0.034	-156.40	0.00000	0.00000
B	5.27	0.0211	4.56	0.00000	0.00000
Ba	6.55	0.0029	10.82	0.00000	0.00000
Be	6.31	-0.000	-74.23	0.00000	0.00000
Ca	35.93	0.1276	0.13	0.00000	0.00000
Cd	8.32	-0.002	-90.42	0.00000	0.00000
Ce	14.00	-0.058	-17.98	0.00000	0.00000
Co	42.04	-0.119	-9.39	0.00000	0.00000
Cr	7.47	0.1318	0.00	0.00000	0.00000
Cu	14.55	0.0600	0.70	0.00000	0.00000
Dy	7.55	-0.004	-11.54	0.00000	0.00000
Fe	69.89	3.0802	0.13	0.00000	0.00000
K	814.38	)498.45	0.18	0.00000	0.00000
La	8.55	-0.004	-34.64	0.00000	0.00000
Li	5.55	-0.003	0.00	0.00000	0.00000
Mg	8.12	0.0276	0.11	0.00000	0.00000

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Mn	7.37	0.0172	1.41	0.00000	0.00000
Mo	4.58	-0.003	-173.20	0.00000	0.00000
Na	33.13	15.989	0.20	0.00000	0.00000
Nd	5.60	-0.017	-45.82	0.00000	0.00000
Ni	11.86	1.0989	0.43	0.00000	0.00000
P	9.44	2.6903	5.69	0.00000	0.00000
Pb	8.22	0.0319	29.69	0.00000	0.00000
Re	5.20	0.0017	60.00	0.00000	0.00000
Rh	9.23	-0.031	-20.79	0.00000	0.00000
Ru	10.06	0.0127	49.33	0.00000	0.00000
Sb	3.83	-0.032	-42.86	0.00000	0.00000
Se	8.63	0.0164	113.57	0.00000	0.00000
Si	10.45	1.6919	0.12	0.00000	0.00000
Sr	13.59	0.0440	0.20	0.00000	0.00000
Te	4.49	-0.036	-64.95	0.00000	0.00000
Th	7.95	-0.030	-20.00	0.00000	0.00000
Ti	3.81	-0.003	-43.30	0.00000	0.00000
Tl	5.07	-0.740	-39.62	0.00000	0.00000
U	37.63	-0.202	-12.03	0.00000	0.00000
V	10.29	-0.005	-19.68	0.00000	0.00000
Zn	6.28	0.0424	3.91	0.00000	0.00000
Zr	7.47	-0.001	-99.22	0.00000	0.00000

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More samples [Y/N] ?
Sample name     = 904178
Sample number   = 2042
Sample code 1   = A1
Sample code 2   = P6025G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 904178
Sample number   : 2042
Sample code 1   : A1
Sample code 2   : P6025G
Sample code 3   : DIRECT
Programme       : ALLELE          25-Oct-90  15:24:10
[1] Direct Intensities
Ag 4.80000 Al 9.55000 As 13.4800 B  4.49000 Ba 5.77000 Be 5.60000 Ca 43.6100
Cd 7.41000 Ce 12.0900 Co 36.6200 Cr 7.31000 Cu 13.6600 Dy 6.56000 Fe 91.7900
K  818.000 La 7.38000 Li 4.80000 Mg 8.49000 Mn 6.95000 Mo 4.06000 Na 43.4100
Nd 4.77000 Ni 14.9600 P  8.80000 Pb 7.28000 Re 4.40000 Rh 8.00000 Ru 8.88000
Sb 3.32000 Se 7.80000 Si 11.2000 Sr 15.5900 Te 3.89000 Th 6.79000 Ti 3.28000
Tl 4.08000 U  32.8100 V  8.94000 Zn 5.92000 Zr 6.44000
[1] Direct Intensities
Ag 4.81000 Al 9.58000 As 13.5800 B  4.46000 Ba 5.78000 Be 5.52000 Ca 43.8900
Cd 7.45000 Ce 12.0600 Co 36.5200 Cr 7.30000 Cu 13.6800 Dy 6.54000 Fe 92.1600
K  824.800 La 7.40000 Li 4.80000 Mg 8.52000 Mn 6.98000 Mo 4.11000 Na 43.8000
Nd 4.75000 Ni 15.0100 P  8.53000 Pb 7.27000 Re 4.51000 Rh 8.08000 Ru 8.82000
Sb 3.35000 Se 7.75000 Si 11.2600 Sr 15.5900 Te 3.90000 Th 6.78000 Ti 3.26000
 l 4.19000 U  32.7700 V  9.00000 Zn 5.80000 Zr 6.48000
[1] Direct Intensities
Ag 4.80000 Al 9.55000 As 13.5200 B  4.48000 Ba 5.73000 Be 5.57000 Ca 43.8900
Cd 7.42000 Ce 12.0900 Co 36.6800 Cr 7.29000 Cu 13.7100 Dy 6.54000 Fe 92.4100
K  825.800 La 7.34000 Li 4.80000 Mg 8.53000 Mn 6.97000 Mo 4.00000 Na 43.7600
Nd 4.70000 Ni 15.0000 P  8.58000 Pb 7.38000 Re 4.44000 Rh 8.00000 Ru 8.90000
Sb 3.36000 Se 7.70000 Si 11.2600 Sr 15.6700 Te 3.86000 Th 6.78000 Ti 3.30000
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E03-065

Tl 4.08000 U 32.9000 V 9.12000 Zn 5.97000 Zr 6.48000

'AME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.61	-0.005	-10.19	0.00000	0.00000
Al	10.04	0.3226	1.54	0.00000	0.00000
As	14.81	0.0334	26.96	0.00000	0.00000
B	5.18	0.0139	9.16	0.00000	0.00000
Ba	6.59	0.0036	13.23	0.00000	0.00000
Be	6.30	-0.000	-101.04	0.00000	0.00000
Ca	40.75	0.1467	0.40	0.00000	0.00000
Cd	8.36	-0.001	-78.07	0.00000	0.00000
Ce	13.95	-0.081	-8.96	0.00000	0.00000
Co	41.89	-0.159	-13.70	0.00000	0.00000
Cr	7.96	0.1716	0.46	0.00000	0.00000
Cu	15.03	0.0725	0.85	0.00000	0.00000
Dy	7.53	-0.005	-10.50	0.00000	0.00000
Fe	89.73	4.0422	0.36	0.00000	0.00000
K	770.12	)470.36	0.53	0.00000	0.00000
La	8.51	-0.007	-26.19	0.00000	0.00000
Li	5.55	-0.003	0.00	0.00000	0.00000
Mg	8.87	0.0318	0.35	0.00000	0.00000
Mn	7.59	0.0195	0.82	0.00000	0.00000
Mo	4.55	-0.005	-71.84	0.00000	0.00000
Na	41.50	21.039	0.57	0.00000	0.00000
Nd	5.58	-0.030	-60.09	0.00000	0.00000
Ni	15.41	1.6647	0.25	0.00000	0.00000
P	10.16	3.3001	4.83	0.00000	0.00000
b	8.23	0.0346	48.02	0.00000	0.00000
.e	5.17	-0.001	-417.57	0.00000	0.00000
Rh	9.17	-0.054	-31.49	0.00000	0.00000
Ru	10.09	0.0170	31.22	0.00000	0.00000
Sb	3.85	-0.023	-62.45	0.00000	0.00000
Se	8.64	0.0180	68.63	0.00000	0.00000
Si	11.84	2.2147	0.57	0.00000	0.00000
Sr	15.75	0.0573	0.46	0.00000	0.00000
Te	4.50	-0.035	-71.84	0.00000	0.00000
Th	7.94	-0.033	-10.19	0.00000	0.00000
Ti	3.81	-0.002	-100.00	0.00000	0.00000
Tl	5.02	-1.031	-41.42	0.00000	0.00000
U	37.54	-0.297	-20.59	0.00000	0.00000
V	10.34	-0.003	-83.32	0.00000	0.00000
Zn	6.46	0.0463	4.25	0.00000	0.00000
Zr	7.44	-0.003	-38.49	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904179
Sample number = 2043
Sample code 1 = A1
Sample code 2 = P6768G
Sample code 3 = DIRECT
Weight =

'ress <CR> when ready to start measurement
24:132H6n
Sample name : 904179
Sample number : 2043
Sample code 1 : A1
Sample code 2 : P6768G

E03-066

Sample code 3 : DIRECT
Programme : ALLELE 25-Oct-90 15:28:24

1] Direct Intensities

Ag	4.80000	Al	9.75000	As	13.6900	B	4.43000	Ba	6.90000	Be	5.58000	Ca	72.3500
Cd	7.37000	Ce	12.0900	Co	36.6200	Cr	7.55000	Cu	13.0100	Dy	6.54000	Fe	102.110
K	826.200	La	7.39000	Li	4.80000	Mg	8.56000	Mn	8.35000	Mo	4.10000	Na	46.9400
Nd	4.74000	Ni	23.5500	P	8.89000	Pb	7.26000	Re	4.50000	Rh	8.00000	Ru	8.90000
Sb	3.33000	Se	7.68000	Si	12.0000	Sr	16.7400	Te	3.90000	Th	6.80000	Ti	3.27000
Tl	4.06000	U	32.8000	V	8.89000	Zn	7.02000	Zr	6.47000				

[1] Direct Intensities

Ag	4.80000	Al	9.74000	As	13.4400	B	4.41000	Ba	6.91000	Be	5.59000	Ca	72.6800
Cd	7.38000	Ce	12.1000	Co	36.6600	Cr	7.61000	Cu	13.1100	Dy	6.54000	Fe	102.800
K	827.300	La	7.38000	Li	4.80000	Mg	8.61000	Mn	8.46000	Mo	4.09000	Na	46.9800
Nd	4.76000	Ni	23.7800	P	9.01000	Pb	7.33000	Re	4.46000	Rh	8.01000	Ru	8.99000
Sb	3.33000	Se	7.81000	Si	12.0900	Sr	16.7800	Te	3.93000	Th	6.80000	Ti	3.30000
Tl	4.05000	U	32.9400	V	9.05000	Zn	7.10000	Zr	6.47000				

[1] Direct Intensities

Ag	4.80000	Al	9.75000	As	13.3400	B	4.43000	Ba	6.92000	Be	5.58000	Ca	72.5100
Cd	7.38000	Ce	12.0800	Co	36.5900	Cr	7.54000	Cu	13.0400	Dy	6.50000	Fe	102.430
K	825.900	La	7.38000	Li	4.78000	Mg	8.56000	Mn	8.39000	Mo	4.08000	Na	46.9000
Nd	4.75000	Ni	23.6300	P	8.81000	Pb	7.29000	Re	4.41000	Rh	8.02000	Ru	8.98000
Sb	3.36000	Se	7.75000	Si	12.0100	Sr	16.7800	Te	3.88000	Th	6.78000	Ti	3.28000
Tl	4.08000	U	32.8000	V	9.00000	Zn	6.98000	Zr	6.49000				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.61	-0.005	0.00	0.00000	0.00000
Al	10.22	0.3761	0.44	0.00000	0.00000
As	14.77	0.0268	120.18	0.00000	0.00000
B	5.13	0.0095	10.19	0.00000	0.00000
Ba	7.66	0.0244	0.74	0.00000	0.00000
Be	6.31	-0.000	-28.87	0.00000	0.00000
Ca	67.23	0.2515	0.24	0.00000	0.00000
Cd	8.31	-0.002	-7.53	0.00000	0.00000
Ce	13.96	-0.077	-5.45	0.00000	0.00000
Co	41.91	-0.154	-6.13	0.00000	0.00000
Cr	8.21	0.1929	1.56	0.00000	0.00000
Cu	14.44	0.0572	2.19	0.00000	0.00000
Dy	7.51	-0.006	-17.76	0.00000	0.00000
Fe	99.66	4.5240	0.36	0.00000	0.00000
K	773.47	)472.48	0.09	0.00000	0.00000
La	8.52	-0.007	-5.41	0.00000	0.00000
Li	5.54	-0.003	-21.65	0.00000	0.00000
Mg	8.93	0.0321	0.48	0.00000	0.00000
Mn	8.97	0.0347	1.69	0.00000	0.00000
Mo	4.58	-0.003	-23.08	0.00000	0.00000
Na	44.52	22.859	0.10	0.00000	0.00000
Nd	5.58	-0.025	-20.00	0.00000	0.00000
Ni	23.84	3.0087	0.60	0.00000	0.00000
P	10.50	3.5957	3.10	0.00000	0.00000
Pb	8.21	0.0301	31.93	0.00000	0.00000
Re	5.17	-0.001	-676.31	0.00000	0.00000
Rh	9.15	-0.060	-6.12	0.00000	0.00000
Ru	10.18	0.0284	22.09	0.00000	0.00000
Sb	3.84	-0.025	-47.24	0.00000	0.00000
Se	8.61	0.0033	975.69	0.00000	0.00000
Si	12.60	2.5033	0.72	0.00000	0.00000
Sr	16.82	0.0639	0.21	0.00000	0.00000
Te	4.53	-0.017	-68.64	0.00000	0.00000
Th	[illegible]	-0.020	-24.74	0.00000	0.00000

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Ti	3.82	-0.002	-91.65	0.00000	0.00000
Tl	4.97	-1.390	-7.39	0.00000	0.00000
	37.55	-0.278	-26.65	0.00000	0.00000
V	10.30	-0.004	-54.57	0.00000	0.00000
Zn	7.58	0.0719	1.91	0.00000	0.00000
Zr	7.45	-0.002	-23.10	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904179
Sample number = 2044
Sample code 1 = A2
Sample code 2 = P6811G
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24:132H6n
Sample name : 904179
Sample number : 2044
Sample code 1 : A2
Sample code 2 : P6811G
Sample code 3 : DIRECT
Programme : ALLELE 25-Oct-90 15:32:33
[1] Direct Intensities
Ag 4.80000 Al 9.76000 As 13.0900 B 4.49000 Ba 5.80000 Be 5.56000 Ca 50.1000
Cd 7.39000 Ce 12.0900 Co 36.6900 Cr 7.58000 Cu 13.0400 Dy 6.51000 Fe 102.320
' 888.000 La 7.42000 Li 4.80000 Mg 7.46000 Mn 9.29000 Mo 4.17000 Na 47.3400
Nd 4.74000 Ni 14.8000 P 9.18000 Pb 7.40000 Re 4.40000 Rh 8.08000 Ru 8.93000
Sb 3.34000 Se 7.80000 Si 12.0000 Sr 16.7500 Te 3.88000 Th 6.76000 Ti 3.28000
Tl 4.14000 U 32.9600 V 8.95000 Zn 6.19000 Zr 6.48000
[1] Direct Intensities
Ag 4.80000 Al 9.78000 As 13.4000 B 4.40000 Ba 5.80000 Be 5.53000 Ca 50.1600
Cd 7.39000 Ce 12.0800 Co 36.6400 Cr 7.58000 Cu 13.0000 Dy 6.55000 Fe 102.490
K 888.600 La 7.37000 Li 4.79000 Mg 7.41000 Mn 9.26000 Mo 3.98000 Na 47.3700
Nd 4.71000 Ni 14.8000 P 9.09000 Pb 7.41000 Re 4.41000 Rh 8.00000 Ru 8.97000
Sb 3.36000 Se 7.70000 Si 12.0000 Sr 16.7700 Te 3.89000 Th 6.75000 Ti 3.32000
Tl 4.09000 U 32.8000 V 9.00000 Zn 6.19000 Zr 6.45000
[1] Direct Intensities
Ag 4.80000 Al 9.77000 As 13.6700 B 4.41000 Ba 5.73000 Be 5.55000 Ca 50.1400
Cd 7.38000 Ce 12.0200 Co 36.5800 Cr 7.57000 Cu 13.0400 Dy 6.49000 Fe 102.460
K 888.500 La 7.38000 Li 4.80000 Mg 7.45000 Mn 9.27000 Mo 4.10000 Na 47.3900
Nd 4.74000 Ni 14.7500 P 9.09000 Pb 7.36000 Re 4.40000 Rh 8.00000 Ru 8.80000
Sb 3.29000 Se 7.75000 Si 12.0100 Sr 16.7800 Te 3.90000 Th 6.75000 Ti 3.29000
Tl 4.00000 U 32.8000 V 9.00000 Zn 6.19000 Zr 6.46000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.61	-0.005	0.00	0.00000	0.00000
Al	10.24	0.3828	0.75	0.00000	0.00000
As	14.67	0.0083	621.92	0.00000	0.00000
B	5.14	0.0103	40.00	0.00000	0.00000
Ba	6.60	0.0039	18.65	0.00000	0.00000
e	6.28	-0.000	-26.96	0.00000	0.00000
Ca	46.59	0.1698	0.07	0.00000	0.00000
Cd	8.32	-0.002	-8.66	0.00000	0.00000
Ce	13.93	-0.088	-18.03	0.00000	0.00000
Co	41.92	-0.150	-9.83	0.00000	0.00000
Cr	8.22	0.1937	0.24	0.00000	0.00000
Cu	14.42	0.0545	1.00	0.00000	0.00000

E03-068

Dy	7.50	-0.006	-21.82	0.00000	0.00000
Fe	99.64	4.5230	0.09	0.00000	0.00000
'	831.03	)509.02	0.04	0.00000	0.00000
.a	8.52	-0.006	-26.46	0.00000	0.00000
Li	5.54	-0.003	-11.55	0.00000	0.00000
Mg	7.82	0.0260	0.55	0.00000	0.00000
Mn	9.81	0.0439	0.37	0.00000	0.00000
Mo	4.58	-0.003	-192.18	0.00000	0.00000
Na	44.91	23.095	0.06	0.00000	0.00000
Nd	5.57	-0.035	-24.74	0.00000	0.00000
Ni	15.21	1.6326	0.27	0.00000	0.00000
P	10.78	3.8359	1.50	0.00000	0.00000
Pb	8.30	0.0565	12.80	0.00000	0.00000
Re	5.12	-0.006	-9.62	0.00000	0.00000
Rh	9.17	-0.054	-31.49	0.00000	0.00000
Ru	10.12	0.0212	53.33	0.00000	0.00000
Sb	3.83	-0.032	-77.26	0.00000	0.00000
Se	8.61	0.0049	499.91	0.00000	0.00000
Si	12.57	2.4924	0.08	0.00000	0.00000
Sr	16.82	0.0639	0.14	0.00000	0.00000
Te	4.52	-0.023	-20.00	0.00000	0.00000
Th	7.91	-0.051	-6.66	0.00000	0.00000
Ti	3.83	-0.000	-624.46	0.00000	0.00000
Tl	4.98	-1.300	-36.70	0.00000	0.00000
U	37.56	-0.272	-31.14	0.00000	0.00000
V	10.31	-0.004	-19.68	0.00000	0.00000
Zn	6.74	0.0529	0.00	0.00000	0.00000
Zr	7.43	-0.003	-24.12	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2045
Sample code 1   =
Sam
ple code 2   = Sample code 3   =
Weight         =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL1
Sample number   : 2045
Programme       : ALLELE          25-Oct-90  15:37:44
[1] Direct Intensities
Ag 4.80000 Al 8.40000 As 13.6800 B  4.34000 Ba 5.50000 Be 5.61000 Ca 3.62000
Cd 7.48000 Ce 12.2100 Co 37.0800 Cr 5.12000 Cu 10.6700 Dy 6.58000 Fe 5.49000
K  26.0100 La 7.46000 Li 4.80000 Mg 2.60000 Mn 5.10000 Mo 4.02000 Na 5.66000
Nd 4.79000 Ni 4.26000 P  5.53000 Pb 7.18000 Re 4.49000 Rh 8.10000 Ru 8.64000
Sb 3.28000 Se 7.80000 Si 5.14000 Sr 5.51000 Te 3.92000 Th 6.80000 Ti 3.27000
Tl 4.00000 U  33.0500 V  8.93000 Zn 3.78000 Zr 6.52000
[1] Direct Intensities
Ag 4.79000 Al 8.40000 As 13.3200 B  4.33000 Ba 5.55000 Be 5.60000 Ca 3.67000
Cd 7.43000 Ce 12.1800 Co 36.9500 Cr 5.09000 Cu 10.7100 Dy 6.52000 Fe 5.48000
'  26.0000 La 7.40000 Li 4.81000 Mg 2.62000 Mn 5.07000 Mo 4.07000 Na 5.65000
d 4.79000 Ni 4.23000 P  5.63000 Pb 7.16000 Re 4.40000 Rh 8.13000 Ru 8.67000
b 3.33000 Se 7.79000 Si 5.14000 Sr 5.49000 Te 3.81000 Th 6.79000 Ti 3.30000
Tl 4.05000 U  32.9000 V  9.01000 Zn 3.80000 Zr 6.49000
[1] Direct Intensities
Ag 4.80000 Al 8.41000 As 13.4700 B  4.30000 Ba 5.54000 Be 5.60000 Ca 3.65000
Cd 7.35000 Ce 12.2000 Co 37.0200 Cr 5.12000 Cu 10.6200 Dy 6.56000 Fe 5.48000
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K 25.9600 La 7.45000 Li 4.81000 Mg 2.58000 Mn 5.11000 Mo 4.08000 Na 5.65000
Nd 4.75000 Ni 4.21000 P 5.55000 Pb 7.09000 Re 4.47000 Rh 8.12000 Ru 8.67000
Sb 3.32000 Se 7.68000 Si 5.10000 Sr 5.50000 Te 3.89000 Th 6.80000 Ti 3.26000
Tl 4.01000 U 32.9600 V 9.08000 Zn 3.80000 Zr 6.49000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.60	-0.005	-9.12	0.00000	0.00000
Al	8.94	-0.009	-19.24	0.00000	0.00000
As	14.77	0.0268	120.55	0.00000	0.00000
B	5.04	0.0011	156.13	0.00000	0.00000
Ba	6.37	-0.001	-88.20	0.00000	0.00000
Be	6.33	0.0000	799500	0.00000	0.00000
Ca	3.74	0.0001	125.83	0.00000	0.00000
Cd	8.35	-0.001	-196.73	0.00000	0.00000
Ce	14.06	-0.032	-19.92	0.00000	0.00000
Co	42.29	-0.048	-36.15	0.00000	0.00000
Cr	5.83	-0.003	-47.24	0.00000	0.00000
Cu	12.21	-0.001	-112.73	0.00000	0.00000
Dy	7.53	-0.005	-29.57	0.00000	0.00000
Fe	6.37	-0.000	-57.73	0.00000	0.00000
K	29.06	0.0000	409400	0.00000	0.00000
La	8.57	-0.003	-60.27	0.00000	0.00000
Li	5.55	-0.003	-14.43	0.00000	0.00000
Mg	3.10	-0.000	-120.00	0.00000	0.00000
Mn	5.78	-0.000	-104.08	0.00000	0.00000
Mo	4.55	-0.005	-41.93	0.00000	0.00000
Na	6.57	-0.028	-11.55	0.00000	0.00000
Nd	5.61	-0.012	-98.97	0.00000	0.00000
Ni	4.94	-0.004	-94.38	0.00000	0.00000
P	6.17	-0.100	-58.79	0.00000	0.00000
Pb	8.06	-0.011	-118.15	0.00000	0.00000
Re	5.17	-0.001	-472.57	0.00000	0.00000
Rh	9.25	-0.021	-26.96	0.00000	0.00000
Ru	9.89	-0.009	-23.62	0.00000	0.00000
Sb	3.81	-0.046	-39.69	0.00000	0.00000
Se	8.62	0.0082	399.46	0.00000	0.00000
Si	5.92	-0.010	-86.61	0.00000	0.00000
Sr	6.36	-0.000	-13.04	0.00000	0.00000
Te	4.51	-0.030	-85.30	0.00000	0.00000
Th	7.95	-0.026	-13.32	0.00000	0.00000
Ti	3.81	-0.003	-89.21	0.00000	0.00000
Tl	4.93	-1.682	-10.58	0.00000	0.00000
U	37.67	-0.165	-41.94	0.00000	0.00000
V	10.33	-0.003	-60.86	0.00000	0.00000
Zn	4.38	-0.001	-24.74	0.00000	0.00000
Zr	7.47	-0.001	-64.95	0.00000	0.00000

More samples [Y/N] ?
Sample name = CH2
Sample number = 2046
Sample code 1 =
Sample code 2 =
Sample code 3 =
Weight =

E03-070

Press <CR> when ready to start measurement
24:132H6n
Sample name : CH2

Sample number : 2046
Programme : ALLELE 25-Oct-90 15:41:51

[1] Direct Intensities

Ag	5.90000	Al	9.68000	As	70.0000	B	4.70000	Ba	561.400	Be	394.900	Ca	12.1200
Cd	7.96000	Ce	36.1800	Co	73.9400	Cr	5.34000	Cu	423.500	Dy	6.94000	Fe	220.100
K	25.8000	La	8.49000	Li	4.80000	Mg	1857.00	Mn	5.38000	Mo	172.800	Na	23.7400
Nd	4.99000	Ni	68.6900	P	9.28000	Pb	43.9700	Re	4.64000	Rh	35.2800	Ru	9.63000
Sb	17.8900	Se	10.2500	Si	6.00000	Sr	1769.00	Te	25.9900	Th	8.35000	Ti	94.2600
Tl	4.36000	U	69.5800	V	370.900	Zn	447.000	Zr	241.100				

[1] Direct Intensities

Ag	5.95000	Al	9.67000	As	68.7400	B	4.68000	Ba	558.400	Be	393.600	Ca	12.1500
Cd	8.08000	Ce	36.1400	Co	73.9800	Cr	5.35000	Cu	420.800	Dy	7.00000	Fe	219.200
K	25.9700	La	8.56000	Li	4.81000	Mg	1850.00	Mn	5.38000	Mo	172.600	Na	23.6600
Nd	4.98000	Ni	68.4800	P	9.12000	Pb	43.6600	Re	4.64000	Rh	35.2100	Ru	9.61000
Sb	17.8000	Se	10.2900	Si	5.98000	Sr	1759.00	Te	25.9600	Th	8.37000	Ti	93.8000
Tl	4.31000	U	69.4200	V	369.300	Zn	445.500	Zr	240.400				

[1] Direct Intensities

Ag	5.92000	Al	9.68000	As	69.8100	B	4.67000	Ba	558.700	Be	393.200	Ca	12.0800
Cd	7.94000	Ce	36.1000	Co	73.9500	Cr	5.36000	Cu	421.200	Dy	6.94000	Fe	219.200
K	26.0000	La	8.49000	Li	4.80000	Mg	1851.00	Mn	5.39000	Mo	171.500	Na	23.7600
Nd	4.98000	Ni	68.5000	P	8.91000	Pb	43.5500	Re	4.63000	Rh	35.2000	Ru	9.64000
Sb	17.7400	Se	10.2500	Si	6.01000	Sr	1758.00	Te	25.9100	Th	8.35000	Ti	93.8100
Tl	4.37000	U	69.4600	V	369.200	Zn	445.800	Zr	240.100				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.73	0.0913	2.37	0.00000	0.00000
Al	10.15	0.3561	0.46	0.00000	0.00000
As	69.53	10.043	1.21	0.00000	0.00000
B	5.38	0.0311	4.09	0.00000	0.00000
Ba	523.06	10.030	0.30	0.00000	0.00000
Be	372.20	1.0016	0.23	0.00000	0.00000
Ca	11.54	0.0310	0.41	0.00000	0.00000
Cd	8.91	0.0165	14.02	0.00000	0.00000
Ce	36.45	9.9638	0.17	0.00000	0.00000
Co	78.09	9.8782	0.06	0.00000	0.00000
Cr	6.06	0.0162	4.92	0.00000	0.00000
Cu	397.33	10.013	0.35	0.00000	0.00000
Dy	7.90	0.0139	11.42	0.00000	0.00000
Fe	212.28	9.9860	0.24	0.00000	0.00000
K	28.99	-0.039	-161.81	0.00000	0.00000
La	9.57	0.0639	3.95	0.00000	0.00000
Li	5.55	-0.003	-13.32	0.00000	0.00000
Mg	1809.77	9.9766	0.20	0.00000	0.00000
Mn	6.06	0.0028	2.14	0.00000	0.00000
Mo	168.00	9.9921	0.42	0.00000	0.00000
Na	23.18	9.9873	0.29	0.00000	0.00000
Nd	5.80	0.0911	3.15	0.00000	0.00000
Ni	67.55	9.9752	0.18	0.00000	0.00000
P	10.76	3.8174	5.39	0.00000	0.00000
Pb	43.61	9.9936	0.60	0.00000	0.00000
Re	5.34	0.0172	3.33	0.00000	0.00000
Rh	34.88	9.9852	0.16	0.00000	0.00000
Ru	10.82	0.1137	1.71	0.00000	0.00000
Sb	18.12	9.9678	0.52	0.00000	0.00000
Se	11.02	1.2381	0.92	0.00000	0.00000
Si	6.77	0.3069	1.81	0.00000	0.00000
Sr	1636.93	10.032	0.35	0.00000	0.00000
Te	25.59	9.9713	0.18	0.00000	0.00000
Th	9.39	0.8558	0.76	0.00000	0.00000

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Ti	90.51	10.003	0.29	0.00000	0.00000
Tl	5.25	0.5157	41.93	0.00000	0.00000
	72.85	33.362	0.23	0.00000	0.00000
	357.67	9.9954	0.26	0.00000	0.00000
Zn	440.02	9.9632	0.18	0.00000	0.00000
Zr	227.78	10.011	0.22	0.00000	0.00000

More samples [Y/N] ? N
>LGF

Samp Log#:	90-4180a1	90-4180a1		90-4180a2	90-4180a2		90-4180a5	90-4180a5			
Dilution:	1.00	5.00		1.00	5.00		1.00	5.00			
Wt% Factor	0.02061	0.10304		0.02233	0.11167		0.02144	0.10718			
ICP Run #	2076	2083		2076	2082		2072	2079		DL	QL
	(Wt %)	(Wt %)	%Dif	(Wt %)	(Wt %)	%Dif	(Wt% *)	(Wt% *)	%Dif	(ug/mL)	(ug/mL)
Ag	0.0013	<DL		0.0012	<DL		<DL	<DL		0.0157	0.0525
Al	0.1482	0.1510	1.9%	0.1470	0.1482	0.9%	(0.0018)	<DL		0.0528	0.1761
As	<DL	<DL		<DL	<DL		<DL	<DL		0.0889	0.2965
B	0.0044	<DL		(0.0045)	<DL		0.0056	<DL		0.0639	0.2130
Ba	0.0016	0.0016	0.6%	0.0017	0.0018	1.5%	(0.0002)	<DL		0.0037	0.0123
Be	<DL	<DL		<DL	<DL		<DL	<DL		0.0002	0.0006
Ca	0.0714	0.0735	2.9%	0.0730	0.0749	2.6%	0.0273	0.0274	0.5%	0.0014	0.0048
Cd	0.0008	(0.0009)		0.0007	(0.0007)		(0.0003)	(0.0007)		0.0062	0.0207
Ce	<DL	<DL		<DL	<DL		<DL	<DL		0.2143	0.7145
Co	<DL	<DL		<DL	<DL		<DL	<DL		0.4199	1.3997
Cr	0.0826	0.0836	1.1%	0.0814	0.0825	1.4%	<DL	<DL		0.0229	0.0762
Cu	0.0075	0.0077	2.6%	0.0074	0.0078	4.9%	<DL	<DL		0.0163	0.0544
Dy	<DL	<DL		<DL	<DL		<DL	<DL		0.0139	0.0464
Fe	1.8623	1.9033	2.2%	1.8179	1.8634	2.5%	0.0034	0.0033	1.8%	0.0080	0.0268
K	(0.0317)	<DL		(0.0329)	<DL		<DL	<DL		0.5156	1.7188
La	(0.0007)	<DL		(0.0006)	<DL		<DL	<DL		0.0190	0.0634
Li	<DL	<DL		<DL	<DL		<DL	<DL		0.0109	0.0364
Mg	0.0157	0.0162	2.6%	0.0170	0.0175	2.9%	0.0034	0.0036	4.2%	0.0010	0.0032
Mn	0.0054	0.0055	0.9%	0.0054	0.0054	0.9%	(0.0001)	<DL		0.0015	0.0049
Mo	(0.0007)	<DL		(0.0008)	<DL		<DL	<DL		0.0130	0.0433
Na	9.3137	9.4919	1.9%	9.3765	9.5206	1.5%	0.0150	(0.0149)		0.1319	0.4396
Nd	<DL	<DL		<DL	<DL		<DL	<DL		0.0942	0.3140
Ni	0.0020	<DL		0.0019	<DL		<DL	<DL		0.0215	0.0717
P	1.6999	1.6383	3.6%	1.5313	1.6292	6.4%	<DL	<DL		0.3847	1.2822
Pb	0.0284	0.0289	1.9%	0.0281	0.0300	6.7%	<DL	<DL		0.0674	0.2248
Re	(0.0007)	<DL		(0.0006)	<DL		<DL	<DL		0.0156	0.0522
Rh	<DL	<DL		<DL	<DL		<DL	<DL		0.1190	0.3967
Ru	0.0187	(0.0204)		0.0182	(0.0200)		<DL	<DL		0.0712	0.2374
Sb	<DL	<DL		<DL	<DL		<DL	<DL		0.1069	0.3562
Se	<DL	<DL		<DL	<DL		<DL	<DL		0.1081	0.3602
Si	0.0361	0.0354	1.8%	0.0479	0.0469	2.1%	(0.0029)	<DL		0.0587	0.1957
Sr	0.0268	0.0271	1.0%	0.0266	0.0269	1.2%	(0.0001)	<DL		0.0013	0.0045
Te	(0.0018)	<DL		(0.0016)	<DL		<DL	<DL		0.0650	0.2167
Th	<DL	<DL		<DL	<DL		<DL	<DL		0.1658	0.5526
Ti	(0.0004)	<DL		(0.0006)	<DL		<DL	<DL		0.0121	0.0404
Tl	<DL	<DL		<DL	<DL		<DL	<DL		3.1009	10.3364
U	0.0965	<DL		(0.0930)	<DL		<DL	<DL		1.3258	4.4192
V	(0.0004)	<DL		(0.0004)	<DL		<DL	<DL		0.0107	0.0357
Zn	0.0079	0.0082	4.8%	0.0085	0.0089	4.8%	0.0003	(0.0006)		0.0046	0.0154
Zr	(0.0005)	<DL		(0.0005)	<DL		<DL	<DL		0.0101	0.0337
Bi	2.1724			2.1418							

* Methods blank - average sample weight used to calculate wt%.

11/05/90

E03-072

	90-4180a1 90-4180a2 Average	RPD	Spike Added	90-4180a3 1.00 Spike+ Sample	90-4180a3 5.00 Spike+ Sample	<Sample ID> <Dilution> % Dif	% Rec	90-4180a4 1.00 Spike Control	90-4180a4 5.00 Spike Control	% Dif	Spike STD	% rec
	(Wt %)		(Wt %)	(Wt %)	(Wt %)			(ug/mL)	(ug/mL)		(ug/mL)	
Ag	0.0012	6.7%		0.0012	<DL							
Al	0.1476	0.8%		0.1504	0.1532	1.9%						
As	N/A		0.0359	0.0338	0.0374	10.4%	94.3%	18.4	19.3	5.1%	20.0	91.8%
B	0.0044	1.2%		0.0068	(0.0059)							
Ba	0.0017	9.7%	0.0359	0.0363	0.0366	0.8%	96.5%	19.7	19.4	1.7%	20.0	98.5%
Be	N/A		0.0009	0.0009	0.0009	2.8%	95.0%	0.5	0.5	1.6%	0.5	95.6%
Ca	0.0722	2.2%		0.0659	0.0680	3.1%						
Cd	0.0007	9.5%	0.0009	0.0016	(0.0017)		97.6%	0.7	0.7	6.7%	0.5	130.2%
Ce	N/A			<DL	<DL							
Co	N/A		0.0090	(0.0118)	<DL		131.4%	6.1	5.9	3.4%	5.0	122.1%
Cr	0.0820	1.6%		0.0828	0.0842	1.7%						
Cu	0.0075	1.2%	0.0045	0.0118	0.0123	4.5%	96.2%	2.6	2.7	4.3%	2.5	102.2%
Dy	N/A			<DL	<DL							
Fe	1.8401	2.4%		1.8495	1.9005	2.8%						
K	0.0323	3.6%		0.0331	<DL							
La	0.0006	22.9%		(0.0007)	<DL							
Li	N/A			<DL	<DL							
Mg	0.0164	7.6%		0.0152	0.0157	3.1%						
Mn	0.0054	0.9%	0.0090	0.0141	0.0144	2.0%	97.1%	5.0	4.9	1.7%	5.0	99.0%
Mo	0.0008	3.8%		0.0008	(0.0012)							
Na	9.3451	0.7%		9.5122	9.6427	1.4%						
Nd	N/A			<DL	<DL							
Ni	0.0019	4.3%	0.0090	0.0104	0.0109	5.0%	94.6%	5.0	4.9	2.5%	5.0	99.8%
P	1.6156	10.4%		1.6383	1.7078	4.2%						
Pb	0.0282	1.0%	0.0090	0.0355	0.0375	5.6%	81.4%	5.1	5.4	5.8%	5.0	101.9%
Re	0.0007	15.4%		(0.0008)	<DL							
Rh	N/A			<DL	<DL							
Ru	0.0185	2.8%		0.0185	(0.0200)							
Sb	N/A			(0.0049)	<DL							
Se	N/A		0.0359	0.0196	(0.0218)		54.6%	13.1	11.4	13.0%	20.0	65.6%
Si	0.0420	28.2%		0.1833	0.1806	1.5%						
Sr	0.0267	0.7%		0.0270	0.0273	1.1%						
Te	0.0017	12.2%		(0.0022)	<DL							
Th	N/A			<DL	<DL							
Ti	0.0005	32.4%		(0.0004)	<DL							
Tl	N/A		0.0359	<DL	<DL		93.7%	18.2	20.6	12.9%	20.0	91.2%
U	0.0947	3.8%		0.0954	<DL							
V	0.0004	1.7%	0.0090	0.0091	0.0095	3.5%	96.9%	5.0	4.9	0.9%	5.0	99.2%
Zn	0.0082	8.1%	0.0090	0.0165	0.0171	3.4%	92.6%	4.9	5.0	2.3%	5.0	98.6%
Zr	0.0005	0.7%		(0.0005)	<DL							
Bi	2.1571	1.4%		2.2079								

11/05/90

Date: 10/29/90
Project: SST
Procedure: PNL-SP-7

Analyst: D. C. Quinlan 11/7/90
Reviewer: M. Wilson 11/9/90

File: icp4180a
Reported: 11/05/90

Sample Log#	90-4180a1	90-4180a1	90-4180a2	90-4180a2	90-4180a3	90-4180a3	90-4180a4	90-4180a4	90-4180a5	90-4180a5
ID	S1 1x	S1 5x	S2 1x	S2 5x	SP+S3 1x	SP+S3 5x	SPK 1x	SPK 5x	BLK 1x	BLK 5x
Prep Type	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid
Sample Wt-g	1.219	1.219	1.124	1.124	1.415	1.415			1.172	1.172
Makeup Vol-mL	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
Dil: Smpl-mL										
Dil: Vol-mL										
Prep Factor	206.09	206.09	223.34	223.34	177.63	177.63			214.37	214.37
Spike ID					B-3	B-3	B-3	B-3		
Spike Vol-mL					25.391	25.391	25.391	25.391		
Spike Dilution					9.85	9.85	9.85	9.85		
ICP Dilution	1.00	5.00	1.00	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Wt% Factor	0.02061	0.10304	0.02233	0.11167	0.01776	0.08881	0.02500	0.12500	0.02144	0.10718
ICP Run #	2076	2083	2076	2082	2074	2081	2073	2080	2072	2079
Weight % Ag	0.0013	0.0006	0.0012	0.0007	0.0012	0.0010	0.0001	0.0003	0.0000	0.0004
Al	0.1482	0.1510	0.1470	0.1482	0.1504	0.1532	0.0030	0.0056	0.0018	0.0052
As	-0.0003	-0.0002	0.0012	0.0035	0.0338	0.0374	0.0465	0.0489	0.0005	0.0048
B	0.0044	0.0029	0.0045	0.0029	0.0068	0.0059	0.0068	0.0043	0.0056	0.0037
Ba	0.0016	0.0016	0.0017	0.0018	0.0363	0.0366	0.0500	0.0492	0.0002	0.0003
Be	0.0000	-0.0000	-0.0000	-0.0000	0.0009	0.0009	0.0012	0.0012	0.0000	0.0000
Ca	0.0714	0.0735	0.0730	0.0749	0.0659	0.0680	0.0261	0.0267	0.0273	0.0274
Cd	0.0008	0.0009	0.0007	0.0007	0.0016	0.0017	0.0017	0.0018	0.0003	0.0007
Ce	0.0030	0.0034	0.0024	0.0021	0.0030	0.0044	0.0019	0.0028	0.0005	0.0043
Co	0.0034	0.0035	0.0028	0.0033	0.0118	0.0137	0.0155	0.0150	0.0008	0.0076
Cr	0.0826	0.0836	0.0814	0.0825	0.0828	0.0842	0.0004	0.0003	0.0003	0.0007
Cu	0.0075	0.0077	0.0074	0.0078	0.0118	0.0123	0.0065	0.0068	0.0002	0.0006
Dy	0.0000	0.0000	0.0000	-0.0001	0.0000	0.0001	0.0001	0.0001	0.0000	0.0002
Fe	1.8623	1.9033	1.8179	1.8634	1.8495	1.9005	0.0035	0.0031	0.0034	0.0033
K	0.0317	0.0330	0.0329	0.0311	0.0331	0.0390	0.0073	0.0080	0.0043	0.0138
La	0.0007	0.0007	0.0006	0.0005	0.0007	0.0009	0.0001	0.0001	0.0000	0.0004
Li	0.0001	-0.0001	0.0000	-0.0001	0.0001	0.0000	0.0002	0.0001	0.0001	0.0002
Mg	0.0157	0.0162	0.0170	0.0175	0.0152	0.0157	0.0038	0.0040	0.0034	0.0036
Mn	0.0054	0.0055	0.0054	0.0054	0.0141	0.0144	0.0126	0.0124	0.0001	0.0001
Mo	0.0007	0.0007	0.0008	0.0010	0.0008	0.0012	0.0002	0.0004	0.0001	0.0007
Na	9.3137	9.4919	9.3765	9.5206	9.5122	9.6427	0.0310	0.0285	0.0150	0.0149
Nd	0.0004	-0.0003	0.0001	-0.0007	0.0006	0.0006	0.0005	-0.0000	0.0002	0.0020
Ni	0.0020	0.0020	0.0019	0.0018	0.0104	0.0109	0.0127	0.0124	0.0001	0.0009
P	1.6999	1.6383	1.5313	1.6292	1.6383	1.7078	0.0068	0.0149	0.0051	0.0096
Pb	0.0284	0.0289	0.0281	0.0300	0.0355	0.0375	0.0129	0.0137	0.0012	0.0031
Re	0.0007	0.0008	0.0006	0.0005	0.0008	0.0010	0.0001	0.0004	0.0001	0.0003
Rh	0.0004	0.0004	0.0001	-0.0004	0.0004	0.0015	0.0008	0.0011	0.0003	0.0025
Ru	0.0187	0.0204	0.0182	0.0200	0.0185	0.0200	0.0006	0.0024	0.0004	0.0025
Sb	0.0004	0.0017	0.0002	0.0006	0.0049	0.0062	0.0058	0.0062	0.0006	0.0046
Se	-0.0027	-0.0047	-0.0036	-0.0025	0.0196	0.0218	0.0332	0.0289	0.0003	0.0010
Si	0.0361	0.0354	0.0479	0.0469	0.1833	0.1806	0.0066	0.0070	0.0029	0.0044
Sr	0.0268	0.0271	0.0266	0.0269	0.0270	0.0273	0.0001	0.0001	0.0001	0.0001
Te	0.0018	0.0016	0.0016	0.0019	0.0022	0.0018	0.0004	0.0016	0.0004	0.0017
Th	0.0016	0.0007	0.0014	0.0005	0.0020	0.0022	0.0019	0.0008	0.0002	0.0026
Ti	0.0004	0.0004	0.0006	0.0002	0.0004	0.0005	0.0002	0.0006	0.0002	0.0007
Tl	0.0099	0.0057	0.0103	-0.0300	0.0336	0.0426	0.0463	0.0523	0.0033	0.0838
U	0.0965	0.0995	0.0930	0.0940	0.0954	0.1061	0.0110	0.0101	0.0031	0.0223
V	0.0004	0.0007	0.0004	0.0006	0.0091	0.0095	0.0126	0.0125	0.0001	0.0005
Zn	0.0079	0.0082	0.0085	0.0089	0.0165	0.0171	0.0125	0.0128	0.0003	0.0006
Zr	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0001	0.0002	0.0001	0.0005
Bi	2.1724		2.1418		2.2079		0.0010			

Date: 10/29/90
Project: SST
Procedure: PNL-SP-7
M&TE: WA55672

Data Entry By: JAG 11/9/90
Data Verified By: TML 11/9/90

File: icp4180a

Sample ID:		90-4180a1	90-4180a1	90-4180a2	90-4180a2	90-4180a3	90-4180a3	90-4180a4	90-4180a4	90-4180a5	90-4180a5
ICP Run #		2076	2083	2076	2082	2074	2081	2073	2080	2072	2079
(ug/mL)	Ag	0.0616	0.0054	0.0531	0.0057	0.0659	0.0112	[illegible]	0.0025	0.0019	0.0033
	Al	7.1978	1.4731	6.5877	1.3348	8.4767	1.7327	0.1260	0.0521	0.0909	0.0559
	As	0.5834	0.1159	0.5953	0.1380	2.5988	0.5590	1.8587	0.3863	0.018282	[illegible]
	B	0.2330	0.0468	0.2189	0.0446	0.4024	0.0850	0.2918	0.0536	0.2817	[illegible]
	Ba	0.0763	0.0153	0.0776	0.0157	2.0429	0.4117	2.0016	0.3933	0.0087	[illegible]
	Be	0.0001	-0.0000	0.0000	0.0000	0.0480	0.0099	0.0486	0.0096	0.0001	[illegible]
	Ca	3.4638	0.7132	3.2680	0.6709	3.7103	0.7655	1.9440	0.2141	1.2732	[illegible]
	Cd	0.0380	0.0095	0.0320	0.0073	0.0913	0.0196	0.0468	0.0148	0.0157	[illegible]
	Ce	0.1417	0.0289	0.1032	0.0151	0.1624	0.0454	0.0729	0.0179	0.0206	[illegible]
	Co	0.1429	0.0105	0.1002	0.0061	0.6404	0.1307	0.5968	0.0967	0.0131	0.
	Cr	4.0090	0.8100	3.6420	0.7381	4.6593	0.9470	0.0149	0.0016	0.0120	0.
	Cu	0.3637	0.0741	0.3315	0.0690	0.6625	0.1379	0.2588	0.0534	0.0079	0.
	Dy	0.0015	0.0002	0.0002	-0.0010	0.0025	0.0008	0.0058	0.0006	0.0006	0.00
	Fe	90.3630	18.4710	81.3970	16.6870	104.1200	21.3990	0.1587	0.0248	0.1575	0.030
	K	1.4950	0.2756	1.4286	0.2345	1.8175	0.3948	0.2482	0.0195	0.1544	0.084
	La	0.0337	0.0067	0.0246	0.0040	0.0392	0.0092	0.0054	0.0002	0.0015	0.093
	Li	0.0022	-0.0020	0.0006	-0.0020	0.0022	-0.0010	0.0054	-0.0000	0.0024	0.000
	Mg	0.7641	0.1570	0.7610	0.1567	0.8585	0.1771	0.1507	0.0320	0.1606	0.033
	Mn	0.2626	0.0531	0.2402	0.0486	0.7935	0.1620	0.5051	0.0990	0.0033	0.000
(ug/mL)	Mo	0.0362	0.0075	0.0347	0.0096	0.0441	0.0135	0.0069	0.0037	0.0066	0.0073
	Na	451.9200	92.1040	419.8200	85.2450	535.5000	108.5600	1.2289	0.2169	0.6877	0.1279
	Nd	0.0167	-0.0050	0.0033	-0.0080	0.0301	0.0050	0.0167	-0.0020	0.0084	0.0167
	Ni	0.0951	0.0191	0.0840	0.0161	0.5857	0.1228	0.5067	0.0986	0.0065	0.0081
	P	82.5000	15.9130	68.5770	14.6030	92.2470	19.2430	0.2867	0.1333	0.2533	0.1033
	Pb	1.3938	0.2904	1.2737	0.2780	2.0187	0.4325	0.5252	0.1174	0.0618	0.0371
	Re	0.0361	0.0075	0.0285	0.0043	0.0439	0.0115	0.0043	0.0026	0.0039	0.0023
	Rh	0.0145	-0.0000	0.0012	-0.0080	0.0205	0.0121	0.0266	0.0048	0.0097	0.0193
	Ru	0.8945	0.1837	0.8010	0.1650	1.0281	0.2117	0.0092	0.0058	0.0056	0.0096
	Sb	0.0088	0.0044	-0.0040	-0.0070	0.2630	0.0575	0.2188	0.0376	0.0177	0.0309
	Se	1.0587	0.1923	0.9197	0.1940	2.4842	0.5237	1.3302	0.2295	0.0129	0.0081
	Si	1.7522	0.3454	2.1477	0.4217	10.3220	2.0345	0.2856	0.0572	0.1346	0.0429
	Sr	1.3007	0.2629	1.1916	0.2412	1.5193	0.3073	0.0048	0.0008	0.0040	0.0010
	Te	0.0930	0.0207	0.0768	0.0221	0.1299	0.0251	0.0221	0.0177	0.0236	0.0207
	Th	0.0752	0.0020	0.0594	-0.0000	0.1069	0.0198	0.0713	0.0020	0.0040	0.0198
	Ti	0.0206	0.0036	0.0264	0.0018	0.0238	0.0058	0.0094	0.0043	0.0079	0.0061
	Tl	0.5454	0.1212	0.5252	-0.2020	1.9596	0.5454	1.9192	0.4848	0.2222	0.8485
	U	4.6234	0.9063	4.1021	0.7819	5.3135	1.1344	0.3791	0.0207	0.0829	0.1481
	V	0.0213	0.0063	0.0193	0.0051	0.5141	0.1062	0.5035	0.0996	0.0028	0.0045
	Zn	0.3825	0.0809	0.3829	0.0810	0.9302	0.1930	0.5017	0.1034	0.0168	0.0069
	Zr	0.0238	0.0046	0.0221	0.0042	0.0298	0.0069	0.0055	0.0015	0.0038	0.0044
(ug/mL)	Bi	105.4100		95.9000		124.3000		0.0408			

E03-075

Samp Log#:	90-4180c1	90-4180c1		90-4180c2	90-4180c2		90-4180c5					
Dilution:	2.00	10.00		2.00	10.00		2.00					
Wt% Fctr:	0.01903	0.09516		0.01811	0.09053		0.01872	0.09359			90-4180c1 90-4180c2	
ICP Run#:	2091	2088		2090	2087		2089	2086	DL	QL	Average	
	(Wt %)	(Wt %)	%Dif	(Wt %)	(Wt %)	%Dif	(Wt% *)	(Wt% *)	(ug/mL)	(ug/mL)	(Wt %)	RPD
Ag	<DL	<DL		<DL	<DL		<DL	<DL	0.0157	0.0525	N/A	
Al	(0.0013)	<DL		(0.0012)	<DL		<DL	<DL	0.0528	0.1761	0.0013	9.2%
As	<DL	<DL		<DL	<DL		<DL	<DL	0.0889	0.2965	N/A	
B	<DL	<DL		<DL	<DL		<DL	<DL	0.0639	0.2130	N/A	
Ba	<DL	<DL		<DL	<DL		<DL	<DL	0.0037	0.0123	N/A	
Be	<DL	<DL		<DL	<DL		<DL	<DL	0.0002	0.0006	N/A	
Ca	0.0009	0.0020	126.9%	0.0007	0.0014	92.9%	0.0005	0.0043	0.0014	0.0048	0.0008	15.5%
Cd	<DL	<DL		<DL	<DL		<DL	<DL	0.0062	0.0207	N/A	
Ce	<DL	<DL		<DL	<DL		<DL	<DL	0.2143	0.7145	N/A	
Co	<DL	<DL		<DL	<DL		<DL	<DL	0.4199	1.3997	N/A	
Cr	0.0059	(0.0061)		0.0059	(0.0065)		<DL	<DL	0.0229	0.0762	0.0059	0.1%
Cu	<DL	<DL		<DL	<DL		<DL	<DL	0.0163	0.0544	N/A	
Dy	<DL	<DL		<DL	<DL		<DL	<DL	0.0139	0.0464	N/A	
Fe	0.0094	0.0096	2.0%	0.0087	0.0087	0.3%	<DL	<DL	0.0080	0.0268	0.0091	8.4%
K	(0.0197)	<DL		(0.0194)	<DL		<DL	<DL	0.5156	1.7188	0.0196	1.8%
La	<DL	<DL		<DL	<DL		<DL	<DL	0.0190	0.0634	N/A	
Li	<DL	<DL		<DL	<DL		<DL	<DL	0.0109	0.0364	N/A	
Mg	0.0003	0.0006	115.5%	0.0003	0.0005	83.1%	0.0001	0.0006	0.0010	0.0032	0.0003	4.2%
Mn	(0.0000)	<DL		(0.0000)	<DL		<DL	<DL	0.0015	0.0049	0.0000	12.9%
Mo	(0.0006)	<DL		(0.0005)	(0.0015)		<DL	<DL	0.0130	0.0433	0.0006	9.3%
Na	8.4577	8.4707	0.2%	8.4780	8.5323	0.6%	<DL	<DL	0.1319	0.4396	8.4678	0.2%
Nd	<DL	<DL		<DL	<DL		<DL	<DL	0.0942	0.3140	N/A	
Ni	<DL	<DL		<DL	<DL		<DL	<DL	0.0215	0.0717	N/A	
P	0.7725	0.7733	0.1%	0.8155	0.8015	1.7%	<DL	<DL	0.3847	1.2822	0.7940	5.4%
Pb	<DL	<DL		<DL	<DL		<DL	<DL	0.0674	0.2248	N/A	
Re	<DL	<DL		<DL	<DL		<DL	<DL	0.0156	0.0522	N/A	
Rh	<DL	<DL		<DL	<DL		<DL	<DL	0.1190	0.3967	N/A	
Ru	<DL	<DL		<DL	<DL		<DL	<DL	0.0712	0.2374	N/A	
Sb	<DL	<DL		<DL	<DL		<DL	<DL	0.1069	0.3562	N/A	
Se	<DL	<DL		<DL	<DL		<DL	<DL	0.1081	0.3602	N/A	
Si	0.0437	0.0442	1.2%	0.0482	0.0483	0.2%	<DL	<DL	0.0587	0.1957	0.0459	9.8%
Sr	(0.0001)	<DL		(0.0001)	<DL		<DL	<DL	0.0013	0.0045	0.0001	7.4%
Te	<DL	<DL		<DL	<DL		<DL	<DL	0.0650	0.2167	N/A	
Th	<DL	<DL		<DL	<DL		<DL	<DL	0.1658	0.5526	N/A	
Ti	<DL	<DL		<DL	<DL		<DL	<DL	0.0121	0.0404	N/A	
Tl	<DL	<DL		<DL	<DL		<DL	<DL	3.1009	10.3364	N/A	
U	<DL	<DL		<DL	<DL		<DL	<DL	1.3258	4.4192	N/A	
V	<DL	<DL		<DL	<DL		<DL	<DL	0.0107	0.0357	N/A	
Zn	<DL	<DL		<DL	<DL		<DL	(0.0005)	0.0046	0.0154	N/A	
Zr	<DL	<DL		<DL	<DL		<DL	<DL	0.0101	0.0337	N/A	
Bi	N/A			N/A			N/A				N/A	

* Methods blank - average sample weight used to calculate wt%.

11/05/90

Date: 10/29/90
Project: SST
Procedure: PNL-SP-7

Analyst: D.B. Dingland 11/9/90
Reviewer: M Walker 11/9/90

File: icp4180w
Reported: 11/05/90

Sample Log#		90-4180c1	90-4180c1	90-4180c2	90-4180c2	90-4180c5	90-4180c5
ID		S1 2x	S1 10x	S2 2x	S2 10x	BLK 1x	BLK 10x
Prep Type		Water	Water	Water	Water	Water	Water
Sample Wt-g		2.070	2.070	2.198	2.198	2.134	2.134
Makeup Vol-mL		194.9	194.9	196.8	196.8	197.6	197.6
Dil: Smpl-mL							
Dil: Vol-mL							
Prep Factor		95.16	95.16	90.53	90.53	93.59	93.59
Spike ID							
Spike Vol-mL							
Spike Dilution							
ICP Dilution		2.00	10.00	2.00	10.00	2.00	10.00
Wt% Factor		0.01903	0.09516	0.01811	0.09053	0.01872	0.09359
ICP Run #		2091	2088	2090	2087	2089	2086
Weight %	Ag	0.0001	0.0004	0.0001	0.0004	0.0000	0.0003
	Al	0.0013	0.0044	0.0012	0.0041	0.0006	0.0027
	As	0.0003	0.0032	0.0003	0.0014	0.0008	0.0018
	B	0.0006	0.0005	0.0006	0.0010	-0.0002	0.0007
	Ba	-0.0000	0.0001	0.0000	0.0001	0.0000	0.0001
	Be	-0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000
	Ca	0.0009	0.0020	0.0007	0.0014	0.0005	0.0043
	Cd	-0.0001	0.0002	-0.0000	0.0003	0.0000	0.0001
	Ce	-0.0007	0.0025	-0.0004	0.0031	-0.0001	0.0012
	Co	-0.0022	0.0023	-0.0019	0.0028	-0.0007	0.0011
	Cr	0.0059	0.0061	0.0059	0.0065	0.0000	0.0005
	Cu	0.0000	0.0004	0.0000	0.0004	0.0000	0.0002
	Dy	-0.0001	0.0001	-0.0000	0.0002	0.0000	0.0001
	Fe	0.0094	0.0096	0.0087	0.0087	-0.0000	-0.0001
	K	0.0197	0.0219	0.0194	0.0238	-0.0008	0.0020
	La	-0.0001	0.0003	-0.0000	0.0003	-0.0000	0.0002
	Li	0.0000	0.0003	0.0000	0.0002	0.0000	0.0002
	Mg	0.0003	0.0006	0.0003	0.0005	0.0001	0.0006
	Mn	0.0000	0.0001	0.0000	0.0001	0.0000	-0.0000
	Mo	0.0006	0.0012	0.0005	0.0015	0.0000	0.0005
	Na	8.4577	8.4707	8.4780	8.5323	0.0004	0.0025
	Nd	-0.0004	0.0014	-0.0001	0.0021	-0.0001	0.0012
	Ni	-0.0001	0.0005	0.0000	0.0008	0.0001	0.0004
	P	0.7725	0.7733	0.8155	0.8015	0.0017	0.0040
	Pb	0.0000	0.0026	0.0005	0.0031	0.0003	0.0030
	Re	0.0000	0.0006	-0.0000	0.0004	0.0000	0.0002
	Rh	-0.0004	0.0020	-0.0001	0.0014	0.0001	0.0014
	Ru	0.0002	0.0031	0.0003	0.0025	0.0004	0.0026
	Sb	-0.0003	0.0016	0.0002	0.0025	0.0003	0.0019
	Se	-0.0017	0.0045	-0.0004	0.0015	-0.0003	-0.0008
	Si	0.0437	0.0442	0.0482	0.0483	0.0003	0.0019
	Sr	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	Te	0.0000	0.0019	0.0002	0.0017	0.0003	0.0018
	Th	-0.0003	0.0008	-0.0001	0.0024	0.0001	0.0006
	Ti	0.0000	0.0006	0.0000	0.0006	0.0001	0.0005
	Tl	0.0014	0.0148	0.0025	0.0013	0.0044	-0.0119
	U	-0.0056	0.0057	-0.0039	0.0105	-0.0020	0.0028
	V	0.0000	0.0004	0.0000	0.0004	0.0000	0.0002
	Zn	0.0000	0.0002	0.0001	0.0002	0.0000	0.0005
	Zr	-0.0000	0.0002	0.0000	0.0003	0.0000	0.0002
	Bi						

Date: 10/29/90
Project: SST
Procedure: PNL-SP-7
MT&E: WA55672

Data Entry By: JAG 11/9/90
Data Verified By: JML 11/7/90

File: icp4180w

Sample ID:		90-4180c1	90-4180c1	90-4180c2	90-4180c2	90-4180c5	90-4180c5
ICP Run #		2091	2088	2090	2087	2089	2086
(ug/mL)	Ag	0.0035	0.0041	0.0044	0.0046	0.0016	0.0027
	Al	0.0777	0.0531	0.0748	0.0521	0.0379	0.0360
	As	0.0142	0.0295	0.0148	0.0108	0.0352	0.0142
	B	0.0525	0.0237	0.0542	0.0303	0.0099	0.0267
	Ba	-0.0010	0.0008	0.0005	0.0010	0.0003	0.0010
	Be	-0.0000	0.0001	-0.0000	0.0002	0.0001	0.0001
	Ca	0.0461	0.0210	0.0415	0.0161	0.0258	0.0458
	Cd	-0.0020	0.0029	-0.0010	0.0037	0.0007	0.0021
	Ce	-0.0410	0.0220	-0.0260	0.0303	-0.0120	0.0083
	Co	-0.1390	0.0009	-0.1280	0.0078	-0.0630	-0.0110
	Cr	0.3095	0.0630	0.3257	0.0706	0.0003	0.0042
	Cu	0.0015	0.0032	0.0014	0.0034	0.0014	0.0016
	Dy	-0.0030	0.0014	-0.0020	0.0022	-0.0000	0.0011
	Fe	0.4959	0.1011	0.4790	0.0960	-0.0020	-0.0010
	K	0.9928	0.1857	1.0260	0.2189	-0.0880	-0.0230
	La	-0.0040	0.0023	-0.0030	0.0031	-0.0010	0.0015
	Li	-0.0010	0.0017	0.0002	0.0011	-0.0000	0.0011
	Mg	0.0137	0.0060	0.0150	0.0056	0.0073	0.0063
	Mn	0.0017	0.0009	0.0020	0.0010	0.0003	0.0001
(ug/mL)	Mo	0.0314	0.0129	0.0301	0.0166	0.0017	0.0054
	Na	444.4000	89.0080	468.2200	94.2350	0.0074	0.0148
	Nd	-0.0220	0.0134	-0.0070	0.0218	-0.0050	0.0117
	Ni	-0.0030	0.0050	0.0010	0.0081	0.0065	0.0040
	P	40.6030	8.1400	45.0530	8.8667	0.1033	0.0567
	Pb	0.0097	0.0353	0.0335	0.0424	0.0230	0.0406
	Re	-0.0000	0.0062	-0.0020	0.0043	0.0023	0.0020
	Rh	-0.0230	0.0169	-0.0080	0.0109	-0.0000	0.0109
	Ru	-0.0030	0.0184	0.0038	0.0138	0.0100	0.0142
	Sb	-0.0290	0.0044	-0.0020	0.0155	0.0022	0.0088
	Se	0.0000	0.0630	0.0727	0.0356	-0.0210	-0.0100
	Si	2.2954	0.4658	2.6623	0.5348	0.0191	0.0214
	Sr	0.0042	0.0010	0.0041	0.0010	0.0001	0.0002
	Te	0.0074	0.0251	0.0133	0.0236	0.0192	0.0236
	Th	-0.0200	0.0040	-0.0120	0.0218	-0.0000	0.0020
	Ti	0.0018	0.0065	0.0022	0.0061	0.0032	0.0047
	Tl	0.1414	0.2222	0.2020	0.0808	0.3030	-0.0610
	U	-0.3550	0.0000	-0.2750	0.0563	-0.1690	-0.0300
	V	0.0000	0.0038	0.0020	0.0037	0.0008	0.0023
	Zn	0.0032	0.0034	0.0043	0.0032	0.0030	0.0064
	Zr	-0.0010	0.0020	0.0008	0.0031	0.0014	0.0020
(ug/mL)	Bi						

9 1 1 2 1 7 5 1 4 4 2

Date: Sept. 5 1990

Analyst: [illegible signature]
6-3089 P7-22

Review: RES

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B, C16

Segment(s): COM

☑ Composite

☐ Prehomogenized ☐ Homogenized

Coc# 282

ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
	90-4150-C-1	ICP(water)	2.0698				194.8843 [redacted]						sample
	90-4150-C-2	"	2.1978				196.1726 [redacted]						dup. sample
	90-4150-C-5	"	—				~~196.5897~~ 197.5712 [redacted]						blank

E03-079

9 1 1 2 1 7 5 1 4 3

Date: 9-24-90

Analyst: [signature] S.A. Bomi
6-3089 P7-22

Review: RTS

COC# 280

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B, Core 16

Segment(s): COM

☑ Composite
☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneou
NA	90-4180-A-1	ICP(Acid)	1.2190				250			none			Sample
	90-4180-A-2	"	1.1244				250						Dup. Sample
	90-4180-A-3	"	1.4154	pg 128			250	B-3	25.3906			5.0781	Spiked Sample
	90-4180-A-4	"	—				250	B-3	25.3906			5.0781	Spiked blank
	90-4180-A-5	"	—				250						blank

BNW 52917 MSTE 360-06-01-016

E03-080

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

Prepared By: | Date: | Project:

Subject:

Oct 29, 1990

TEMP FILE
OCT29.WK1

2070	CH3			
71	CL1			
2072	90-4180	A5	1X	
73		A4	1X	
74		A3	1X	
75		A2	1X	
76		A1	1X	
77	CH2			
78	CL1			
79	90-4180	A5	5X	
80		~~A4~~	5X	
81		A3	5X	
82		A2	5X	
83		A1	5X	
84	CH3			
85	CL1			
90-86	90-4180	C5	10X	
87		C2	10X	
88		C1	10X	
89	90-4180	C5	2X	
90		C2	2X	
91		C1	2X	
92	CH2			
93	CL1			

2073, 2080, 2072, 2079

ICP4180W
2091, 2088, 2090, 2087, 2089, 2086

ICP4180a
2076, 2083, 2075, 2082, 2074, 2081,

E03-081

2093 verified

OK - mka
* where's # 2093?

Base ICP entry template

Sample Analysis Date: 10/29/90

Sample ID:		CH3	CL1	1x 90-4180a5	1x 90-4180a4	1x 90-4180a3
ICP Run #		2070	2071	2072	2073	2074
(ug/mL)	Ag	0.0444	0.0011	0.0019	0.0038	0.0659
	Al	10.0110	0.0180	0.0909	0.1260	8.4767
	As	2.0149	0.0210	0.0182	1.8587	2.5988
	B	5.0050	0.0363	0.2817	0.2918	0.4024
	Ba	0.0035	0.0008	0.0087	2.0016	2.0429
	Be	0.0013	0.0001	0.0001	0.0486	0.0480
	Ca	10.0320	0.0002	1.2732	1.0440	3.7103
	Cd	9.9820	0.0001	0.0157	0.0668	0.0913
	Ce	0.3165	0.0344	0.0206	0.0729	0.1624
	Co	0.2518	0.0531	0.0131	0.5968	0.6404
	Cr	9.9895	0.0018	0.0120	0.0149	4.6593
	Cu	0.0558	0.0016	0.0079	0.2588	0.6625
	Dy	10.0290	0.0012	0.0006	0.0038	0.0025
	Fe	0.0342	0.0017	0.1575	0.1387	104.1200
	K	49.7460	0.0254	0.1544	0.2482	1.8175
	La	10.0150	0.0023	0.0015	0.0054	0.0392
	Li	20.0040	0.0004	0.0024	0.0054	0.0022
	Mg	0.0029	0.0001	0.1606	0.1507	0.8585
	Mn	9.9917	0.0000	0.0033	0.5031	0.7935
(ug/mL)	Mo	0.0424	0.0017	0.0066	0.0069	0.0441
	Na	100.0600	0.0037	0.6877	1.2289	535.5000
	Nd	10.0220	0.0084	0.0084	0.0167	0.0301
	Ni	0.0931	0.0000	0.0065	0.5067	0.5857
	P	9.7367	0.0733	0.2533	0.2867	92.2470
	Pb	0.3451	0.0062	0.0618	0.5252	2.0187
	Re	9.9902	0.0003	0.0039	0.0043	0.0439
	Rh	0.4447	0.0072	0.0097	0.0266	0.0205
	Ru	9.9833	0.0017	0.0054	0.0092	1.0281
	Sb	0.0906	-0.0090	0.0177	0.2188	0.2630
	Se	9.9256	-0.0020	0.0129	1.3302	2.4842
	Si	9.9940	0.0083	0.1346	0.2656	10.3220
	Sr	0.0635	0.0001	0.0040	0.0048	1.5193
	Te	0.4311	0.0089	0.0236	0.0221	0.1299
	Th	10.0240	0.0079	0.0040	0.0713	0.1069
	Ti	0.0441	0.0018	0.0079	0.0094	0.0238
	Tl	10.1010	0.3030	0.2222	1.9192	1.9596
	U	1.4039	0.1807	0.0829	0.3791	5.3135
	V	0.0424	0.0026	0.0028	0.5035	0.5141
	Zn	0.0118	0.0017	0.0168	0.5017	0.9302
	Zr	0.9098	0.0011	0.0038	0.0055	0.0298

1x 90-4180a2 2075	1x 90-4180a1 2076	CH2 2077	CL1 2078	5x 90-4180a5 2079	5x 90-4180a4 2080
0.0531	0.0616	0.0948	0.0033	0.0033	0.0025
6.5877	7.1978	0.4092	0.0379	0.0559	0.0521
0.5953	0.5834	9.8773	0.0301	0.0403	0.3863
0.2189	0.2330	0.0393	0.0041	0.0536	0.0536
0.0776	0.0763	9.8210	0.0014	0.0025	0.3933
0.0000	0.0001	0.9909	0.0001	0.0001	0.0096
3.2680	3.4638	0.0319	0.0001	0.2560	0.2141
0.0320	0.0380	0.0236	0.0022	0.0071	0.0148
0.1032	0.1417	9.8720	0.0633	0.0358	0.0179
0.1002	0.1429	9.9791	0.0967	0.0479	0.0967
3.6420	4.0090	0.0272	0.0063	0.0055	0.0016
0.3315	0.3637	9.7810	0.0043	0.0049	0.0534
0.0002	0.0015	0.0214	0.0034	0.0014	0.0006
81.3970	90.3630	9.9102	0.0033	0.0309	0.0248
1.4286	1.4950	0.1055	0.0684	0.0840	0.0195
0.0246	0.0337	0.0725	0.0044	0.0033	0.0002
0.0006	0.0022	0.0002	0.0013	0.0009	-0.0000
0.7610	0.7641	9.9002	0.0003	0.0336	0.0320
0.2402	0.2626	0.0037	0.0003	0.0009	0.0990
0.0347	0.0362	9.9191	0.0087	0.0073	0.0037
419.8200	451.9200	9.8519	0.0130	0.1279	0.2169
0.0033	0.0167	0.1289	0.0218	0.0167	-0.0020
0.0840	0.0951	9.9215	0.0086	0.0081	0.0986
68.5770	82.5000	2.2300	0.2000	0.1033	0.1333
1.2737	1.3938	9.9250	0.0353	0.0371	0.1174
0.0285	0.0361	0.0213	0.0062	0.0023	0.0026
0.0012	0.0145	9.8282	0.0230	0.0193	0.0048
0.8010	0.8945	0.1311	0.0113	0.0096	0.0058
-0.0040	0.0088	9.9005	0.0111	0.0309	0.0376
0.9197	1.0587	1.2591	-0.0020	0.0081	0.2295
2.1477	1.7522	0.3383	0.0226	0.0429	0.0572
1.1916	1.3007	9.8339	0.0003	0.0010	0.0008
0.0768	0.0930	9.8893	0.0192	0.0207	0.0177
0.0594	0.0752	0.9780	0.0594	0.0198	0.0020
0.0264	0.0206	9.8584	0.0025	0.0061	0.0043
0.5252	0.5454	2.2626	1.2323	0.8485	0.4848
4.1021	4.6234	32.7990	0.2725	0.1481	0.0207
0.0193	0.0213	9.8817	0.0054	0.0045	0.0996
0.3829	0.3825	9.8888	0.0017	0.0069	0.1034
0.0221	0.0238	9.8594	0.0039	0.0044	0.0015

5x 90-4180a3 2081	5x 90-4180a2 2082	5x 90-4180a1 2083	CH3 2084	CL1 2085	10X 90-4180c5 2086
0.0112	0.0057	0.0054	0.0444	0.0038	0.0027
1.7327	1.3348	1.4731	9.8238	0.0426	0.0360
0.5590	0.1380	0.1159	2.0564	0.0148	0.0142
0.0850	0.0446	0.0468	4.9081	0.0388	0.0267
0.4117	0.0157	0.0153	0.0030	0.0006	0.0010
0.0099	0.0000	-0.0000	0.0013	0.0001	0.0001
0.7655	0.6709	0.7132	9.8810	0.0003	0.0458
0.0196	0.0073	0.0095	9.9389	0.0017	0.0021
0.0454	0.0151	0.0289	0.3151	0.0206	0.0083
0.1307	0.0061	0.0105	0.2518	-0.0110	-0.0110
0.9470	0.7381	0.8100	9.8824	0.0042	0.0042
0.1379	0.0690	0.0741	0.0553	0.0016	0.0016
0.0008	-0.0010	0.0002	9.8461	0.0014	0.0011
21.3990	16.6870	18.4710	0.0349	0.0000	-0.0010
0.3948	0.2345	0.2756	48.3580	-0.0410	-0.0230
0.0092	0.0040	0.0067	9.8646	0.0027	0.0015
-0.0010	-0.0020	-0.0020	19.4030	0.0006	0.0011
0.1771	0.1567	0.1570	0.0028	0.0003	0.0063
0.1620	0.0486	0.0531	9.8784	0.0004	0.0001
0.0135	0.0096	0.0075	0.0422	0.0060	0.0054
108.5600	85.2450	92.1040	97.3490	-0.0110	0.0148
0.0050	-0.0080	-0.0050	9.8494	0.0151	0.0117
0.1228	0.0161	0.0191	0.0991	0.0075	0.0040
19.2430	14.6030	15.9130	9.6267	0.0867	0.0567
0.4325	0.2780	0.2904	0.3425	0.0441	0.0406
0.0115	0.0043	0.0075	9.8721	0.0043	0.0020
0.0121	-0.0080	-0.0000	0.4483	0.0133	0.0109
0.2117	0.1650	0.1837	9.8981	0.0046	0.0142
0.0575	-0.0070	0.0044	0.0906	0.0133	0.0088
0.5237	0.1940	0.1923	9.8368	0.0032	-0.0100
2.0345	0.4217	0.3454	9.8309	0.0191	0.0214
0.3073	0.2412	0.2629	0.0621	0.0001	0.0002
0.0251	0.0221	0.0207	0.4311	0.0221	0.0236
0.0198	-0.0000	0.0020	9.8436	0.0257	0.0020
0.0058	0.0018	0.0036	0.0433	0.0065	0.0047
0.5454	-0.2020	0.1212	10.1010	0.3030	-0.0610
1.1344	0.7819	0.9063	1.3921	-0.0300	-0.0300
0.1062	0.0051	0.0063	0.0445	0.0031	0.0023
0.1930	0.0810	0.0809	0.0116	0.0023	0.0064
0.0069	0.0042	0.0046	0.8962	0.0022	0.0020

10X 90-4180c2 2087	10X 90-4180c1 2088	2X 90-4180c5 2089	2X 90-4180c2 2090	2X 90-4180c1 2091	CH2 2092
0.0046	0.0041	0.0016	0.0044	0.0035	0.0867
0.0521	0.0531	0.0379	0.0748	0.0777	0.3998
0.0108	0.0295	0.0352	0.0148	0.0142	9.7699
0.0303	0.0237	0.0099	0.0542	0.0525	0.0377
0.0010	0.0008	0.0003	0.0005	-0.0010	9.8354
0.0002	0.0001	0.0001	-0.0000	-0.0000	0.9900
0.0161	0.0210	0.0258	0.0415	0.0461	0.0318
0.0037	0.0029	0.0007	-0.0010	-0.0020	0.0196
0.0303	0.0220	-0.0120	-0.0260	-0.0410	9.7881
0.0078	0.0009	-0.0630	-0.1280	-0.1390	9.7072
0.0706	0.0630	0.0003	0.3257	0.3095	0.0225
0.0034	0.0032	0.0014	0.0014	0.0015	9.7683
0.0022	0.0014	-0.0000	-0.0020	-0.0030	0.0172
0.0960	0.1011	-0.0020	0.4790	0.4959	9.8539
0.2189	0.1857	-0.0880	1.0260	0.9928	-0.0470
0.0031	0.0023	-0.0010	-0.0030	-0.0040	0.0675
0.0011	0.0017	-0.0000	0.0002	-0.0010	-0.0030
0.0056	0.0060	0.0073	0.0150	0.0137	9.8284
0.0010	0.0009	0.0003	0.0020	0.0017	0.0031
0.0166	0.0129	0.0017	0.0301	0.0314	9.8728
94.2350	89.0080	0.0074	468.2200	444.4000	9.8538
0.0218	0.0134	-0.0050	-0.0070	-0.0220	0.1088
0.0081	0.0050	0.0065	0.0010	-0.0030	9.8455
8.8667	8.1400	0.1033	45.0530	40.6030	2.5033
0.0424	0.0353	0.0230	0.0335	0.0097	9.8235
0.0043	0.0062	0.0023	-0.0020	-0.0000	0.0187
0.0109	0.0169	-0.0000	-0.0080	-0.0230	9.7789
0.0138	0.0184	0.0100	0.0038	-0.0030	0.1194
0.0155	0.0044	0.0022	-0.0020	-0.0290	9.7635
0.0356	0.0630	-0.0210	0.0727	0.0000	1.1944
0.5348	0.4658	0.0191	2.6623	2.2954	0.3252
0.0010	0.0010	0.0001	0.0041	0.0042	9.8509
0.0236	0.0251	0.0192	0.0133	0.0074	9.8715
0.0218	0.0040	-0.0000	-0.0120	-0.0200	0.9206
0.0061	0.0065	0.0032	0.0022	0.0018	9.8371
0.0808	0.2222	0.3030	0.2020	0.1414	2.7879
0.0563	0.0000	-0.1690	-0.2750	-0.3550	32.1680
0.0037	0.0038	0.0008	0.0020	0.0000	9.8311
0.0032	0.0034	0.0030	0.0043	0.0032	9.7936
0.0031	0.0020	0.0014	0.0008	-0.0010	9.8468

```
 LGF
>NORM ALLELE
'esult file (<CR> for no storage) = SIMN1
)o you wish to normalise all standards [Y/N] ?

The following standards are used in this programme(s) :
 CL01   CH04    CH03    CH02
Sample name    : CL01

Press <CR> when ready to start measurement
24;132H6n
Sample name    : CL01
Programme      : ALLELE          29-Oct-90  11:13:18
[1] Direct Intensities
AG 4.73000 AL 8.11000 AS 13.3900 B0 4.16000 BA 5.44000 BE 5.46000 CA 3.12000
CD 7.30000 CE 12.4000 CO 38.3600 CR 5.01000 CU 10.7500 DY 6.55000 FE 5.51000
K1 26.4400 LA 7.46000 LI 4.76000 MG 2.41000 MN 4.99000 MO 3.95000 NA 5.58000
ND 4.74000 NI 4.13000 P4 5.40000 PB 7.01000 RE 4.32000 RH 8.15000 RU 8.66000
SB 3.17000 SE 7.59000 SI 5.01000 SR 5.53000 TE 3.73000 TH 6.80000 TI 3.13000
TL 4.02000 U  34.1200 V  9.02000 ZN 3.70000 ZR 6.45000
[1] Direct Intensities
AG 4.75000 AL 8.12000 AS 13.3000 B0 4.16000 BA 5.47000 BE 5.46000 CA 3.11000
CD 7.39000 CE 12.4100 CO 38.4400 CR 5.00000 CU 10.7600 DY 6.58000 FE 5.51000
K1 26.5000 LA 7.47000 LI 4.78000 MG 2.40000 MN 4.99000 MO 3.80000 NA 5.58000
ND 4.70000 NI 4.10000 P4 5.38000 PB 7.00000 RE 4.32000 RH 8.16000 RU 8.69000
SB 3.18000 SE 7.70000 SI 5.04000 SR 5.46000 TE 3.75000 TH 6.80000 TI 3.09000
TL 4.01000 U  34.2000 V  9.01000 ZN 3.61000 ZR 6.48000
[1] Direct Intensities
AG 4.74000 AL 8.09000 AS 13.1500 B0 4.13000 BA 5.41000 BE 5.48000 CA 3.16000
CD 7.35000 CE 12.3800 CO 38.2400 CR 5.00000 CU 10.7000 DY 6.57000 FE 5.52000
K1 26.5100 LA 7.41000 LI 4.76000 MG 2.40000 MN 5.00000 MO 3.81000 NA 5.55000
ND 4.69000 NI 4.11000 P4 5.39000 PB 6.97000 RE 4.36000 RH 8.11000 RU 8.70000
SB 3.14000 SE 7.81000 SI 5.00000 SR 5.46000 TE 3.76000 TH 6.80000 TI 3.10000
TL 4.03000 U  34.0500 V  9.00000 ZN 3.65000 ZR 6.43000
```

NAME	MV INT	RSD	BCOR
AG	4.74	0.21	0.00000
AL	8.11	0.19	0.00000
AS	13.28	0.91	0.00000
B0	4.15	0.42	0.00000
BA	5.44	0.55	0.00000
BE	5.47	0.21	0.00000
CA	3.13	0.85	0.00000
CD	7.35	0.61	0.00000
CE	12.40	0.12	0.00000
CO	38.35	0.26	0.00000
CR	5.00	0.12	0.00000
CU	10.74	0.30	0.00000
DY	6.57	0.23	0.00000
FE	5.51	0.10	0.00000
K1	26.48	0.14	0.00000
LA	7.45	0.43	0.00000
LI	4.77	0.24	0.00000
MG	2.40	0.24	0.00000
MN	4.99	0.12	0.00000
MO	3.85	2.18	0.00000
NA	5.57	0.31	0.00000
ND	4.71	0.56	0.00000
NI	4.11	0.37	0.00000

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P4	5.39	0.19	0.00000
PB	6.99	0.30	0.00000
E	4.33	0.53	0.00000
H	8.14	0.33	0.00000
RU	8.68	0.24	0.00000
SB	3.16	0.66	0.00000
SE	7.70	1.43	0.00000
SI	5.02	0.41	0.00000
SR	5.48	0.74	0.00000
TE	3.75	0.41	0.00000
TH	6.80	0.00	0.00000
TI	3.11	0.67	0.00000
TL	4.02	0.25	0.00000
U	34.12	0.22	0.00000
V	9.01	0.11	0.00000
ZN	3.65	1.23	0.00000
ZR	6.45	0.39	0.00000

Store [N/Y] ? Y

Channel	Old	New	Nominal	Drift
AG	4.86000	4.74000	5.66667	*
AL8	8.43333	8.10667	8.97333	*
AS	13.3400	13.2800	14.6267	*
B04	4.31000	4.15000	5.02333	*
BA02	5.56000	5.44000	6.40000	*
BE	5.60333	5.46667	6.33333	*
A15	3.62667	3.13000	3.71667	*
D	7.45333	7.34667	8.38667	*
CE18	12.2733	12.3967	14.1300	*
CO	37.1967	38.3467	42.4667	*
CR21	5.14667	5.00333	5.86667	*
CU	10.7067	10.7367	12.2467	*
DY26	6.65667	6.56667	7.62667	*
FE05	5.49333	5.51333	6.38333	*
K14	25.9900	26.4833	29.0567	*
LA13	7.49000	7.44667	8.61667	*
LI10	4.84667	4.76667	5.59000	*
MG6	2.61667	2.40333	3.11333	*
MN20	5.11333	4.99333	5.80000	*
MO23	4.13333	3.85333	4.62667	*
NA22	5.70333	5.57000	6.61667	*
ND16	4.80000	4.71000	5.63000	*
NI19	4.26000	4.11333	4.96667	*
P4	5.66000	5.39000	6.29000	*
PB	7.18333	6.99333	8.10333	*
RE25	4.46333	4.33333	5.18000	*
RH12	8.17333	8.14000	9.30667	*
RU03	8.73333	8.68333	9.96000	*
SB	3.37667	3.16333	3.88000	*
SE	7.74000	7.70000	8.60000	*
SI7	5.15333	5.01667	5.95000	*
R17	5.57667	5.48333	6.43333	*
E01	3.94000	3.74667	4.57000	*
TH	6.84000	6.80000	7.99333	*
TI11	3.30000	3.10667	3.83333	*
TL	4.27000	4.02000	5.17333	*
U	33.1500	34.1233	37.8467	*
V	9.13000	9.01000	10.4467	*

E03-087

```
ZN9      3.84000 3.65333 4.43000   *
ZR24     6.52667 6.45333 7.49333   *
 ******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y

Sample name     : CH04

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH04
Programme       : ALLELE          29-Oct-90  11:16:32
[1] Direct Intensities
AG 128.700 U  148.000
[1] Direct Intensities
AG 127.300 U  147.000
[1] Direct Intensities
AG 125.200 U  145.000

NAME       MV INT       RSD      BCOR

AG         127.07      1.39  0.00000
U          146.67      1.04  0.00000


Store [N/Y] ?

Channel  Old      New      Nominal Drift
AG       121.267 127.067 121.967   *
U        142.067 146.667 142.767   *
No significant drift for any element

Sample name     : CH03

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH03
Programme       : ALLELE          29-Oct-90  11:19:45
[1] Direct Intensities
AL 43.2800 B0 64.4600 CA 2723.00 CD 340.400 CR 132.600 DY 223.200 K1 111.900
LA 167.600 LI 314.500 MN 968.400 NA 185.800 ND 24.5900 P4 15.3900 RE 106.300
RU 88.7100 SE 28.5500 SI 32.9900 TH 23.6400 TL 5.58000
[1] Direct Intensities
AL 43.2500 B0 64.6800 CA 2714.00 CD 339.600 CR 132.300 DY 222.800 K1 111.700
LA 167.100 LI 313.000 MN 965.700 NA 184.800 ND 24.5800 P4 15.4800 RE 105.600
RU 88.2600 SE 28.4300 SI 32.9400 TH 23.6000 TL 5.70000
[1] Direct Intensities
AL 43.3500 B0 65.0900 CA 2727.00 CD 339.700 CR 132.700 DY 223.600 K1 111.700
LA 167.800 LI 314.600 MN 968.000 NA 185.600 ND 24.7100 P4 15.3000 RE 106.000
RU 88.5400 SE 27.9900 SI 33.0700 TH 23.6700 TL 5.73000

NAME       MV INT       RSD      BCOR

AL          43.29      0.12  0.00000
B0          64.74      0.49  0.00000
CA        2721.33      0.24  0.00000
CD         339.90      0.13  0.00000
CR         132.53      0.16  0.00000
DY         223.20      0.18  0.00000
K1         111.77      0.10  0.00000
LA         167.50      0.22  0.00000
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LI        314.03     0.29  0.00000
MN        967.37     0.15  0.00000
 IA       185.40     0.29  0.00000
ND         24.63     0.29  0.00000
P4         15.39     0.58  0.00000
RE        105.97     0.33  0.00000
RU         88.50     0.26  0.00000
SE         28.32     1.04  0.00000
SI         33.00     0.20  0.00000
TH         23.64     0.15  0.00000
TL          5.67     1.40  0.00000


Store [N/Y] ? Y

Channel  Old      New      Nominal Drift
AL8     43.3533 43.2933 42.0700   *
B04     64.2467 64.7433 62.2167   *
CA15    2742.33 2721.33 2528.67   *
CD      334.733 339.900 324.967   *
CR21    130.600 132.533 127.533   *
DY26    224.833 223.200 207.700   *
K14     110.700 111.767 107.833   *
LA13    167.633 167.500 157.333   *
LI10    315.800 314.033 291.867   *
MN20    953.400 967.367 919.667   *
NA22    186.100 185.400 172.433   *
ND16    24.9167 24.6267 23.9433   *
 4      14.6800 15.3900 18.0067   *
RE25    105.467 105.967 100.847   *
RU03    87.2833 88.5033 85.9000   *
SE      28.1200 28.3233 28.1333
SI7     32.6367 33.0000 32.5300   *
TH      23.7700 23.6367 23.5967
TL      5.75667 5.67000 6.63333   *
[******] Excessive drift - check correct standard used
Update standard file [Y/N] ? Y

Sample name    : CH02

Press <CR> when ready to start measurement
24;132H6n
Sample name    : CH02
Programme      : ALLELE          29-Oct-90  11:23:38
[1] Direct Intensities
AS 72.5800 BA 562.000 BE 397.900 CE 36.6000 CO 76.5800 CU 429.200 FE 224.500
MG 1905.00 MO 176.400 NI 70.3300 PB 44.7500 RH 35.7200 SB 18.1900 SR 1772.00
TE 26.3000 TI 95.3700 V  377.800 ZN 462.300 ZR 243.500
[1] Direct Intensities
AS 71.7700 BA 562.900 BE 398.900 CE 36.6800 CO 76.7200 CU 429.800 FE 225.000
MG 1909.00 MO 177.500 NI 70.4900 PB 44.8100 RH 35.7800 SB 18.3200 SR 1774.00
TE 26.4200 TI 95.5600 V  378.800 ZN 463.500 ZR 244.000
[1] Direct Intensities
AS 71.5300 BA 562.000 BE 397.200 CE 36.5800 CO 76.5100 CU 428.900 FE 224.000
MG 1903.00 MO 176.600 NI 70.2400 PB 44.7100 RH 35.6800 SB 18.2200 SR 1768.00
TE 26.2500 TI 95.3200 V  377.700 ZN 461.000 ZR 243.200

NAME       MV INT      RSD     BCOR

AS          71.96     0.76  0.00000
```

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BA	562.30	0.09	0.00000
BE	398.00	0.21	0.00000
E	36.62	0.14	0.00000
O	76.60	0.14	0.00000
CU	429.30	0.11	0.00000
FE	224.50	0.22	0.00000
MG	1905.67	0.16	0.00000
MO	176.83	0.33	0.00000
NI	70.35	0.18	0.00000
PB	44.76	0.11	0.00000
RH	35.73	0.14	0.00000
SB	18.24	0.37	0.00000
SR	1771.33	0.17	0.00000
TE	26.32	0.33	0.00000
TI	95.42	0.13	0.00000
V	378.10	0.16	0.00000
ZN	462.27	0.27	0.00000
ZR	243.57	0.17	0.00000

Store [N/Y] ? Y

Channel	Old	New	Nominal	Drift
AS	69.2767	71.9600	69.3000	*
BA02	557.867	562.300	521.533	*
BE	393.267	398.000	371.600	*
CE18	36.2267	36.6200	36.5333	
CO	74.4100	76.6033	78.5267	*
U	421.300	429.300	396.833	*
E05	219.800	224.500	212.567	*
MG6	1857.00	1905.67	1814.00	*
MO23	172.433	176.833	168.133	*
NI19	68.7167	70.3533	67.7067	*
PB	43.7500	44.7567	43.6333	*
RH12	35.2700	35.7267	34.9167	*
SB	17.8567	18.2433	18.1633	
SR17	1756.33	1771.33	1631.67	*
TE01	26.0167	26.3233	25.6533	*
TI11	93.9300	95.4167	90.4867	*
V	369.967	378.100	357.833	*
ZN9	447.733	462.267	441.633	*
ZR24	240.267	243.567	227.533	*

[******] Excessive drift - check correct standard used

Update standard file [Y/N] ? Y

>

SAMP ALLELE
20Result file (<CR> for no storage) 8ST1
ample name = CH3
Sample number = 2070
Sample code 1 =
Sample code 2 =
Sample code 3 =

Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : CH3
Sample number : 2070
Programme : ALLELE 29-Oct-90 11:28:24
[1] Direct Intensities
Ag 5.27000 Al 43.5400 As 24.9300 B 64.6200 Ba 5.62000 Be 5.98000 Ca 2747.00
Cd 340.700 Ce 13.1400 Co 39.2000 Cr 132.800 Cu 13.0800 Dy 225.200 Fe 6.27000
K 111.900 La 168.600 Li 316.200 Mg 2.96000 Mn 970.800 Mo 4.61000 Na 186.500
Nd 24.7800 Ni 4.75000 P 15.2600 Pb 8.35000 Re 106.300 Rh 9.33000 Ru 88.6900
Sb 3.32000 Se 28.3500 Si 33.0800 Sr 16.7800 Te 4.77000 Th 23.7900 Ti 3.48000
Tl 5.59000 U 35.6100 V 10.5500 Zn 4.20000 Zr 28.1600
[1] Direct Intensities
Ag 5.28000 Al 43.2100 As 25.2200 B 64.7000 Ba 5.64000 Be 6.00000 Ca 2718.00
Cd 338.400 Ce 13.1800 Co 39.3800 Cr 132.200 Cu 13.0800 Dy 223.000 Fe 6.27000
K 110.900 La 167.200 Li 312.800 Mg 2.99000 Mn 964.200 Mo 4.65000 Na 184.800
Nd 24.5800 Ni 4.74000 P 15.0000 Pb 8.32000 Re 105.700 Rh 9.39000 Ru 88.2500
Sb 3.30000 Se 28.1600 Si 32.9400 Sr 16.6500 Te 4.70000 Th 23.6000 Ti 3.53000
Tl 5.78000 U 35.7900 V 10.5800 Zn 4.19000 Zr 27.9400
[1] Direct Intensities
Ag 5.30000 Al 43.2500 As 25.1600 B 65.0900 Ba 5.64000 Be 5.98000 Ca 2725.00
Cd 338.800 Ce 13.1700 Co 39.3500 Cr 132.200 Cu 13.0600 Dy 223.300 Fe 6.25000
K 111.200 La 167.400 Li 313.300 Mg 2.94000 Mn 964.700 Mo 4.50000 Na 185.200
Nd 24.6500 Ni 4.70000 P 15.1200 Pb 8.22000 Re 105.600 Rh 9.38000 Ru 88.1700
Sb 3.28000 Se 28.0000 Si 32.9300 Sr 16.6700 Te 4.69000 Th 23.6400 Ti 3.53000
Tl 5.69000 U 35.7100 V 10.5900 Zn 4.19000 Zr 27.9800

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.18	0.0444	2.81	0.00000	0.00000
Al	42.11	10.011	0.51	0.00000	0.00000
As	25.64	2.0149	1.29	0.00000	0.00000
B	62.27	5.0050	0.41	0.00000	0.00000
Ba	6.58	0.0035	5.97	0.00000	0.00000
Be	6.82	0.0013	2.22	0.00000	0.00000
Ca	2536.72	10.032	0.55	0.00000	0.00000
Cd	324.40	9.9820	0.37	0.00000	0.00000
Ce	14.84	0.3165	2.72	0.00000	0.00000
Co	43.37	0.2518	10.01	0.00000	0.00000
Cr	127.41	9.9895	0.27	0.00000	0.00000
Cu	14.39	0.0558	0.49	0.00000	0.00000
Dy	208.28	10.029	0.55	0.00000	0.00000
Fe	7.09	0.0342	1.54	0.00000	0.00000
[illegible]	107.43	49.746	0.60	0.00000	0.00000
La	157.55	10.015	0.47	0.00000	0.00000
Li	291.93	20.004	0.59	0.00000	0.00000
Mg	3.65	0.0029	4.49	0.00000	0.00000
Mn	918.91	9.9917	0.38	0.00000	0.00000
Mo	5.32	0.0424	10.59	0.00000	0.00000
Na	172.53	100.06	0.47	0.00000	0.00000

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Nd	23.98	10.022	0.51	0.00000	0.00000
Ni	5.55	0.0931	4.29	0.00000	0.00000
[illegible]	17.70	9.7367	1.34	0.00000	0.00000
Pb	9.33	0.3451	5.22	0.00000	0.00000
Re	100.75	9.9902	0.37	0.00000	0.00000
Rh	10.45	0.4447	2.62	0.00000	0.00000
Ru	85.77	9.9833	0.35	0.00000	0.00000
Sb	4.01	0.0906	14.63	0.00000	0.00000
Se	27.99	9.9256	0.86	0.00000	0.00000
Si	32.51	9.9940	0.30	0.00000	0.00000
Sr	16.76	0.0635	0.62	0.00000	0.00000
Te	5.48	0.4311	4.48	0.00000	0.00000
Th	23.63	10.024	0.59	0.00000	0.00000
Ti	4.22	0.0441	7.10	0.00000	0.00000
Tl	6.65	10.101	5.70	0.00000	0.00000
U	39.32	1.4039	5.71	0.00000	0.00000
V	11.92	0.0424	1.33	0.00000	0.00000
Zn	4.94	0.0118	1.07	0.00000	0.00000
Zr	27.51	0.9098	0.54	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2071
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CL1
Sample number   : 2071
Programme       : ALLELE          29-Oct-90  11:35:02
[1] Direct Intensities
Ag 4.76000 Al 8.19000 As 13.5300 B  4.62000 Ba 5.48000 Be 5.49000 Ca 3.16000
Cd 7.30000 Ce 12.5100 Co 38.5300 Cr 5.01000 Cu 10.8000 Dy 6.60000 Fe 5.56000
K  26.5800 La 7.49000 Li 4.76000 Mg 2.44000 Mn 5.00000 Mo 3.95000 Na 5.60000
Nd 4.73000 Ni 4.11000 P  5.48000 Pb 6.96000 Re 4.36000 Rh 8.15000 Ru 8.72000
Sb 3.11000 Se 7.77000 Si 5.10000 Sr 5.53000 Te 3.78000 Th 6.81000 Ti 3.12000
Tl 4.07000 U  34.3400 V  9.10000 Zn 3.70000 Zr 6.47000
[1] Direct Intensities
Ag 4.75000 Al 8.17000 As 13.5000 B  4.60000 Ba 5.49000 Be 5.50000 Ca 3.19000
Cd 7.36000 Ce 12.4500 Co 38.4800 Cr 5.01000 Cu 10.8100 Dy 6.59000 Fe 5.54000
K  26.4500 La 7.48000 Li 4.79000 Mg 2.45000 Mn 4.99000 Mo 3.90000 Na 5.57000
Nd 4.74000 Ni 4.12000 P  5.50000 Pb 7.09000 Re 4.30000 Rh 8.18000 Ru 8.69000
Sb 3.16000 Se 7.66000 Si 5.02000 Sr 5.50000 Te 3.78000 Th 6.81000 Ti 3.13000
Tl 4.07000 U  34.2500 V  9.12000 Zn 3.74000 Zr 6.48000
[1] Direct Intensities
Ag 4.75000 Al 8.15000 As 13.1800 B  4.55000 Ba 5.49000 Be 5.48000 Ca 3.17000
Cd 7.39000 Ce 12.4800 Co 38.6400 Cr 5.06000 Cu 10.8000 Dy 6.59000 Fe 5.55000
K  26.5500 La 7.48000 Li 4.77000 Mg 2.40000 Mn 4.99000 Mo 3.80000 Na 5.56000
Nd 4.71000 Ni 4.11000 P  5.41000 Pb 7.00000 Re 4.35000 Rh 8.15000 Ru 8.68000
Sb 3.18000 Se 7.66000 Si 5.00000 Sr 5.47000 Te 3.74000 Th 6.82000 Ti 3.12000
Tl 4.07000 U  34.3900 V  9.10000 Zn 3.75000 Zr 6.49000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.68	0.0011	43.31	0.00000	0.00000
Al	9.03	0.0180	31.58	0.00000	0.00000

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As	14.74	0.0210	157.29	0.00000	0.00000
B	5.44	0.0363	8.19	0.00000	0.00000
Ba	6.44	0.0000	12.37	0.00000	0.00000
Be	6.36	0.0001	42.86	0.00000	0.00000
Ca	3.76	0.0002	35.25	0.00000	0.00000
Cd	8.39	0.0001	1374.06	0.00000	0.00000
Ce	14.21	0.0344	36.00	0.00000	0.00000
Co	47.36	0.0531	49.24	0.00000	0.00000
Cr	5.89	0.0018	123.72	0.00000	0.00000
Cu	12.31	0.0016	9.66	0.00000	0.00000
Dy	7.65	0.0012	21.65	0.00000	0.00000
Fe	6.49	0.0017	27.27	0.00000	0.00000
K	29.10	0.0254	157.0[illegible]	0.00000	0.00000
La	8.65	0.0023	15.74	0.00000	0.00000
Li	5.60	0.0004	299.16	0.00000	0.00000
Mg	3.14	0.0091	9[illegible].21	0.00000	0.00000
Mn	5.39	0.0000		0.00000	0.00000
Mo	4.46	0.0017	254.39	0.00000	0.00000
Na	6.62	0.0037	312.24	0.00000	0.00000
Nd	5.65	0.0084	31.44	0.00000	0.00000
Ni	4.97	0.0000	1462300	0.00000	0.00000
P	5.38	0.0733	64.14	0.00000	0.00000
Pb	8.13	0.0062	25.32	0.00000	0.00000
Re	5.18	0.0003	964.27	0.00000	0.00000
Rh	9.33	0.0072	86.61	0.00000	0.00000
Ru	9.57	0.0017	154.15	0.00000	0.00000
Sb	3.87	-0.009	-270.39	0.00000	0.00000
Se	8.60	-0.002	-1[illegible]05.6	0.00000	0.00000
Si	5.97	0.0083	226.17	0.00000	0.00000
Sr	4.15	0.0001	189.01	0.00000	0.00000
Te	4.59	0.0089	115.44	0.00000	0.00000
Th	8.01	0.0079	43.31	0.00000	0.00000
Ti	3.85	0.0018	34.64	0.00000	0.00000
Tl	5.22	0.3030	0.00	0.00000	0.00000
U	38.04	0.1807	34.89	0.00000	0.00000
V	10.54	0.0026	11.94	0.00000	0.00000
Zn	4.50	0.0017	34.51	0.00000	0.00000
Zr	7.52	0.0011	37.59	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904180
Sample number = 2072
Sample code 1 = A5
Sample code 2 = BLK
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24:132H5n
Sample name : 904180
Sample number : 2072
Sample code 1 : A5
Sample code 2 : BLK
Sample code 3 : DIRECT
Programme : ALLELE 29 Oct-90 11:39:21
[1] Direct Intensities
Ag 4.76000 Al 8.42000 As 13.2700 B 7.34000 Ba 5.[illegible]000 Be 5.4[illegible]000 Ca 343.000
Cd 7.00000 Ce 12.4100 Co 39.3[illegible] Cr 5.15000 Cu 11.0000 D[illegible] Fe 2.26000
P 24.4900 [illegible] Li 1.03000 Mg 7.0100 Mn 5.[illegible] Mo 3.[illegible] Na 6.91[illegible]

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Nd 4.71000 Ni 4.16000 P 5.67000 Pb 7.26000 Re 4.40000 Rh 8.16000 Ru 8.69000
Sb 3.18000 Se 7.70000 Si 5.40000 Sr 6.21000 Te 3.80000 Th 6.80000 Ti 3.19000
1 3.98000 U 34.1800 V 9.12000 Zn 4.39000 Zr 6.54000
1] Direct Intensities
Ag 4.76000 Al 8.45000 As 13.5700 B 7.57000 Ba 5.91000 Be 5.49000 Ca 349.400
Cd 7.81000 Ce 12.4900 Co 38.4500 Cr 5.15000 Cu 11.1000 Dy 6.59000 Fe 8.95000
K 26.7600 La 7.48000 Li 4.80000 Mg 32.9900 Mn 5.28000 Mo 3.98000 Na 6.80000
Nd 4.73000 Ni 4.15000 P 5.57000 Pb 7.23000 Re 4.36000 Rh 8.16000 Ru 8.74000
Sb 3.19000 Se 7.68000 Si 5.38000 Sr 6.18000 Te 3.80000 Th 6.81000 Ti 3.16000
Tl 4.06000 U 34.2600 V 9.08000 Zn 4.49000 Zr 6.56000
[1] Direct Intensities
Ag 4.77000 Al 8.41000 As 13.3200 B 7.58000 Ba 5.94000 Be 5.54000 Ca 350.200
Cd 8.00000 Ce 12.4400 Co 38.4000 Cr 5.17000 Cu 11.1000 Dy 6.58000 Fe 8.98000
K 26.7900 La 7.47000 Li 4.81000 Mg 33.1000 Mn 5.34000 Mo 3.99000 Na 6.81000
Nd 4.74000 Ni 4.16000 P 5.69000 Pb 7.19000 Re 4.36000 Rh 8.18000 Ru 8.75000
Sb 3.20000 Se 7.80000 Si 5.40000 Sr 6.20000 Te 3.80000 Th 6.81000 Ti 3.19000
Tl 4.13000 U 34.2100 V 9.14000 Zn 4.39000 Zr 6.53000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.69	0.0019	24.75	0.00000	0.00000
Al	9.27	0.0909	6.51	0.00000	0.00000
As	14.73	0.0182	150.68	0.00000	0.00000
B	8.25	0.2817	0.61	0.00000	0.00000
Ba	6.85	0.0087	3.16	0.00000	0.00000
Be	6.37	0.0001	72.17	0.00000	0.00000
Ca	325.18	1.2732	0.32	0.00000	0.00000
Cd	8.88	0.0157	21.53	0.00000	0.00000
e	14.18	0.0206	80.83	0.00000	0.00000
o	42.51	0.0131	110.17	0.00000	0.00000
Cr	6.01	0.0120	7.53	0.00000	0.00000
Cu	12.55	0.0079	17.50	0.00000	0.00000
Dy	7.64	0.0006	74.99	0.00000	0.00000
Fe	9.63	0.1575	0.44	0.00000	0.00000
K	29.30	0.1544	19.49	0.00000	0.00000
La	8.64	0.0015	42.86	0.00000	0.00000
Li	5.62	0.0024	15.75	0.00000	0.00000
Mg	32.19	0.1606	0.48	0.00000	0.00000
Mn	6.10	0.0033	9.47	0.00000	0.00000
Mo	4.73	0.0066	28.36	0.00000	0.00000
Na	7.76	0.6877	0.47	0.00000	0.00000
Nd	5.65	0.0084	91.66	0.00000	0.00000
Ni	5.01	0.0065	13.32	0.00000	0.00000
P	6.59	0.2533	25.38	0.00000	0.00000
Pb	8.32	0.0618	15.05	0.00000	0.00000
Re	5.22	0.0039	57.74	0.00000	0.00000
Rh	9.33	0.0097	43.30	0.00000	0.00000
Ru	10.00	0.0054	74.19	0.00000	0.00000
Sb	3.91	0.0177	37.50	0.00000	0.00000
Se	8.63	0.0129	241.08	0.00000	0.00000
Si	6.31	0.1346	3.07	0.00000	0.00000
Sr	7.09	0.0040	2.14	0.00000	0.00000
Te	4.62	0.0236	0.00	0.00000	0.00000
Th	8.00	0.0040	86.61	0.00000	0.00000
i	3.90	0.0079	23.62	0.00000	0.00000
Tl	5.21	0.2222	204.72	0.00000	0.00000
U	37.93	0.0829	43.30	0.00000	0.00000
V	19.54	0.0020	29.54	0.00000	0.00000
Zn	5.16	0.0169	[illegible]	0.00000	0.00000
Zr	[illegible]	[illegible]	[illegible]	0.00000	[illegible]

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```
!ore samples [Y/N] ?
!ample name     = 904180
Sample number   = 2073
Sample code 1   = A4
Sample code 2   = SPIKE
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2073
Sample code 1   : A4
Sample code 2   : SPIKE
Sample code 3   : DIRECT
Programme       : ALLELE          29-Oct-90  11:43:30
[1] Direct Intensities
Ag 4.80000 Al 8.56000 As 23.8000 B  7.63000 Ba 116.200 Be 24.3900 Ca 284.900
Cd 9.57000 Ce 12.5900 Co 40.6200 Cr 5.19000 Cu 21.5100 Dy 6.66000 Fe 8.54000
K  26.9100 La 7.57000 Li 4.87000 Mg 30.8900 Mn 53.1000 Mo 3.99000 Na 7.78000
Nd 4.75000 Ni 7.46000 P  5.66000 Pb 9.01000 Re 4.36000 Rh 8.21000 Ru 8.71000
Sb 3.47000 Se 10.4400 Si 5.75000 Sr 6.34000 Te 3.80000 Th 6.92000 Ti 3.20000
Tl 4.33000 U  34.5600 V  27.4800 Zn 26.5600 Zr 6.58000
[1] Direct Intensities
Ag 4.80000 Al 8.55000 As 24.5800 B  7.73000 Ba 117.600 Be 24.6800 Ca 288.800
Cd 9.67000 Ce 12.5800 Co 40.6500 Cr 5.21000 Cu 21.6300 Dy 6.66000 Fe 8.56000
 : 26.8100 La 7.52000 Li 4.88000 Mg 31.2600 Mn 53.7800 Mo 3.98000 Na 7.80000
Nd 4.75000 Ni 7.49000 P  5.59000 Pb 9.01000 Re 4.42000 Rh 8.20000 Ru 8.76000
Sb 3.49000 Se 10.5300 Si 5.76000 Sr 6.34000 Te 3.81000 Th 6.93000 Ti 3.19000
Tl 4.33000 U  34.5400 V  27.7200 Zn 26.9200 Zr 6.58000
[1] Direct Intensities
Ag 4.76000 Al 8.54000 As 24.1800 B  7.70000 Ba 116.900 Be 24.5500 Ca 287.000
Cd 9.46000 Ce 12.5500 Co 40.6200 Cr 5.18000 Cu 21.5700 Dy 6.63000 Fe 8.55000
K  27.0000 La 7.51000 Li 4.80000 Mg 31.0900 Mn 53.3600 Mo 3.95000 Na 7.76000
Nd 4.73000 Ni 7.46000 P  5.78000 Pb 8.91000 Re 4.35000 Rh 8.23000 Ru 8.80000
Sb 3.52000 Se 10.3600 Si 5.77000 Sr 6.29000 Te 3.78000 Th 6.91000 Ti 3.19000
Tl 4.35000 U  34.5500 V  27.5800 Zn 26.5000 Zr 6.59000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.71	0.0038	49.49	0.00000	0.00000
Al	9.39	0.1260	2.26	0.00000	0.00000
As	24.79	1.8587	3.58	0.00000	0.00000
B	8.36	0.2918	1.45	0.00000	0.00000
Ba	109.51	2.0016	0.63	0.00000	0.00000
Be	24.08	0.0486	0.76	0.00000	0.00000
Ca	267.31	1.0440	0.69	0.00000	0.00000
Cd	10.50	0.0668	4.73	0.00000	0.00000
Ce	14.29	0.0729	11.78	0.00000	0.00000
Co	44.62	0.5968	0.76	0.00000	0.00000
Cr	6.05	0.0149	8.04	0.00000	0.00000
Cu	22.20	0.2588	0.55	0.00000	0.00000
Dy	7.70	0.0038	20.78	0.00000	0.00000
Fe	9.24	0.1387	0.33	0.00000	0.00000
K	29.45	0.2482	22.45	0.00000	0.00000
La	8.70	0.0054	37.09	0.00000	0.00000
Li	5.67	0.0054	52.31	0.00000	0.00000
Mg	30.40	0.1507	0.65	0.00000	0.00000

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Mn	51.78	0.5031	0.71	0.00000	0.00000
Mo	4.74	0.0069	17.35	0.00000	0.00000
Na	8.65	1.2289	0.90	0.00000	0.00000
Nd	5.66	0.0167	34.64	0.00000	0.00000
Ni	8.15	0.5067	0.52	0.00000	0.00000
P	6.63	0.2867	33.52	0.00000	0.00000
Pb	9.97	0.5252	2.91	0.00000	0.00000
Re	5.22	0.0043	87.37	0.00000	0.00000
Rh	9.37	0.0266	20.83	0.00000	0.00000
Ru	10.03	0.0092	61.49	0.00000	0.00000
Sb	4.19	0.2188	7.63	0.00000	0.00000
Se	11.20	1.3302	3.10	0.00000	0.00000
Si	6.66	0.2656	1.35	0.00000	0.00000
Sr	7.21	0.0048	3.44	0.00000	0.00000
Te	4.62	0.0221	30.55	0.00000	0.00000
Th	8.10	0.0713	8.33	0.00000	0.00000
Ti	3.91	0.0094	6.66	0.00000	0.00000
Tl	5.45	1.9192	3.65	0.00000	0.00000
U	38.24	0.3791	2.34	0.00000	0.00000
V	27.94	0.5035	0.65	0.00000	0.00000
Zn	26.36	0.5017	0.99	0.00000	0.00000
Zr	7.61	0.0055	4.44	0.00000	0.00000

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More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2074
Sample code 1   = A3
Sample code 2   = 1P4154
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2074
Sample code 1   : A3
Sample code 2   : 1P4154
Sample code 3   : DIRECT
Programme       : ALLELE          29-Oct-90  11:47:47
[1] Direct Intensities
Ag 5.56000 Al 37.9400 As 28.4600 B  9.00000 Ba 119.300 Be 24.2400 Ca 1011.80
Cd 10.3700 Ce 12.7900 Co 40.6900 Cr 64.4300 Cu 38.4800 Dy 6.63000 Fe 2283.00
K  29.5500 La 8.08000 Li 4.80000 Mg 165.700 Mn 81.3900 Mo 4.61000 Na 968.100
Nd 4.80000 Ni 8.00000 P  99.6900 Pb 14.6000 Re 4.79000 Rh 8.18000 Ru 16.9400
Sb 3.57000 Se 12.8800 Si 33.8900 Sr 273.900 Te 4.06000 Th 6.98000 Ti 3.32000
Tl 4.28000 U  40.0000 V  28.0000 Zn 46.1600 Zr 7.17000
[1] Direct Intensities
Ag 5.55000 Al 37.9200 As 28.3400 B  9.00000 Ba 119.100 Be 24.3400 Ca 1011.40
Cd 10.3000 Ce 12.7900 Co 40.9200 Cr 64.4000 Cu 38.3900 Dy 6.63000 Fe 2288.00
K  29.5800 La 8.07000 Li 4.80000 Mg 166.000 Mn 81.3000 Mo 4.63000 Na 967.400
Nd 4.74000 Ni 7.98000 P  97.9100 Pb 14.5000 Re 4.77000 Rh 8.20000 Ru 16.9200
Sb 3.58000 Se 12.7800 Si 33.9100 Sr 273.600 Te 4.05000 Th 6.98000 Ti 3.34000
Tl 4.35000 U  40.1900 V  27.9600 Zn 46.3400 Zr 7.16000
[1] Direct Intensities
Ag 5.53000 Al 37.9400 As 28.7900 B  9.08000 Ba 119.200 Be 24.3000 Ca 1011.80
Cd 10.4800 Ce 12.7900 Co 40.7800 Cr 64.4400 Cu 38.5300 Dy 6.60000 Fe 2286.00
K  29.6200 La 8.07000 Li 4.80000 Mg 165.700 Mn 81.3800 Mo 4.61000 Na 970.200
Nd 4.77000 Ni 8.00000 P  95.3100 Pb 14.7500 Re 4.78000 Rh 8.21000 Ru 16.8100
Sb 3.53000 Se 12.8100 Si 33.9000 Sr 273.800 Te 4.01000 Th 6.98000 Ti 3.32000
```

E03-096

Tl 4.40000 U 40.1200 V 28.0000 Zn 46.4400 Zr 7.15000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.43	0.0659	1.89	0.00000	0.00000
Al	37.03	8.4767	0.04	0.00000	0.00000
As	28.84	2.5988	1.53	0.00000	0.00000
B	9.63	0.4024	0.95	0.00000	0.00000
Ba	111.64	2.0429	0.09	0.00000	0.00000
Be	23.85	0.0480	0.27	0.00000	0.00000
Ca	940.55	3.7103	0.02	0.00000	0.00000
Cd	11.28	0.0913	2.99	0.00000	0.00000
Ce	14.49	0.1624	0.00	0.00000	0.00000
Co	44.78	0.6404	4.73	0.00000	0.00000
Cr	62.55	4.6593	0.04	0.00000	0.00000
Cu	37.73	0.6625	0.26	0.00000	0.00000
Dy	7.68	0.0025	32.48	0.00000	0.00000
Fe	2153.22	)104.12	0.11	0.00000	0.00000
K	31.92	1.8175	1.13	0.00000	0.00000
La	9.20	0.0392	0.92	0.00000	0.00000
Li	5.62	0.0022	0.00	0.00000	0.00000
Mg	158.58	0.8585	0.11	0.00000	0.00000
Mn	78.31	0.7935	0.06	0.00000	0.00000
Mo	5.35	0.0441	1.51	0.00000	0.00000
Na	894.57	)535.50	0.15	0.00000	0.00000
Nd	5.69	0.0301	50.00	0.00000	0.00000
Ni	8.64	0.5857	0.30	0.00000	0.00000
P	114.37	)92.247	2.39	0.00000	0.00000
Pb	15.28	2.0187	1.65	0.00000	0.00000
Re	5.60	0.0439	2.24	0.00000	0.00000
Rh	9.36	0.0205	26.96	0.00000	0.00000
Ru	17.77	1.0281	0.85	0.00000	0.00000
Sb	4.26	0.2630	6.67	0.00000	0.00000
Se	13.45	2.4842	1.00	0.00000	0.00000
Si	33.38	10.322	0.03	0.00000	0.00000
Sr	253.35	1.5193	0.06	0.00000	0.00000
Te	4.84	0.1299	9.02	0.00000	0.00000
Th	8.16	0.1069	0.00	0.00000	0.00000
Ti	4.04	0.0238	5.25	0.00000	0.00000
Tl	5.46	1.9596	18.64	0.00000	0.00000
U	43.42	5.3135	1.61	0.00000	0.00000
V	28.31	0.5141	0.12	0.00000	0.00000
Zn	45.10	0.9302	0.33	0.00000	0.00000
Zr	8.15	0.0298	1.42	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904180
Sample number = 2075
Sample code 1 = A2
Sample code 2 = 1P1244
Sample code 3 = DIRECT
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 904180
Sample number : 2075
Sample code 1 : A2
Sample code 2 : 1P1244

E03-097

Sample code 3 : DIRECT
Programme : ALLELE 29-Oct-90 11:52:19

[1] Direct Intensities

Ag	5.38000	Al	31.2600	As	16.9000	B	6.80000	Ba	9.75000	Be	5.46000	Ca	890.300
Cd	8.42000	Ce	12.5900	Co	38.6600	Cr	51.3900	Cu	24.5700	Dy	6.56000	Fe	1786.00
K	28.8900	La	7.81000	Li	4.78000	Mg	147.000	Mn	28.0800	Mo	4.40000	Na	759.500
Nd	4.68000	Ni	4.68000	P	74.3600	Pb	11.7900	Re	4.60000	Rh	8.11000	Ru	15.0500
Sb	3.19000	Se	9.58000	Si	11.0000	Sr	215.700	Te	3.90000	Th	6.90000	Ti	3.35000
Tl	3.99000	U	38.6800	V	9.70000	Zn	21.1800	Zr	6.95000				

[1] Direct Intensities

Ag	5.40000	Al	31.3000	As	16.2800	B	6.81000	Ba	9.75000	Be	5.47000	Ca	892.200
Cd	8.40000	Ce	12.6500	Co	38.7300	Cr	51.4000	Cu	24.6200	Dy	6.55000	Fe	1787.00
K	28.8000	La	7.81000	Li	4.78000	Mg	147.100	Mn	28.0800	Mo	4.42000	Na	762.100
Nd	4.72000	Ni	4.65000	P	73.6500	Pb	11.8100	Re	4.66000	Rh	8.12000	Ru	15.0900
Sb	3.13000	Se	9.66000	Si	11.0200	Sr	216.000	Te	3.94000	Th	6.90000	Ti	3.35000
Tl	4.15000	U	38.7400	V	9.69000	Zn	21.1900	Zr	6.98000				

[1] Direct Intensities

Ag	5.39000	Al	31.3000	As	17.1400	B	6.80000	Ba	9.79000	Be	5.47000	Ca	891.800
Cd	8.41000	Ce	12.7000	Co	38.8000	Cr	51.5600	Cu	24.6400	Dy	6.60000	Fe	1791.00
K	29.0700	La	7.90000	Li	4.77000	Mg	147.600	Mn	28.1600	Mo	4.54000	Na	760.000
Nd	4.75000	Ni	4.68000	P	73.8900	Pb	11.8100	Re	4.61000	Rh	8.20000	Ru	15.0900
Sb	3.15000	Se	9.55000	Si	11.0600	Sr	216.000	Te	3.92000	Th	6.90000	Ti	3.35000
Tl	4.18000	U	38.8000	V	9.78000	Zn	21.2800	Zr	7.00000				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.28	0.0531	1.54	0.00000	0.00000
Al	30.78	6.5877	0.10	0.00000	0.00000
As	17.88	0.5953	12.70	0.00000	0.00000
B	7.53	0.2189	0.22	0.00000	0.00000
Ba	10.40	0.0776	0.53	0.00000	0.00000
Be	6.33	0.0000	789500	0.00000	0.00000
Ca	828.87	3.2680	0.11	0.00000	0.00000
Cd	9.40	0.0320	0.94	0.00000	0.00000
Ce	14.36	0.1032	22.03	0.00000	0.00000
Co	42.83	0.1002	18.26	0.00000	0.00000
Cr	50.18	3.6420	0.21	0.00000	0.00000
Cu	24.99	0.3315	0.26	0.00000	0.00000
Dy	7.63	0.0002	793.40	0.00000	0.00000
Fe	1684.65	)81.397	0.15	0.00000	0.00000
K	31.31	1.4286	5.64	0.00000	0.00000
La	8.98	0.0246	13.21	0.00000	0.00000
Li	5.60	0.0006	57.74	0.00000	0.00000
Mg	140.91	0.7610	0.22	0.00000	0.00000
Mn	27.75	0.2402	0.20	0.00000	0.00000
Mo	5.19	0.0347	12.62	0.00000	0.00000
Na	702.75	)419.82	0.18	0.00000	0.00000
Nd	5.64	0.0033	526.92	0.00000	0.00000
Ni	5.49	0.0840	3.11	0.00000	0.00000
P	86.64	)68.577	0.53	0.00000	0.00000
Pb	12.63	1.2737	0.24	0.00000	0.00000
Re	5.45	0.0285	11.09	0.00000	0.00000
Rh	9.31	0.0012	1480.15	0.00000	0.00000
Ru	16.04	0.8010	0.36	0.00000	0.00000
Sb	3.87	-0.004	-458.19	0.00000	0.00000
Se	10.40	0.9197	3.00	0.00000	0.00000
Si	11.66	2.1477	0.51	0.00000	0.00000
Sr	200.09	1.1916	0.08	0.00000	0.00000
Te	4.73	0.0768	11.54	0.00000	0.00000
Th	8.09	0.0594	0.00	0.00000	0.00000

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Ti	4.06	0.0264	0.00	0.00000	0.00000
Tl	5.25	0.5252	117.86	0.00000	0.00000
	42.15	4.1021	1.30	0.00000	0.00000
J	11.12	0.0193	6.92	0.00000	0.00000
Zn	21.17	0.3829	0.33	0.00000	0.00000
Zr	7.98	0.0221	4.81	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2076
Sample code 1   = A1
Sample code 2   = 1P2180
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2076
Sample code 1   : A1
Sample code 2   : 1P2190
Sample code 3   : DIRECT
Programme       : ALLELE          29-Oct-90  11:56:33
[1] Direct Intensities
Ag 5.47000 Al 33.3900 As 16.5200 B  6.95000 Ba 9.67000 Be 5.49000 Ca 943.500
Cd 8.63000 Ce 12.7500 Co 38.8000 Cr 56.1100 Cu 25.9500 Dy 6.58000 Fe 1984.00
K  28.9600 La 7.98000 Li 4.80000 Mg 147.700 Mn 30.2800 Mo 4.48000 Na 816.400
Nd 4.71000 Ni 4.72000 P  85.9000 Pb 12.1600 Re 4.70000 Rh 8.18000 Ru 15.7500
Sb 3.18000 Se 9.77000 Si 9.89000 Sr 234.900 Te 3.96000 Th 6.93000 Ti 3.30000
Tl 3.99000 U  39.3300 V  9.77000 Zn 21.1300 Zr 7.01000
[1] Direct Intensities
Ag 5.49000 Al 33.4900 As 16.8000 B  6.98000 Ba 9.69000 Be 5.48000 Ca 945.800
Cd 8.54000 Ce 12.7500 Co 38.9300 Cr 56.1900 Cu 25.9900 Dy 6.59000 Fe 1986.00
K  29.0000 La 7.98000 Li 4.80000 Mg 148.000 Mn 30.2400 Mo 4.49000 Na 821.000
Nd 4.74000 Ni 4.75000 P  86.3900 Pb 12.2800 Re 4.69000 Rh 8.18000 Ru 15.7900
Sb 3.21000 Se 9.80000 Si 9.96000 Sr 235.400 Te 3.97000 Th 6.93000 Ti 3.30000
Tl 4.15000 U  39.3100 V  9.81000 Zn 21.1900 Zr 7.03000
[1] Direct Intensities
Ag 5.52000 Al 33.4200 As 16.7900 B  6.99000 Ba 9.70000 Be 5.52000 Ca 944.700
Cd 8.66000 Ce 12.7200 Co 38.9500 Cr 56.0900 Cu 25.9400 Dy 6.63000 Fe 1983.00
K  29.1400 La 8.00000 Li 4.80000 Mg 147.800 Mn 30.2900 Mo 4.47000 Na 817.400
Nd 4.78000 Ni 4.76000 P  91.3800 Pb 12.3300 Re 4.71000 Rh 8.18000 Ru 15.9300
Sb 3.14000 Se 10.0800 Si 9.91000 Sr 235.200 Te 3.94000 Th 6.92000 Ti 3.29000
Tl 4.19000 U  39.3400 V  9.81000 Zn 21.2700 Zr 7.01000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.38	0.0616	3.34	0.00000	0.00000
Al	32.80	7.1978	0.20	0.00000	0.00000
As	17.82	0.5834	4.64	0.00000	0.00000
B	7.69	0.2330	0.74	0.00000	0.00000
Ba	10.33	0.0763	0.36	0.00000	0.00000
Be	6.36	0.0001	69.38	0.00000	0.00000
Ca	878.31	3.4638	0.12	0.00000	0.00000
Cd	9.59	0.0380	4.94	0.00000	0.00000
Ce	14.45	0.1417	5.04	0.00000	0.00000
Co	42.98	0.1429	14.90	0.00000	0.00000
Cr	54.64	4.0090	0.10	0.00000	0.00000
Cu	26.23	0.3637	0.17	0.00000	0.00000

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Dy	7.66	0.0015	79.37	0.00000	0.00000
Fe	1869.51	)90.363	0.08	0.00000	0.00000
[illegible]	31.41	1.4950	3.71	0.00000	0.00000
La	9.12	0.0337	2.14	0.00000	0.00000
Li	5.62	0.0022	0.00	0.00000	0.00000
Mg	141.48	0.7641	0.11	0.00000	0.00000
Mn	29.80	0.2626	0.10	0.00000	0.00000
Mo	5.22	0.0362	1.60	0.00000	0.00000
Na	755.98	)451.92	0.30	0.00000	0.00000
Nd	5.66	0.0167	105.36	0.00000	0.00000
Ni	5.56	0.0951	3.30	0.00000	0.00000
P	102.95	)82.500	3.68	0.00000	0.00000
Pb	13.06	1.3938	1.66	0.00000	0.00000
Re	5.53	0.0361	2.73	0.00000	0.00000
Rh	9.34	0.0145	0.00	0.00000	0.00000
Ru	16.75	0.8945	1.32	0.00000	0.00000
Sb	3.89	0.0088	263.40	0.00000	0.00000
Se	10.67	1.0587	7.83	0.00000	0.00000
Si	10.61	1.7522	0.74	0.00000	0.00000
Sr	217.83	1.3007	0.11	0.00000	0.00000
Te	4.77	0.0930	7.27	0.00000	0.00000
Th	8.11	0.0752	4.56	0.00000	0.00000
Ti	4.01	0.0206	3.04	0.00000	0.00000
Tl	5.25	0.5454	117.59	0.00000	0.00000
U	42.70	4.6234	0.29	0.00000	0.00000
V	11.19	0.0213	2.94	0.00000	0.00000
Zn	21.15	0.3825	0.40	0.00000	0.00000
Zr	8.02	0.0238	2.05	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CH2
Sample number   = 2077
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : CH2
Sample number   : 2077
Programme       : ALLELE          29-Oct-90  12:02:16
[1] Direct Intensities
Ag 5.90000 Al 9.55000 As 71.3900 B  4.65000 Ba 552.400 Be 394.400 Ca 11.7900
Cd 8.15000 Ce 36.2900 Co 76.4900 Cr 5.35000 Cu 420.000 Dy 7.01000 Fe 222.700
K  26.7800 La 8.61000 Li 4.77000 Mg 1885.00 Mn 5.37000 Mo 174.800 Na 23.3200
Nd 4.94000 Ni 69.7600 P  7.48000 Pb 44.5200 Re 4.57000 Rh 35.2300 Ru 9.77000
Sb 18.1000 Se 10.2400 Si 5.96000 Sr 1743.00 Te 26.1400 Th 8.48000 Ti 94.0900
Tl 4.31000 U  71.0800 V  373.600 Zn 456.500 Zr 240.100
[1] Direct Intensities
Ag 5.90000 Al 9.55000 As 71.0800 B  4.59000 Ba 553.700 Be 394.900 Ca 11.8000
Cd 8.10000 Ce 36.3700 Co 76.5900 Cr 5.34000 Cu 421.300 Dy 7.01000 Fe 222.700
K  26.5400 La 8.59000 Li 4.75000 Mg 1890.00 Mn 5.33000 Mo 176.000 Na 23.3400
Nd 4.97000 Ni 69.9400 P  7.72000 Pb 44.7200 Re 4.50000 Rh 35.3200 Ru 9.71000
Sb 18.1800 Se 10.2400 Si 5.97000 Sr 1746.00 Te 26.0700 Th 8.41000 Ti 94.2600
Tl 4.38000 U  71.0400 V  374.400 Zn 458.300 Zr 240.600
[1] Direct Intensities
Ag 5.90000 Al 9.54000 As 71.2500 B  4.64000 Ba 550.900 Be 394.000 Ca 11.7900
Cd 8.14000 Ce 36.2700 Co 76.4900 Cr 5.36000 Cu 419.100 Dy 7.07000 Fe 222.200
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E03-100

K 26.6700 La 8.62000 Li 4.79000 Mg 1885.00 Mn 5.34000 Mo 175.500 Na 23.2000
Nd 4.99000 Ni 69.8000 P 7.66000 Pb 44.1800 Re 4.58000 Rh 35.2000 Ru 9.71000
b 18.0000 Se 10.4100 Si 5.96000 Sr 1737.00 Te 26.0100 Th 8.45000 Ti 93.9800
l 4.49000 U 70.9900 V 373.200 Zn 456.700 Zr 240.000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.77	0.0948	0.00	0.00000	0.00000
Al	10.33	0.4092	0.40	0.00000	0.00000
As	68.63	9.8773	0.27	0.00000	0.00000
B	5.47	0.0393	6.74	0.00000	0.00000
Ba	512.31	9.8210	0.26	0.00000	0.00000
Be	368.28	0.9909	0.12	0.00000	0.00000
Ca	11.76	0.0319	0.07	0.00000	0.00000
Cd	9.13	0.0236	3.38	0.00000	0.00000
Ce	36.25	9.8720	0.22	0.00000	0.00000
Co	78.45	9.9791	0.15	0.00000	0.00000
Cr	6.20	0.0272	2.88	0.00000	0.00000
Cu	388.41	9.7810	0.27	0.00000	0.00000
Dy	8.05	0.0214	7.48	0.00000	0.00000
Fe	210.71	9.9102	0.13	0.00000	0.00000
K	29.22	0.1055	66.74	0.00000	0.00000
La	9.69	0.0725	1.32	0.00000	0.00000
Li	5.59	0.0002	600.26	0.00000	0.00000
Mg	1795.92	9.9002	0.15	0.00000	0.00000
Mn	6.14	0.0037	5.89	0.00000	0.00000
Mo	166.81	9.9191	0.35	0.00000	0.00000
Na	22.95	9.8519	0.43	0.00000	0.00000
Nd	5.87	0.1289	9.81	0.00000	0.00000
Ni	67.21	9.9215	0.14	0.00000	0.00000
P	8.90	2.2300	5.60	0.00000	0.00000
Pb	43.37	9.9250	0.73	0.00000	0.00000
Re	5.38	0.0213	20.12	0.00000	0.00000
Rh	34.47	9.8272	0.23	0.00000	0.00000
Ru	10.96	0.1311	3.31	0.00000	0.00000
Sb	18.02	9.9005	0.60	0.00000	0.00000
Se	11.06	1.2591	3.78	0.00000	0.00000
Si	6.85	0.3383	0.61	0.00000	0.00000
Sr	1604.67	9.8339	0.26	0.00000	0.00000
Te	25.42	9.8893	0.29	0.00000	0.00000
Th	9.52	0.9780	2.13	0.00000	0.00000
Ti	89.26	9.8584	0.16	0.00000	0.00000
Tl	5.50	2.2626	24.30	0.00000	0.00000
U	72.26	32.799	0.12	0.00000	0.00000
V	353.72	9.8817	0.17	0.00000	0.00000
Zn	436.77	9.8888	0.22	0.00000	0.00000
Zr	224.44	9.8594	0.14	0.00000	0.00000

More samples [Y/N] ?
Sample name = CL1
Sample number = 2078
Sample code 1 =
Sample code 2 =
Sample code 3 =
Weight =

Press <CR> when ready to start measurement
24:132H6n
Sample name : CL1

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Sample number : 2078
Programme : ALLELE 29-Oct-90 12:08:04

[1] Direct Intensities

Ag	4.78000	Al	8.24000	As	13.5800	B	4.22000	Ba	5.53000	Be	5.54000	Ca	3.16000
Cd	7.46000	Ce	12.5700	Co	38.8000	Cr	5.08000	Cu	10.9200	Dy	6.65000	Fe	5.60000
K	26.7000	La	7.53000	Li	4.79000	Mg	2.47000	Mn	5.03000	Mo	3.96000	Na	5.59000
Nd	4.75000	Ni	4.17000	P	5.53000	Pb	7.16000	Re	4.42000	Rh	8.20000	Ru	8.80000
Sb	3.18000	Se	7.77000	Si	5.10000	Sr	5.58000	Te	3.81000	Th	6.92000	Ti	3.13000
Tl	4.20000	U	34.4900	V	9.19000	Zn	3.75000	Zr	6.57000				

[1] Direct Intensities

Ag	4.78000	Al	8.26000	As	13.4900	B	4.20000	Ba	5.50000	Be	5.50000	Ca	3.18000
Cd	7.51000	Ce	12.5700	Co	38.7000	Cr	5.09000	Cu	10.9400	Dy	6.66000	Fe	5.58000
K	26.5400	La	7.52000	Li	4.80000	Mg	2.44000	Mn	5.02000	Mo	4.06000	Na	5.61000
Nd	4.74000	Ni	4.15000	P	5.68000	Pb	7.08000	Re	4.39000	Rh	8.20000	Ru	8.73000
Sb	3.20000	Se	7.59000	Si	5.07000	Sr	5.53000	Te	3.80000	Th	6.90000	Ti	3.11000
Tl	4.25000	U	34.4000	V	9.24000	Zn	3.75000	Zr	6.52000				

[1] Direct Intensities

Ag	4.78000	Al	8.22000	As	13.3000	B	4.18000	Ba	5.52000	Be	5.50000	Ca	3.15000
Cd	7.29000	Ce	12.5100	Co	38.6500	Cr	5.08000	Cu	10.8900	Dy	6.61000	Fe	5.58000
K	26.5600	La	7.50000	Li	4.77000	Mg	2.48000	Mn	5.01000	Mo	3.99000	Na	5.58000
Nd	4.77000	Ni	4.19000	P	5.56000	Pb	7.14000	Re	4.38000	Rh	8.21000	Ru	8.79000
Sb	3.16000	Se	7.73000	Si	5.07000	Sr	5.52000	Te	3.76000	Th	6.88000	Ti	3.15000
Tl	4.22000	U	34.4000	V	9.20000	Zn	3.70000	Zr	6.55000				

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.70	0.0033	0.00	0.00000	0.00000
Al	9.10	0.0379	15.00	0.00000	0.00000
As	14.79	0.0301	80.91	0.00000	0.00000
B	5.07	0.0041	40.00	0.00000	0.00000
Ba	6.47	0.0014	19.92	0.00000	0.00000
Be	6.38	0.0001	49.49	0.00000	0.00000
Ca	3.75	0.0001	45.83	0.00000	0.00000
Cd	8.46	0.0022	157.26	0.00000	0.00000
Ce	14.27	0.0633	22.59	0.00000	0.00000
Co	42.82	0.0967	20.64	0.00000	0.00000
Cr	5.94	0.0063	7.22	0.00000	0.00000
Cu	12.41	0.0043	13.98	0.00000	0.00000
Dy	7.69	0.0034	36.08	0.00000	0.00000
Fe	6.45	0.0033	15.75	0.00000	0.00000
K	29.16	0.0684	74.73	0.00000	0.00000
La	8.68	0.0044	21.82	0.00000	0.00000
Li	5.61	0.0013	76.38	0.00000	0.00000
Mg	3.17	0.0003	34.69	0.00000	0.00000
Mn	5.83	0.0003	37.50	0.00000	0.00000
Mo	4.77	0.0087	34.21	0.00000	0.00000
Na	6.64	0.0130	65.46	0.00000	0.00000
Nd	5.67	0.0218	35.25	0.00000	0.00000
Ni	5.02	0.0086	35.29	0.00000	0.00000
P	6.52	0.2000	39.69	0.00000	0.00000
Pb	8.23	0.0353	31.22	0.00000	0.00000
Re	5.24	0.0062	32.87	0.00000	0.00000
Rh	9.37	0.0230	9.12	0.00000	0.00000
Ru	10.05	0.0113	42.07	0.00000	0.00000
Sb	3.90	0.0111	120.01	0.00000	0.00000
Se	8.60	-0.002	-2836.0	0.00000	0.00000
Si	6.01	0.0226	27.35	0.00000	0.00000
Sr	6.49	0.0003	53.58	0.00000	0.00000
Te	4.61	0.0192	61.06	0.00000	0.00000
Th	8.09	0.0594	20.00	0.00000	0.00000

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Ti	3.86	0.0025	85.71	0.00000	0.00000
Tl	5.35	1.2323	12.38	0.00000	0.00000
[illegible]	38.13	0.2725	16.94	0.00000	0.00000
V	10.63	0.0054	13.23	0.00000	0.00000
Zn	4.51	0.0017	36.08	0.00000	0.00000
Zr	7.58	0.0039	26.96	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2079
Sample code 1   = A5
Sample code 2   = BLK
Sample code 3   = 5XDIL
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2079
Sample code 1   : A5
Sample code 2   : BLK
Sample code 3   : 5XDIL
Programme       : ALLELE          29-Oct-90  12:12:36
[1] Direct Intensities
Ag 4.78000 Al 8.29000 As 13.5600 B  4.80000 Ba 5.57000 Be 5.51000 Ca 72.7000
Cd 7.59000 Ce 12.4700 Co 38.5200 Cr 5.06000 Cu 10.9400 Dy 6.59000 Fe 6.20000
[illegible] 26.6400 La 7.47000 Li 4.76000 Mg 8.80000 Mn 5.08000 Mo 3.98000 Na 5.80000
Nd 4.74000 Ni 4.14000 P  5.42000 Pb 7.08000 Re 4.36000 Rh 8.19000 Ru 8.75000
Sb 3.25000 Se 7.77000 Si 5.14000 Sr 5.68000 Te 3.79000 Th 6.81000 Ti 3.17000
Tl 4.11000 U  34.2700 V  9.14000 Zn 3.97000 Zr 6.55000
[1] Direct Intensities
Ag 4.78000 Al 8.32000 As 13.4500 B  4.80000 Ba 5.58000 Be 5.52000 Ca 72.6400
Cd 7.59000 Ce 12.5000 Co 38.5000 Cr 5.08000 Cu 10.9600 Dy 6.60000 Fe 6.19000
K  26.5900 La 7.53000 Li 4.78000 Mg 8.80000 Mn 5.08000 Mo 3.97000 Na 5.80000
Nd 4.74000 Ni 4.20000 P  5.56000 Pb 7.18000 Re 4.35000 Rh 8.20000 Ru 8.75000
Sb 3.18000 Se 7.72000 Si 5.12000 Sr 5.67000 Te 3.80000 Th 6.81000 Ti 3.16000
Tl 4.21000 U  34.3000 V  9.19000 Zn 3.94000 Zr 6.56000
[1] Direct Intensities
Ag 4.78000 Al 8.30000 As 13.5400 B  4.80000 Ba 5.59000 Be 5.54000 Ca 72.8000
Cd 7.57000 Ce 12.4800 Co 38.5700 Cr 5.08000 Cu 10.9200 Dy 6.60000 Fe 6.18000
K  26.6500 La 7.50000 Li 4.80000 Mg 8.80000 Mn 5.09000 Mo 3.99000 Na 5.80000
Nd 4.75000 Ni 4.16000 P  5.50000 Pb 7.14000 Re 4.36000 Rh 8.19000 Ru 8.78000
Sb 3.20000 Se 7.66000 Si 5.15000 Sr 5.64000 Te 3.79000 Th 6.88000 Ti 3.16000
Tl 4.16000 U  34.3000 V  9.20000 Zn 4.00000 Zr 6.56000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.70	0.0033	0.00	0.00000	0.00000
Al	9.16	0.0559	7.77	0.00000	0.00000
As	14.85	0.0403	24.76	0.00000	0.00000
B	5.64	0.0536	0.00	0.00000	0.00000
Ba	6.53	0.0025	7.14	0.00000	0.00000
e	6.39	0.0001	26.96	0.00000	0.00000
a	68.35	0.2560	0.12	0.00000	0.00000
Cd	8.61	0.0071	4.88	0.00000	0.00000
Ce	14.21	0.0358	17.63	0.00000	0.00000
Co	42.64	0.0479	19.67	0.00000	0.00000
Cr	5.93	0.0055	16.50	0.00000	0.00000
Cu	12.43	0.0049	2.84	0.00000	0.00000

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Dy	7.65	0.0014	19.24	0.00000	0.00000
Fe	7.02	0.0309	1.48	0.00000	0.00000
	29.19	0.0840	22.42	0.00000	0.00000
La	8.67	0.0033	56.25	0.00000	0.00000
Li	5.60	0.0009	150.01	0.00000	0.00000
Mg	9.20	0.0336	0.00	0.00000	0.00000
Mn	5.89	0.0009	6.41	0.00000	0.00000
Mo	4.75	0.0073	7.89	0.00000	0.00000
Na	6.83	0.1279	0.00	0.00000	0.00000
Nd	5.66	0.0167	17.32	0.00000	0.00000
Ni	5.02	0.0081	57.28	0.00000	0.00000
P	6.41	0.1033	67.97	0.00000	0.00000
Pb	8.24	0.0371	35.95	0.00000	0.00000
Re	5.20	0.0023	24.74	0.00000	0.00000
Rh	9.36	0.0193	10.83	0.00000	0.00000
Ru	10.03	0.0096	22.59	0.00000	0.00000
Sb	3.92	0.0309	77.26	0.00000	0.00000
Se	8.62	0.0081	330.44	0.00000	0.00000
Si	6.06	0.0429	12.73	0.00000	0.00000
Sr	6.60	0.0010	11.56	0.00000	0.00000
Te	4.61	0.0207	12.37	0.00000	0.00000
Th	8.02	0.0198	121.25	0.00000	0.00000
Ti	3.89	0.0061	10.19	0.00000	0.00000
Tl	5.30	0.8485	35.72	0.00000	0.00000
U	38.00	0.1481	10.39	0.00000	0.00000
V	10.60	0.0045	19.29	0.00000	0.00000
Zn	4.73	0.0069	9.47	0.00000	0.00000
Zr	7.59	0.0044	5.59	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2080
Sample code 1   = A4
Sample code 2   = SPIKE
Sample code 3   = 5XDIL
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2080
Sample code 1   : A4
Sample code 2   : SPIKE
Sample code 3   : 5XDIL
Programme       : ALLELE          29-Oct-90  12:17:01
[1] Direct Intensities
Ag 4.76000 Al 8.33000 As 15.6800 B  4.80000 Ba 27.3000 Be 9.19000 Ca 61.1700
Cd 7.80000 Ce 12.3800 Co 38.6500 Cr 5.04000 Cu 12.9100 Dy 6.57000 Fe 6.01000
K  26.5300 La 7.40000 Li 4.74000 Mg 8.44000 Mn 14.4700 Mo 3.80000 Na 5.95000
Nd 4.69000 Ni 4.75000 P  5.53000 Pb 7.35000 Re 4.37000 Rh 8.14000 Ru 8.70000
Sb 3.24000 Se 8.11000 Si 5.17000 Sr 5.64000 Te 3.80000 Th 6.79000 Ti 3.11000
Tl 4.01000 U  34.0900 V  12.6700 Zn 8.35000 Zr 6.48000
[1] Direct Intensities
Ag 4.80000 Al 8.28000 As 15.3700 B  4.80000 Ba 27.3900 Be 9.25000 Ca 61.4600
Cd 7.91000 Ce 12.4800 Co 38.7800 Cr 5.02000 Cu 13.0100 Dy 6.59000 Fe 6.12000
K  26.5900 La 7.48000 Li 4.77000 Mg 8.53000 Mn 14.5700 Mo 3.98000 Na 5.99000
Nd 4.73000 Ni 4.80000 P  5.54000 Pb 7.49000 Re 4.36000 Rh 8.17000 Ru 8.78000
Sb 3.19000 Se 8.25000 Si 5.18000 Sr 5.63000 Te 3.80000 Th 6.81000 Ti 3.19000
Tl 4.09000 U  34.2000 V  12.7000 Zn 8.38000 Zr 6.52000
```

E03-104

[1] Direct Intensities

Ag 4.75000 Al 8.26000 As 15.5900 B 4.80000 Ba 27.3400 Be 9.24000 Ca 61.3600
d 7.81000 Ce 12.4600 Co 38.7200 Cr 5.01000 Cu 12.9900 Dy 6.58000 Fe 6.04000
: 26.4300 La 7.47000 Li 4.77000 Mg 8.51000 Mn 14.5200 Mo 3.97000 Na 5.94000
Nd 4.70000 Ni 4.75000 P 5.50000 Pb 7.47000 Re 4.35000 Rh 8.15000 Ru 8.71000
Sb 3.23000 Se 8.16000 Si 5.18000 Sr 5.59000 Te 3.76000 Th 6.81000 Ti 3.14000
Tl 4.20000 U 34.1500 V 12.6900 Zn 8.46000 Zr 6.47000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.70	0.0025	88.20	0.00000	0.00000
Al	9.15	0.0521	19.67	0.00000	0.00000
As	16.74	0.3863	7.04	0.00000	0.00000
B	5.64	0.0536	0.00	0.00000	0.00000
Ba	26.66	0.3933	0.21	0.00000	0.00000
Be	9.83	0.0096	0.85	0.00000	0.00000
Ca	57.78	0.2141	0.25	0.00000	0.00000
Cd	8.86	0.0148	12.33	0.00000	0.00000
Ce	14.17	0.0179	122.12	0.00000	0.00000
Co	42.82	0.0967	17.58	0.00000	0.00000
Cr	5.89	0.0016	76.37	0.00000	0.00000
Cu	14.30	0.0534	2.37	0.00000	0.00000
Dy	7.64	0.0006	74.99	0.00000	0.00000
Fe	6.89	0.0248	10.47	0.00000	0.00000
K	29.09	0.0195	242.44	0.00000	0.00000
La	8.62	0.0002	1307.32	0.00000	0.00000
Li	5.58	-0.000	-259.76	0.00000	0.00000
Mg	8.91	0.0320	0.78	0.00000	0.00000
Mn	14.85	0.0990	0.52	0.00000	0.00000
Mo	4.69	0.0037	159.72	0.00000	0.00000
Na	6.98	0.2169	6.78	0.00000	0.00000
Nd	5.63	-0.002	-624.21	0.00000	0.00000
Ni	5.59	0.0986	4.42	0.00000	0.00000
P	6.45	0.1333	15.61	0.00000	0.00000
Pb	8.52	0.1174	17.08	0.00000	0.00000
Re	5.21	0.0026	37.50	0.00000	0.00000
Rh	9.32	0.0048	114.57	0.00000	0.00000
Ru	10.00	0.0058	93.41	0.00000	0.00000
Sb	3.93	0.0376	46.69	0.00000	0.00000
Se	9.05	0.2295	14.99	0.00000	0.00000
Si	6.10	0.0572	3.61	0.00000	0.00000
Sr	6.56	0.0008	19.36	0.00000	0.00000
Te	4.61	0.0177	57.73	0.00000	0.00000
Th	8.00	0.0020	346.69	0.00000	0.00000
Ti	3.87	0.0043	101.04	0.00000	0.00000
Tl	5.24	0.4848	119.25	0.00000	0.00000
U	37.87	0.0207	235.98	0.00000	0.00000
V	13.91	0.0996	0.42	0.00000	0.00000
Zn	8.95	0.1034	1.20	0.00000	0.00000
Zr	7.53	0.0015	72.16	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904180
Sample number = 2081
Sample code 1 = A3
Sample code 2 = 1P4154
Sample code 3 = 5XDIL
Weight =

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Press <CR> when ready to start measurement
24;132H6n
ample name : 904180
Sample number : 2081
Sample code 1 : A3
Sample code 2 : 1P4154
Sample code 3 : 5XDIL
Programme : ALLELE 29-Oct-90 12:21:30
[1] Direct Intensities.
Ag 4.90000 Al 14.1700 As 16.4000 B 5.12000 Ba 28.2600 Be 9.32000 Ca 210.100
Cd 7.99000 Ce 12.5100 Co 38.8100 Cr 17.0100 Cu 16.4900 Dy 6.59000 Fe 471.800
K 27.1500 La 7.59000 Li 4.76000 Mg 35.9600 Mn 20.4900 Mo 4.08000 Na 199.600
Nd 4.72000 Ni 4.89000 P 24.5200 Pb 8.66000 Re 4.40000 Rh 8.18000 Ru 10.3600
Sb 3.24000 Se 8.80000 Si 10.6700 Sr 59.5100 Te 3.80000 Th 6.89000 Ti 3.18000
Tl 4.09000 U 35.3700 V 12.9000 Zn 12.4700 Zr 6.62000
[1] Direct Intensities
Ag 4.82000 Al 14.1900 As 16.7400 B 5.23000 Ba 28.3900 Be 9.32000 Ca 211.500
Cd 8.00000 Ce 12.4800 Co 38.8100 Cr 17.0900 Cu 16.4300 Dy 6.57000 Fe 474.600
K 27.0600 La 7.58000 Li 4.73000 Mg 36.1400 Mn 20.5300 Mo 4.08000 Na 201.000
Nd 4.72000 Ni 4.95000 P 25.0400 Pb 8.63000 Re 4.45000 Rh 8.17000 Ru 10.3400
Sb 3.25000 Se 8.74000 Si 10.7300 Sr 59.8000 Te 3.80000 Th 6.80000 Ti 3.15000
Tl 4.15000 U 35.3700 V 12.9100 Zn 12.5000 Zr 6.60000
[1] Direct Intensities
Ag 4.91000 Al 14.2500 As 16.5400 B 5.19000 Ba 28.4400 Be 9.38000 Ca 212.000
Cd 8.01000 Ce 12.5300 Co 38.9200 Cr 17.1400 Cu 16.5400 Dy 6.59000 Fe 476.000
K 27.2600 La 7.61000 Li 4.78000 Mg 36.2500 Mn 20.6700 Mo 4.10000 Na 201.800
Nd 4.72000 Ni 4.94000 P 24.3400 Pb 8.59000 Re 4.50000 Rh 8.17000 Ru 10.4200
Sb 3.26000 Se 8.80000 Si 10.7300 Sr 59.9400 Te 3.81000 Th 6.81000 Ti 3.15000
1 4.09000 U 35.4600 V 12.9800 Zn 12.5400 Zr 6.63000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.80	0.0112	36.09	0.00000	0.00000
Al	14.71	1.7327	0.68	0.00000	0.00000
As	17.68	0.5590	5.21	0.00000	0.00000
B	6.00	0.0850	5.41	0.00000	0.00000
Ba	27.61	0.4117	0.41	0.00000	0.00000
Be	9.94	0.0099	0.89	0.00000	0.00000
Ca	196.99	0.7655	0.47	0.00000	0.00000
Cd	9.01	0.0196	1.53	0.00000	0.00000
Ce	14.23	0.0454	22.88	0.00000	0.00000
Co	42.94	0.1307	12.70	0.00000	0.00000
Cr	17.39	0.9470	0.54	0.00000	0.00000
Cu	17.55	0.1379	0.75	0.00000	0.00000
Dy	7.64	0.0008	69.28	0.00000	0.00000
Fe	447.60	)21.399	0.46	0.00000	0.00000
K	29.68	0.3948	14.88	0.00000	0.00000
La	8.75	0.0092	10.41	0.00000	0.00000
Li	5.58	-0.001	-251.64	0.00000	0.00000
Mg	35.19	0.1771	0.43	0.00000	0.00000
Mn	20.60	0.1620	0.58	0.00000	0.00000
Mo	4.85	0.0135	4.95	0.00000	0.00000
Na	186.63	)108.56	0.57	0.00000	0.00000
Nd	5.64	0.0050	0.00	0.00000	0.00000
Ni	5.74	0.1228	3.95	0.00000	0.00000
P	28.84	)19.243	1.89	0.00000	0.00000
Pb	9.64	0.4325	2.15	0.00000	0.00000
Re	5.29	0.0115	42.86	0.00000	0.00000
Rh	9.34	0.0121	17.32	0.00000	0.00000
Ru	11.57	0.2117	2.46	0.00000	0.00000

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Sb	3.96	0.0575	11.54	0.00000	0.00000
Se	9.62	0.5237	3.21	0.00000	0.00000
Si	11.36	2.0345	0.61	0.00000	0.00000
Sr	56.38	0.3073	0.40	0.00000	0.00000
Te	4.62	0.0251	10.19	0.00000	0.00000
Th	8.02	0.0198	147.99	0.00000	0.00000
Ti	3.88	0.0058	32.48	0.00000	0.00000
Tl	5.25	0.5454	38.49	0.00000	0.00000
U	39.04	1.1344	4.07	0.00000	0.00000
V	14.14	0.1062	1.11	0.00000	0.00000
Zn	12.87	0.1930	0.40	0.00000	0.00000
Zr	7.64	0.0069	9.35	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2082
Sample code 1   = A2
Sample code 2   = 1P1244
Sample code 3   = 5XDIL
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2082
Sample code 1   : A2
Sample code 2   : 1P1244
Sample code 3   : 5XDIL
Programme       : ALLELE          29-Oct-90  12:25:46
[1] Direct Intensities
Ag 4.81000 Al 12.8000 As 13.9500 B  4.70000 Ba 6.30000 Be 5.47000 Ca 185.400
Cd 7.58000 Ce 12.4100 Co 38.3500 Cr 14.3800 Cu 13.6000 Dy 6.50000 Fe 370.700
K  26.9600 La 7.50000 Li 4.74000 Mg 32.1900 Mn 9.66000 Mo 4.08000 Na 159.200
Nd 4.68000 Ni 4.20000 P  20.1200 Pb 7.95000 Re 4.36000 Rh 8.11000 Ru 9.98000
Sb 3.14000 Se 8.10000 Si 6.19000 Sr 48.0800 Te 3.80000 Th 6.80000 Ti 3.12000
Tl 3.96000 U  35.0000 V  9.19000 Zn 7.30000 Zr 6.55000
[1] Direct Intensities
Ag 4.81000 Al 12.8000 As 14.3800 B  4.69000 Ba 6.33000 Be 5.48000 Ca 185.200
Cd 7.57000 Ce 12.4800 Co 38.3700 Cr 14.4100 Cu 13.6500 Dy 6.56000 Fe 370.400
K  26.8900 La 7.53000 Li 4.71000 Mg 32.1900 Mn 9.68000 Mo 4.00000 Na 158.000
Nd 4.72000 Ni 4.23000 P  20.3800 Pb 8.09000 Re 4.37000 Rh 8.14000 Ru 10.0100
Sb 3.14000 Se 7.98000 Si 6.19000 Sr 48.0000 Te 3.79000 Th 6.80000 Ti 3.13000
Tl 4.00000 U  35.0000 V  9.19000 Zn 7.37000 Zr 6.55000
[1] Direct Intensities
Ag 4.81000 Al 12.8100 As 13.9400 B  4.68000 Ba 6.32000 Be 5.48000 Ca 185.900
Cd 7.62000 Ce 12.4100 Co 38.3900 Cr 14.4600 Cu 13.6300 Dy 6.56000 Fe 371.700
K  26.8000 La 7.50000 Li 4.75000 Mg 32.3100 Mn 9.68000 Mo 3.98000 Na 159.400
Nd 4.68000 Ni 4.23000 P  19.4800 Pb 8.09000 Re 4.40000 Rh 8.10000 Ru 10.0100
Sb 3.18000 Se 8.22000 Si 6.21000 Sr 48.1300 Te 3.80000 Th 6.80000 Ti 3.12000
Tl 4.00000 U  35.0100 V  9.22000 Zn 7.43000 Zr 6.56000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.73	0.0057	0.00	0.00000	0.00000
Al	13.39	1.3348	0.12	0.00000	0.00000
As	15.38	0.1380	31.01	0.00000	0.00000
B	5.53	0.0446	1.85	0.00000	0.00000
Ba	7.21	0.0157	1.74	0.00000	0.00000
Be	6.34	0.0000	57.73	0.00000	0.00000

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Ca	173.12	0.6709	0.20	0.00000	0.00000
Cd	8.62	0.0073	10.87	0.00000	0.00000
e	14.16	0.0151	110.23	0.00000	0.00000
Co	42.49	0.0061	85.74	0.00000	0.00000
Cr	14.85	0.7381	0.43	0.00000	0.00000
Cu	14.90	0.0690	0.87	0.00000	0.00000
Dy	7.60	-0.001	-129.91	0.00000	0.00000
Fe	350.44	)16.687	0.19	0.00000	0.00000
K	29.43	0.2345	20.05	0.00000	0.00000
La	8.68	0.0040	27.35	0.00000	0.00000
Li	5.56	-0.002	-62.45	0.00000	0.00000
Mg	31.49	0.1567	0.23	0.00000	0.00000
Mn	10.24	0.0486	0.25	0.00000	0.00000
Mo	4.78	0.0096	31.75	0.00000	0.00000
Na	147.97	85.245	0.49	0.00000	0.00000
Nd	5.61	-0.008	-138.55	0.00000	0.00000
Ni	5.07	0.0161	16.24	0.00000	0.00000
P	23.40	)14.603	3.17	0.00000	0.00000
Pb	9.09	0.2780	7.70	0.00000	0.00000
Re	5.22	0.0043	48.04	0.00000	0.00000
Rh	9.29	-0.008	-89.21	0.00000	0.00000
Ru	11.21	0.1650	1.32	0.00000	0.00000
Sb	3.87	-0.007	-230.92	0.00000	0.00000
Se	8.98	0.1940	30.00	0.00000	0.00000
Si	7.07	0.4217	0.98	0.00000	0.00000
Sr	45.63	0.2412	0.15	0.00000	0.00000
Te	4.62	0.0221	11.55	0.00000	0.00000
Th	7.99	-0.000	-50.00	0.00000	0.00000
i	3.85	0.0018	34.64	0.00000	0.00000
.1	5.14	-0.202	-69.27	0.00000	0.00000
U	38.67	0.7819	0.66	0.00000	0.00000
V	10.63	0.0051	9.12	0.00000	0.00000
Zn	7.97	0.0810	1.75	0.00000	0.00000
Zr	7.59	0.0042	5.77	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904180
Sample number = 2083
Sample code 1 = A1
Sample code 2 = 1P2190
Sample code 3 = 5XDIL
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 904180
Sample number : 2083
Sample code 1 : A1
Sample code 2 : 1P2190
Sample code 3 : 5XDIL
Programme : ALLELE 29-Oct-90 12:29:56
[1] Direct Intensities
Ag 4.81000 Al 13.2700 As 14.1500 B 4.68000 Ba 6.28000 Be 5.47000 Ca 196.800
Cd 7.60000 Ce 12.4300 Co 38.2900 Cr 15.3300 Cu 13.8100 Dy 6.55000 Fe 409.800
K 26.9600 La 7.55000 Li 4.71000 Mg 32.2400 Mn 10.0900 Mo 3.95000 Na 171.100
Nd 4.69000 Ni 4.21000 P 21.2600 Pb 8.10000 Re 4.40000 Rh 8.14000 Ru 10.1200
Sb 3.19000 Se 8.09000 Si 5.98000 Sr 51.9100 Te 3.80000 Th 6.80000 Ti 3.12000
Tl 3.96000 U 35.1400 V 9.25000 Zn 7.35000 Zr 6.55000
[1] Direct Intensities

E03-108

Ag 4.80000 Al 13.3000 As 14.0300 B 4.72000 Ba 6.29000 Be 5.44000 Ca 197.500
Cd 7.66000 Ce 12.4900 Co 38.3700 Cr 15.3300 Cu 13.8900 Dy 6.57000 Fe 410.600
. 26.9000 La 7.55000 Li 4.74000 Mg 32.3500 Mn 10.0900 Mo 3.98000 Na 172.100
Nd 4.69000 Ni 4.26000 P 21.7000 Pb 8.16000 Re 4.36000 Rh 8.12000 Ru 10.1400
Sb 3.14000 Se 7.99000 Si 5.98000 Sr 51.9900 Te 3.79000 Th 6.80000 Ti 3.14000
Tl 4.00000 U 35.1100 V 9.19000 Zn 7.37000 Zr 6.57000
[1] Direct Intensities
Ag 4.81000 Al 13.3000 As 13.7000 B 4.75000 Ba 6.31000 Be 5.47000 Ca 196.700
Cd 7.73000 Ce 12.4800 Co 38.5000 Cr 15.3400 Cu 13.8100 Dy 6.59000 Fe 409.600
K 27.0000 La 7.56000 Li 4.76000 Mg 32.2500 Mn 10.1200 Mo 4.02000 Na 170.400
Nd 4.72000 Ni 4.25000 P 20.9500 Pb 8.01000 Re 4.47000 Rh 8.16000 Ru 10.1900
Sb 3.18000 Se 8.21000 Si 5.99000 Sr 51.8000 Te 3.79000 Th 6.81000 Ti 3.16000
Tl 4.16000 U 35.1800 V 9.29000 Zn 7.37000 Zr 6.57000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.73	0.0054	8.66	0.00000	0.00000
Al	13.85	1.4731	0.33	0.00000	0.00000
As	15.26	0.1159	34.27	0.00000	0.00000
B	5.56	0.0468	6.20	0.00000	0.00000
Ba	7.19	0.0153	1.79	0.00000	0.00000
Be	6.33	-0.000	-259.80	0.00000	0.00000
Ca	183.80	0.7132	0.22	0.00000	0.00000
Cd	8.69	0.0095	20.55	0.00000	0.00000
Ce	14.19	0.0289	45.92	0.00000	0.00000
Co	42.50	0.0105	264.99	0.00000	0.00000
Cr	15.72	0.8100	0.06	0.00000	0.00000
Cu	15.10	0.0741	1.49	0.00000	0.00000
Dy	7.63	0.0002	599.75	0.00000	0.00000
Fe	387.22	)18.471	0.13	0.00000	0.00000
K	29.49	0.2756	10.71	0.00000	0.00000
La	8.72	0.0067	5.41	0.00000	0.00000
Li	5.56	-0.002	-83.88	0.00000	0.00000
Mg	31.54	0.1570	0.20	0.00000	0.00000
Mn	10.65	0.0531	0.34	0.00000	0.00000
Mo	4.75	0.0075	27.01	0.00000	0.00000
Na	159.34	92.104	0.52	0.00000	0.00000
Nd	5.62	-0.005	-173.18	0.00000	0.00000
Ni	5.09	0.0191	20.89	0.00000	0.00000
P	24.94	)15.913	2.37	0.00000	0.00000
Pb	9.14	0.2904	6.88	0.00000	0.00000
Re	5.25	0.0075	72.62	0.00000	0.00000
Rh	9.31	-0.000	*******	0.00000	0.00000
Ru	11.36	0.1837	2.46	0.00000	0.00000
Sb	3.89	0.0044	396.91	0.00000	0.00000
Se	8.98	0.1923	27.77	0.00000	0.00000
Si	6.87	0.3454	0.60	0.00000	0.00000
Sr	49.15	0.2629	0.21	0.00000	0.00000
Te	4.61	0.0207	12.37	0.00000	0.00000
Th	8.00	0.0020	173.34	0.00000	0.00000
Ti	3.86	0.0036	60.00	0.00000	0.00000
Tl	5.19	0.1212	529.27	0.00000	0.00000
U	38.80	0.9063	3.44	0.00000	0.00000
V	10.67	0.0063	21.57	0.00000	0.00000
Zn	7.97	0.0809	0.31	0.00000	0.00000
Zr	7.60	0.0046	10.50	0.00000	0.00000

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More samples [Y/N] ?
Sample name = CH3

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Sample number  = 2084
Sample code 1  =
Sample code 2  =
Sample code 3  =
Weight         =

Press <CR> when ready to start measurement
24;132H6n
Sample name    : CH3
Sample number  : 2084
Programme      : ALLELE          29-Oct-90  12:34:26
[1] Direct Intensities
Ag 5.30000 Al 42.7400 As 25.7000 B  63.3900 Ba 5.60000 Be 5.98000 Ca 2696.00
Cd 339.300 Ce 13.1600 Co 39.2900 Cr 131.400 Cu 13.0100 Dy 220.400 Fe 6.27000
K  109.000 La 165.800 Li 305.000 Mg 2.92000 Mn 958.400 Mo 4.58000 Na 180.800
Nd 24.3700 Ni 4.75000 P  15.0000 Pb 8.26000 Re 104.700 Rh 9.38000 Ru 87.9800
Sb 3.29000 Se 27.9500 Si 32.5900 Sr 16.4900 Te 4.78000 Th 23.4100 Ti 3.49000
Tl 5.58000 U  35.6700 V  10.6200 Zn 4.15000 Zr 27.7400
[1] Direct Intensities
Ag 5.26000 Al 42.6200 As 25.0500 B  63.4900 Ba 5.62000 Be 5.99000 Ca 2681.00
Cd 336.700 Ce 13.1800 Co 39.3300 Cr 130.700 Cu 13.0800 Dy 219.400 Fe 6.27000
K  108.800 La 164.900 Li 304.600 Mg 2.93000 Mn 953.000 Mo 4.57000 Na 180.400
Nd 24.2900 Ni 4.78000 P  14.9800 Pb 8.35000 Re 104.700 Rh 9.38000 Ru 87.5300
Sb 3.28000 Se 28.0100 Si 32.4900 Sr 16.4800 Te 4.72000 Th 23.3300 Ti 3.52000
Tl 5.71000 U  35.7200 V  10.6600 Zn 4.24000 Zr 27.6700
[1] Direct Intensities
Ag 5.29000 Al 42.6600 As 25.2900 B  64.0100 Ba 5.60000 Be 6.00000 Ca 2690.00
Cd 337.600 Ce 13.1400 Co 39.3100 Cr 131.000 Cu 13.0600 Dy 219.800 Fe 6.29000
K  109.100 La 165.300 Li 304.800 Mg 2.94000 Mn 955.600 Mo 4.60000 Na 180.700
Nd 24.3200 Ni 4.78000 P  15.0700 Pb 8.25000 Re 104.600 Rh 9.37000 Ru 87.5600
Sb 3.33000 Se 28.0000 Si 32.5000 Sr 16.4000 Te 4.66000 Th 23.3800 Ti 3.51000
Tl 5.77000 U  35.6800 V  10.6800 Zn 4.17000 Zr 27.7000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.18	0.0444	3.83	0.00000	0.00000
Al	41.49	9.8238	0.18	0.00000	0.00000
As	25.87	2.0564	2.72	0.00000	0.00000
B	61.17	4.9081	0.56	0.00000	0.00000
Ba	6.55	0.0030	6.93	0.00000	0.00000
Be	6.82	0.0013	1.91	0.00000	0.00000
Ca	2498.63	9.8810	0.28	0.00000	0.00000
Cd	323.03	9.9389	0.40	0.00000	0.00000
Ce	14.84	0.3151	2.62	0.00000	0.00000
Co	43.37	0.2518	2.08	0.00000	0.00000
Cr	126.10	9.8824	0.28	0.00000	0.00000
Cu	14.37	0.0553	1.56	0.00000	0.00000
Dy	204.62	9.8461	0.24	0.00000	0.00000
Fe	7.10	0.0349	1.51	0.00000	0.00000
K	105.25	48.358	0.19	0.00000	0.00000
La	155.32	9.8646	0.29	0.00000	0.00000
Li	283.32	19.403	0.07	0.00000	0.00000
Mg	3.61	0.0028	1.90	0.00000	0.00000
Mn	908.56	9.8784	0.28	0.00000	0.00000
Mo	5.32	0.0422	2.09	0.00000	0.00000
Na	168.04	97.349	0.12	0.00000	0.00000
Nd	23.67	9.8494	0.21	0.00000	0.00000
Ni	5.59	0.0991	2.64	0.00000	0.00000
P	17.57	9.6267	0.49	0.00000	0.00000
Pb	9.32	0.3425	4.26	0.00000	0.00000

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Re	99.62	9.8721	0.06	0.00000	0.00000
Rh	10.45	0.4483	0.47	0.00000	0.00000
Ru	85.13	9.8981	0.32	0.00000	0.00000
Sb	4.01	0.0906	19.36	0.00000	0.00000
Se	27.81	9.8368	0.16	0.00000	0.00000
Si	32.08	9.8309	0.20	0.00000	0.00000
Sr	16.53	0.0621	0.45	0.00000	0.00000
Te	5.48	0.4311	6.16	0.00000	0.00000
Th	23.35	9.8436	0.24	0.00000	0.00000
Ti	4.21	0.0433	3.82	0.00000	0.00000
Tl	6.65	10.101	5.83	0.00000	0.00000
U	39.31	1.3921	1.69	0.00000	0.00000
V	11.99	0.0445	1.86	0.00000	0.00000
Zn	4.94	0.0116	8.86	0.00000	0.00000
Zr	27.21	0.8962	0.17	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2085
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : CL1
Sample number   : 2085
Programme       : ALLELE          29-Oct-90  12:40:42
[1] Direct Intensities
Ag 4.79000 Al 8.25000 As 13.4200 B  4.67000 Ba 5.48000 Be 5.50000 Ca 3.20000
Cd 7.41000 Ce 12.4200 Co 38.2800 Cr 5.09000 Cu 10.8000 Dy 6.61000 Fe 5.50000
K  26.3900 La 7.48000 Li 4.77000 Mg 2.48000 Mn 5.03000 Mo 3.99000 Na 5.55000
Nd 4.76000 Ni 4.14000 P  5.45000 Pb 7.24000 Re 4.34000 Rh 8.17000 Ru 8.73000
Sb 3.24000 Se 7.78000 Si 5.09000 Sr 5.52000 Te 3.80000 Th 6.82000 Ti 3.19000
Tl 4.00000 U  34.0000 V  9.11000 Zn 3.76000 Zr 6.52000
[1] Direct Intensities
Ag 4.78000 Al 8.26000 As 13.2800 B  4.61000 Ba 5.49000 Be 5.52000 Ca 3.21000
Cd 7.39000 Ce 12.5200 Co 38.3800 Cr 5.06000 Cu 10.8100 Dy 6.60000 Fe 5.54000
K  26.4600 La 7.50000 Li 4.78000 Mg 2.47000 Mn 5.06000 Mo 3.93000 Na 5.55000
Nd 4.75000 Ni 4.18000 P  5.53000 Pb 7.10000 Re 4.41000 Rh 8.18000 Ru 8.74000
Sb 3.20000 Se 7.75000 Si 5.06000 Sr 5.48000 Te 3.80000 Th 6.90000 Ti 3.17000
Tl 4.20000 U  34.1900 V  9.10000 Zn 3.74000 Zr 6.51000
[1] Direct Intensities
Ag 4.79000 Al 8.26000 As 13.4000 B  4.58000 Ba 5.45000 Be 5.50000 Ca 3.21000
Cd 7.41000 Ce 12.4000 Co 38.2500 Cr 5.02000 Cu 10.8000 Dy 6.58000 Fe 5.50000
K  26.3900 La 7.49000 Li 4.78000 Mg 2.44000 Mn 5.01000 Mo 3.95000 Na 5.55000
Nd 4.71000 Ni 4.17000 P  5.45000 Pb 7.14000 Re 4.38000 Rh 8.18000 Ru 8.69000
Sb 3.11000 Se 7.59000 Si 5.06000 Sr 5.49000 Te 3.79000 Th 6.81000 Ti 3.14000
Tl 4.01000 U  34.0800 V  9.16000 Zn 3.77000 Zr 6.49000
```

NAME	MV INT.	CONCEN	RSD	BCOR	SCOR
Ag	5.71	0.0038	12.37	0.00000	0.00000
Al	9.11	0.0426	3.85	0.00000	0.00000
As	14.71	0.0148	87.37	0.00000	0.00000
B	5.47	0.0388	9.75	0.00000	0.00000
Ba	6.43	0.0006	62.45	0.00000	0.00000
Be	6.37	0.0001	28.87	0.00000	0.00000

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Ca	3.79	0.0003	7.53	0.00000	0.00000
Cd	8.44	0.0017	20.38	0.00000	0.00000
Ce	14.18	0.0206	128.58	0.00000	0.00000
Co	42.43	-0.011	-157.07	0.00000	0.00000
Cr	5.92	0.0042	65.85	0.00000	0.00000
Cu	12.31	0.0016	8.66	0.00000	0.00000
Dy	7.65	0.0014	50.92	0.00000	0.00000
Fe	6.38	0.0000		0.00000	0.00000
K	28.99	-0.041	-57.74	0.00000	0.00000
La	8.66	0.0027	23.08	0.00000	0.00000
Li	5.60	0.0006	57.74	0.00000	0.00000
Mg	3.17	0.0003	34.69	0.00000	0.00000
Mn	5.84	0.0004	62.92	0.00000	0.00000
Mo	4.72	0.0060	29.56	0.00000	0.00000
Na	6.60	-0.011	-0.00	0.00000	0.00000
Nd	5.66	0.0151	88.20	0.00000	0.00000
Ni	5.01	0.0075	41.63	0.00000	0.00000
P	6.39	0.0867	53.29	0.00000	0.00000
Pb	8.26	0.0441	43.27	0.00000	0.00000
Re	5.22	0.0043	81.04	0.00000	0.00000
Rh	9.34	0.0133	15.74	0.00000	0.00000
Ru	9.99	0.0046	72.16	0.00000	0.00000
Sb	3.90	0.0133	332.94	0.00000	0.00000
Se	8.61	0.0032	1531.75	0.00000	0.00000
Si	6.00	0.0191	32.48	0.00000	0.00000
Sr	6.45	0.0001	156.15	0.00000	0.00000
Te	4.62	0.0221	11.55	0.00000	0.00000
Th	8.03	0.0257	113.84	0.00000	0.00000
Ti	3.89	0.0065	41.94	0.00000	0.00000
Tl	5.22	0.3030	225.41	0.00000	0.00000
U	37.82	-0.030	-286.19	0.00000	0.00000
V	10.55	0.0031	28.36	0.00000	0.00000
Zn	4.53	0.0023	14.78	0.00000	0.00000
Zr	7.54	0.0022	28.64	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2086
Sample code 1   = C-5
Sample code 2   = BLK
Sample code 3   = 10XDIL
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2086
Sample code 1   : C-5
Sample code 2   : BLK
Sample code 3   : 10XDIL
Programme       : ALLELE          29-Oct-90  12:45:46
[1] Direct Intensities
Mg 4.75000 Al 8.21000 As 13.1900 B  4.48000 Ba 5.49000 Be 5.54000 Ca 15.5300
Cd 7.38000 Ce 12.4000 Co 38.2300 Cr 5.04000 Cu 10.8000 Dy 6.58000 Fe 5.48000
K  26.4600 La 7.47000 Li 4.77000 Mg 3.60000 Mn 4.99000 Mo 3.94000 Na 5.58000
Nd 4.74000 Ni 4.14000 P  5.40000 Pb 7.10000 Re 4.34000 Rh 8.16000 Ru 8.78000
Sb 3.19000 Se 7.68000 Si 5.08000 Sr 5.54000 Te 3.80000 Th 6.80000 Ti 3.15000
Tl 4.03000 U  34.0000 V  9.07000 Zn 3.94000 Zr 6.49000
[1] Direct Intensities
```

Ag 4.78000 Al 8.23000 As 13.3500 B 4.49000 Ba 5.50000 Be 5.50000 Ca 15.6000
Cd 7.40000 Ce 12.4000 Co 38.3000 Cr 5.07000 Cu 10.8000 Dy 6.59000 Fe 5.51000
K 26.4000 La 7.46000 Li 4.80000 Mg 3.60000 Mn 5.00000 Mo 3.92000 Na 5.63000
Nd 4.73000 Ni 4.15000 P 5.48000 Pb 7.15000 Re 4.37000 Rh 8.19000 Ru 8.81000
Sb 3.16000 Se 7.65000 Si 5.08000 Sr 5.52000 Te 3.80000 Th 6.80000 Ti 3.16000
Tl 3.99000 U 34.1700 V 9.11000 Zn 3.92000 Zr 6.50000
[1] Direct Intensities
Ag 4.79000 Al 8.26000 As 13.5500 B 4.45000 Ba 5.50000 Be 5.49000 Ca 15.6000
Cd 7.47000 Ce 12.4500 Co 38.3800 Cr 5.06000 Cu 10.8100 Dy 6.60000 Fe 5.48000
K 26.4700 La 7.48000 Li 4.78000 Mg 3.62000 Mn 5.02000 Mo 3.98000 Na 5.58000
Nd 4.73000 Ni 4.13000 P 5.46000 Pb 7.19000 Re 4.35000 Rh 8.16000 Ru 8.80000
Sb 3.18000 Se 7.71000 Si 5.07000 Sr 5.50000 Te 3.80000 Th 6.81000 Ti 3.14000
Tl 4.01000 U 34.1000 V 9.11000 Zn 3.98000 Zr 6.51000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.70	0.0027	62.45	0.00000	0.00000
Al	9.09	0.0360	19.87	0.00000	0.00000
As	14.70	0.0142	216.44	0.00000	0.00000
B	5.33	0.0267	6.44	0.00000	0.00000
Ba	6.45	0.0010	10.19	0.00000	0.00000
Be	6.37	0.0001	61.06	0.00000	0.00000
Ca	15.28	0.0458	0.32	0.00000	0.00000
Cd	8.45	0.0021	67.51	0.00000	0.00000
Ce	14.15	0.0083	144.35	0.00000	0.00000
Co	42.43	-0.011	-173.20	0.00000	0.00000
Cr	5.92	0.0042	28.64	0.00000	0.00000
Cu	12.31	0.0016	8.66	0.00000	0.00000
Dy	7.65	0.0011	42.86	0.00000	0.00000
Fe	6.36	-0.001	-74.23	0.00000	0.00000
K	29.02	-0.023	-94.66	0.00000	0.00000
La	8.64	0.0015	42.85	0.00000	0.00000
Li	5.61	0.0011	91.65	0.00000	0.00000
Mg	4.26	0.0063	0.96	0.00000	0.00000
Mn	5.81	0.0001	152.76	0.00000	0.00000
Mo	4.71	0.0054	32.73	0.00000	0.00000
Na	6.64	0.0148	108.25	0.00000	0.00000
Nd	5.65	0.0117	24.75	0.00000	0.00000
Ni	4.99	0.0040	37.50	0.00000	0.00000
P	6.36	0.0567	73.47	0.00000	0.00000
Pb	8.25	0.0406	29.41	0.00000	0.00000
Re	5.20	0.0020	76.37	0.00000	0.00000
Rh	9.33	0.0109	57.74	0.00000	0.00000
Ru	10.07	0.0142	13.48	0.00000	0.00000
Sb	3.89	0.0088	114.57	0.00000	0.00000
Se	8.58	-0.010	-150.01	0.00000	0.00000
Si	6.01	0.0214	9.62	0.00000	0.00000
Sr	6.47	0.0002	54.55	0.00000	0.00000
Te	4.62	0.0236	0.00	0.00000	0.00000
Th	8.00	0.0020	173.34	0.00000	0.00000
Ti	3.87	0.0047	23.08	0.00000	0.00000
Tl	5.16	-0.061	-199.92	0.00000	0.00000
U	37.82	-0.030	-256.32	0.00000	0.00000
V	10.53	0.0023	26.65	0.00000	0.00000
Zn	4.71	0.0064	10.41	0.00000	0.00000
Zr	7.54	0.0020	21.43	0.00000	0.00000

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More samples [Y/N] ?
Sample name = 904180

```
Sample number  = 2087
Sample code 1  = C-2
Sample code 2  = 2P1978
Sample code 3  = 10XDIL
Weight         =

Press <CR> when ready to start measurement
24;132H6n
Sample name    : 904180
Sample number  : 2087
Sample code 1  : C-2
Sample code 2  : 2P1978
Sample code 3  : 10XDIL
Programme      : ALLELE          29-Oct-90  12:49:56
[1] Direct Intensities
Ag 4.80000 Al 8.30000 As 13.4500 B  4.54000 Ba 5.49000 Be 5.54000 Ca 7.49000
Cd 7.47000 Ce 12.4500 Co 38.3400 Cr 5.91000 Cu 10.8100 Dy 6.60000 Fe 7.61000
K  26.8100 La 7.50000 Li 4.77000 Mg 3.48000 Mn 5.09000 Mo 4.21000 Na 174.700
Nd 4.74000 Ni 4.16000 P  14.2300 Pb 7.09000 Re 4.39000 Rh 8.18000 Ru 8.78000
Sb 3.17000 Se 7.80000 Si 6.51000 Sr 5.67000 Te 3.80000 Th 6.81000 Ti 3.17000
Tl 4.01000 U  34.1900 V  9.16000 Zn 3.80000 Zr 6.51000
[1] Direct Intensities
Ag 4.79000 Al 8.29000 As 13.2800 B  4.50000 Ba 5.49000 Be 5.52000 Ca 7.53000
Cd 7.49000 Ce 12.4700 Co 38.3900 Cr 5.88000 Cu 10.9400 Dy 6.59000 Fe 7.60000
K  26.8200 La 7.50000 Li 4.78000 Mg 3.47000 Mn 5.08000 Mo 4.20000 Na 175.300
Nd 4.76000 Ni 4.16000 P  14.1400 Pb 7.18000 Re 4.36000 Rh 8.16000 Ru 8.80000
Sb 3.20000 Se 7.80000 Si 6.50000 Sr 5.65000 Te 3.80000 Th 6.89000 Ti 3.15000
Tl 4.01000 U  34.1900 V  9.12000 Zn 3.80000 Zr 6.53000
[1] Direct Intensities
Ag 4.80000 Al 8.28000 As 13.3000 B  4.51000 Ba 5.50000 Be 5.55000 Ca 7.52000
Cd 7.45000 Ce 12.4900 Co 38.4000 Cr 5.92000 Cu 10.8900 Dy 6.65000 Fe 7.64000
K  26.9400 La 7.49000 Li 4.80000 Mg 3.48000 Mn 5.10000 Mo 4.01000 Na 175.100
Nd 4.76000 Ni 4.18000 P  14.4000 Pb 7.19000 Re 4.38000 Rh 8.17000 Ru 8.80000
Sb 3.19000 Se 7.72000 Si 6.53000 Sr 5.68000 Te 3.80000 Th 6.81000 Ti 3.17000
Tl 4.08000 U  34.1800 V  9.16000 Zn 3.80000 Zr 6.54000
```

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.72	0.0046	10.19	0.00000	0.00000
Al	9.15	0.0521	5.45	0.00000	0.00000
As	14.69	0.0108	146.71	0.00000	0.00000
B	5.37	0.0303	5.68	0.00000	0.00000
Ba	6.45	0.0010	10.83	0.00000	0.00000
Be	6.40	0.0002	21.82	0.00000	0.00000
Ca	7.79	0.0161	0.47	0.00000	0.00000
Cd	8.50	0.0037	16.22	0.00000	0.00000
Ce	14.20	0.0303	27.27	0.00000	0.00000
Co	42.49	0.0078	107.19	0.00000	0.00000
Cr	6.73	0.0706	2.31	0.00000	0.00000
Cu	12.38	0.0034	45.75	0.00000	0.00000
Dy	7.67	0.0022	68.88	0.00000	0.00000
Fe	8.36	0.0960	0.99	0.00000	0.00000
K	29.40	0.2189	19.38	0.00000	0.00000
La	8.66	0.0031	11.55	0.00000	0.00000
Li	5.61	0.0011	91.66	0.00000	0.00000
Mg	4.13	0.0056	0.54	0.00000	0.00000
Mn	5.89	0.0010	10.35	0.00000	0.00000
Mo	4.90	0.0166	39.31	0.00000	0.00000
Na	162.87	94.235	0.18	0.00000	0.00000
Nd	5.67	0.0218	26.65	0.00000	0.00000

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Ni	5.02	0.0081	21.65	0.00000	0.00000
'	16.68	8.8667	1.49	0.00000	0.00000
'b	8.25	0.0424	34.42	0.00000	0.00000
Re	5.22	0.0043	35.25	0.00000	0.00000
Rh	9.33	0.0109	33.34	0.00000	0.00000
Ru	10.06	0.0138	10.50	0.00000	0.00000
Sb	3.90	0.0155	65.47	0.00000	0.00000
Se	8.67	0.0356	62.98	0.00000	0.00000
Si	7.37	0.5348	1.02	0.00000	0.00000
Sr	6.60	0.0010	8.33	0.00000	0.00000
Te	4.62	0.0236	0.00	0.00000	0.00000
Th	8.03	0.0218	125.97	0.00000	0.00000
Ti	3.89	0.0061	20.38	0.00000	0.00000
Tl	5.19	0.0808	303.20	0.00000	0.00000
U	37.91	0.0563	9.12	0.00000	0.00000
V	10.58	0.0037	16.90	0.00000	0.00000
Zn	4.57	0.0032	0.00	0.00000	0.00000
Zr	7.56	0.0031	20.83	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2088
Sample code 1   = C-1
Sample code 2   = 2P0698
Sample code 3   = 10XDIL
Weight          =

'ress <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2088
Sample code 1   : C-1
Sample code 2   : 2P0698
Sample code 3   : 10XDIL
Programme       : ALLELE          29-Oct-90  12:54:08
[1] Direct Intensities
Ag 4.79000 Al 8.29000 As 13.5100 B  4.42000 Ba 5.46000 Be 5.49000 Ca 8.81000
Cd 7.42000 Ce 12.4100 Co 38.2900 Cr 5.80000 Cu 10.8000 Dy 6.60000 Fe 7.72000
K  26.8000 La 7.47000 Li 4.80000 Mg 3.56000 Mn 5.07000 Mo 4.14000 Na 165.600
Nd 4.72000 Ni 4.13000 P  13.3900 Pb 7.10000 Re 4.40000 Rh 8.18000 Ru 8.89000
Sb 3.19000 Se 7.80000 Si 6.29000 Sr 5.66000 Te 3.80000 Th 6.81000 Ti 3.17000
Tl 4.00000 U  34.0100 V  9.13000 Zn 3.81000 Zr 6.49000
[1] Direct Intensities
Ag 4.80000 Al 8.29000 As 13.5000 B  4.42000 Ba 5.50000 Be 5.52000 Ca 8.88000
Cd 7.43000 Ce 12.4800 Co 38.3600 Cr 5.81000 Cu 10.9000 Dy 6.60000 Fe 7.73000
K  26.8000 La 7.49000 Li 4.79000 Mg 3.56000 Mn 5.08000 Mo 4.06000 Na 165.600
Nd 4.74000 Ni 4.16000 P  13.4000 Pb 7.07000 Re 4.42000 Rh 8.21000 Ru 8.80000
Sb 3.18000 Se 7.91000 Si 6.33000 Sr 5.67000 Te 3.81000 Th 6.81000 Ti 3.18000
Tl 4.11000 U  34.1800 V  9.14000 Zn 3.81000 Zr 6.49000
[1] Direct Intensities
Ag 4.78000 Al 8.30000 As 13.3500 B  4.47000 Ba 5.49000 Be 5.51000 Ca 8.80000
Cd 7.48000 Ce 12.4600 Co 38.4000 Cr 5.81000 Cu 10.9100 Dy 6.59000 Fe 7.73000
 : 26.8000 La 7.49000 Li 4.79000 Mg 3.51000 Mn 5.08000 Mo 4.03000 Na 165.700
Nd 4.75000 Ni 4.15000 P  13.8000 Pb 7.21000 Re 4.37000 Rh 8.17000 Ru 8.80000
Sb 3.14000 Se 7.78000 Si 6.34000 Sr 5.65000 Te 3.80000 Th 6.80000 Ti 3.15000
Tl 4.06000 U  34.1800 V  9.18000 Zn 3.81000 Zr 6.52000
```

E03-115

NAME	MV INT	CONCEN	RSD	BCOR	SCOR

Ag	5.71	0.0041	20.00	0.00000	0.00000
Al	9.15	0.0531	3.09	0.00000	0.00000
As	14.79	0.0295	51.71	0.00000	0.00000
B	5.29	0.0237	10.07	0.00000	0.00000
Ba	6.44	0.0008	48.04	0.00000	0.00000
Be	6.37	0.0001	38.19	0.00000	0.00000
Ca	9.01	0.0210	0.76	0.00000	0.00000
Cd	8.48	0.0029	33.25	0.00000	0.00000
Ce	14.18	0.0220	67.61	0.00000	0.00000
Co	42.47	0.0009	1671.63	0.00000	0.00000
Cr	6.63	0.0630	0.72	0.00000	0.00000
Cu	12.37	0.0032	45.62	0.00000	0.00000
Dy	7.65	0.0014	19.24	0.00000	0.00000
Fe	8.47	0.1011	0.26	0.00000	0.00000
K	29.35	0.1857	0.00	0.00000	0.00000
La	8.65	0.0023	31.49	0.00000	0.00000
Li	5.61	0.0017	21.65	0.00000	0.00000
Mg	4.20	0.0060	2.53	0.00000	0.00000
Mn	5.88	0.0009	6.93	0.00000	0.00000
Mo	4.84	0.0129	25.46	0.00000	0.00000
Na	154.21	89.008	0.04	0.00000	0.00000
Nd	5.65	0.0134	57.28	0.00000	0.00000
Ni	5.00	0.0050	45.83	0.00000	0.00000
P	15.83	8.1400	2.87	0.00000	0.00000
Pb	8.23	0.0353	55.28	0.00000	0.00000
Re	5.24	0.0062	39.74	0.00000	0.00000
Rh	9.35	0.0169	44.61	0.00000	0.00000
Ru	10.10	0.0184	35.43	0.00000	0.00000
Sb	3.89	0.0044	396.91	0.00000	0.00000
Se	8.72	0.0630	53.85	0.00000	0.00000
Si	7.19	0.4658	2.03	0.00000	0.00000
Sr	6.60	0.0010	5.66	0.00000	0.00000
Te	4.62	0.0251	10.19	0.00000	0.00000
Th	8.00	0.0040	86.61	0.00000	0.00000
Ti	3.89	0.0065	25.46	0.00000	0.00000
Tl	5.21	0.2222	150.22	0.00000	0.00000
U	37.85	0.0000		0.00000	0.00000
V	10.58	0.0038	18.90	0.00000	0.00000
Zn	4.58	0.0034	0.00	0.00000	0.00000
Zr	7.54	0.0020	37.12	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904180
Sample number = 2089
Sample code 1 = C-5
Sample code 2 = BLK
Sample code 3 = 2XDIL
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 904180
Sample number : 2089
Sample code 1 : C-5
Sample code 2 : BLK
Sample code 3 : 2XDIL
Programme : ALLELE 29-Oct-90 12:59:05
[1] Direct Intensities
Ag 4.77000 Al 8.24000 As 13.7300 B 4.27000 Ba 5.46000 Be 5.50000 Ca 10.1300

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Cd 7.35000 Ce 12.3700 Co 38.1000 Cr 5.01000 Cu 10.8000 Dy 6.57000 Fe 5.49000
K 26.2600 La 7.44000 Li 4.76000 Mg 3.80000 Mn 5.01000 Mo 3.96000 Na 5.59000
Nd 4.70000 Ni 4.16000 P 5.59000 Pb 7.09000 Re 4.34000 Rh 8.13000 Ru 8.80000
Sb 3.20000 Se 7.73000 Si 5.07000 Sr 5.51000 Te 3.79000 Th 6.80000 Ti 3.16000
Tl 4.06000 U 33.9500 V 9.07000 Zn 3.79000 Zr 6.48000
[1] Direct Intensities
Ag 4.75000 Al 8.25000 As 13.5600 B 4.26000 Ba 5.48000 Be 5.51000 Ca 10.1000
Cd 7.41000 Ce 12.3700 Co 38.1000 Cr 5.01000 Cu 10.8000 Dy 6.56000 Fe 5.48000
K 26.4200 La 7.41000 Li 4.76000 Mg 3.80000 Mn 5.01000 Mo 3.89000 Na 5.57000
Nd 4.70000 Ni 4.16000 P 5.48000 Pb 7.09000 Re 4.34000 Rh 8.15000 Ru 8.72000
Sb 3.15000 Se 7.68000 Si 5.08000 Sr 5.49000 Te 3.79000 Th 6.80000 Ti 3.15000
Tl 4.08000 U 33.9200 V 9.03000 Zn 3.78000 Zr 6.49000
[1] Direct Intensities
Ag 4.76000 Al 8.23000 As 13.1700 B 4.28000 Ba 5.43000 Be 5.51000 Ca 10.1900
Cd 7.35000 Ce 12.3600 Co 38.1200 Cr 5.00000 Cu 10.7900 Dy 6.56000 Fe 5.42000
K 26.3200 La 7.42000 Li 4.76000 Mg 3.80000 Mn 5.05000 Mo 3.80000 Na 5.59000
Nd 4.70000 Ni 4.15000 P 5.41000 Pb 7.06000 Re 4.39000 Rh 8.14000 Ru 8.77000
Sb 3.15000 Se 7.56000 Si 5.06000 Sr 5.48000 Te 3.79000 Th 6.80000 Ti 3.10000
Tl 4.07000 U 33.9300 V 9.02000 Zn 3.80000 Zr 6.49000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.69	0.0016	50.00	0.00000	0.00000
Al	9.10	0.0379	7.50	0.00000	0.00000
As	14.82	0.0352	138.92	0.00000	0.00000
B	5.14	0.0099	8.33	0.00000	0.00000
Ba	6.42	0.0003	150.99	0.00000	0.00000
Be	6.37	0.0001	14.43	0.00000	0.00000
Ca	10.23	0.0258	0.65	0.00000	0.00000
Cd	8.41	0.0007	148.45	0.00000	0.00000
Ce	14.10	-0.012	-19.24	0.00000	0.00000
Co	42.24	-0.063	-4.81	0.00000	0.00000
Cr	5.87	0.0003	173.22	0.00000	0.00000
Cu	12.30	0.0014	9.62	0.00000	0.00000
Dy	7.62	-0.000	-173.25	0.00000	0.00000
Fe	6.34	-0.002	-75.72	0.00000	0.00000
K	28.92	-0.088	-53.89	0.00000	0.00000
La	8.59	-0.001	-65.46	0.00000	0.00000
Li	5.58	-0.000	0.00	0.00000	0.00000
Mg	4.44	0.0073	0.00	0.00000	0.00000
Mn	5.83	0.0003	76.98	0.00000	0.00000
Mo	4.66	0.0017	267.36	0.00000	0.00000
Na	6.63	0.0074	86.60	0.00000	0.00000
Nd	5.62	-0.005	0.00	0.00000	0.00000
Ni	5.01	0.0065	13.32	0.00000	0.00000
P	6.41	0.1033	87.81	0.00000	0.00000
Pb	8.18	0.0230	19.98	0.00000	0.00000
Re	5.20	0.0023	123.72	0.00000	0.00000
Rh	9.31	-0.000	*******	0.00000	0.00000
Ru	10.04	0.0100	50.52	0.00000	0.00000
Sb	3.88	0.0022	866.23	0.00000	0.00000
Se	8.56	-0.021	-201.62	0.00000	0.00000
Si	6.00	0.0191	18.75	0.00000	0.00000
Sr	6.44	0.0001	152.78	0.00000	0.00000
Te	4.61	0.0192	0.00	0.00000	0.00000
Th	7.99	-0.000	-50.00	0.00000	0.00000
Ti	3.86	0.0032	107.15	0.00000	0.00000
Tl	5.22	0.3030	20.00	0.00000	0.00000
U	37.67	-0.169	-8.04	0.00000	0.00000
V	10.47	0.0008	88.19	0.00000	0.00000

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Zn	4.56	0.0030	7.32	0.00000	0.00000
Zr	7.52	0.0014	17.32	0.00000	0.00000

More samples [Y/N] ?
Sample name = 904180
Sample number = 2090
Sample code 1 = C-2
Sample code 2 = 2P1978
Sample code 3 = 2XDIL
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : 904180
Sample number : 2090
Sample code 1 : C-2
Sample code 2 : 2P1978
Sample code 3 : 2XDIL
Programme : ALLELE 29-Oct-90 13:03:23
[1] Direct Intensities
Ag 4.80000 Al 8.39000 As 13.1000 B 4.81000 Ba 5.47000 Be 5.48000 Ca 14.3800
Cd 7.37000 Ce 12.3700 Co 37.9800 Cr 9.16000 Cu 10.8000 Dy 6.53000 Fe 16.0000
K 28.3200 La 7.41000 Li 4.77000 Mg 5.26000 Mn 5.19000 Mo 4.41000 Na 844.500
Nd 4.71000 Ni 4.11000 P 49.9200 Pb 7.18000 Re 4.32000 Rh 8.12000 Ru 8.75000
Sb 3.15000 Se 7.95000 Si 12.4300 Sr 6.21000 Te 3.77000 Th 6.79000 Ti 3.14000
Tl 4.05000 U 33.8900 V 9.06000 Zn 3.94000 Zr 6.50000
[1] Direct Intensities
Ag 4.80000 Al 8.38000 As 13.7100 B 4.80000 Ba 5.45000 Be 5.41000 Ca 14.3900
Cd 7.29000 Ce 12.3500 Co 37.8000 Cr 9.16000 Cu 10.7900 Dy 6.54000 Fe 16.0100
K 28.2700 La 7.40000 Li 4.78000 Mg 5.27000 Mn 5.18000 Mo 4.34000 Na 846.500
Nd 4.69000 Ni 4.11000 P 52.1000 Pb 7.08000 Re 4.32000 Rh 8.14000 Ru 8.68000
Sb 3.17000 Se 7.80000 Si 12.4800 Sr 6.21000 Te 3.77000 Th 6.78000 Ti 3.11000
Tl 4.02000 U 33.8000 V 9.10000 Zn 3.81000 Zr 6.46000
[1] Direct Intensities
Ag 4.78000 Al 8.34000 As 13.2900 B 4.81000 Ba 5.48000 Be 5.46000 Ca 14.4800
Cd 7.32000 Ce 12.2800 Co 37.7900 Cr 9.15000 Cu 10.8000 Dy 6.49000 Fe 16.0000
K 28.1100 La 7.39000 Li 4.76000 Mg 5.26000 Mn 5.20000 Mo 4.37000 Na 851.700
Nd 4.69000 Ni 4.14000 P 49.3100 Pb 7.10000 Re 4.31000 Rh 8.09000 Ru 8.71000
Sb 3.16000 Se 7.80000 Si 12.4900 Sr 6.20000 Te 3.79000 Th 6.77000 Ti 3.13000
Tl 4.09000 U 33.7500 V 9.09000 Zn 3.80000 Zr 6.46000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.72	0.0044	21.65	0.00000	0.00000
Al	9.22	0.0748	10.05	0.00000	0.00000
As	14.71	0.0148	360.16	0.00000	0.00000
B	5.64	0.0542	0.88	0.00000	0.00000
Ba	6.42	0.0005	57.28	0.00000	0.00000
Be	6.32	-0.000	-216.34	0.00000	0.00000
Ca	14.20	0.0415	0.49	0.00000	0.00000
Cd	8.37	-0.001	-202.07	0.00000	0.00000
Ce	14.07	-0.026	-74.62	0.00000	0.00000
Co	42.00	-0.128	-21.82	0.00000	0.00000
Cr	9.83	0.3257	0.14	0.00000	0.00000
Cu	12.30	0.0014	9.62	0.00000	0.00000
Dy	7.58	-0.002	-56.70	0.00000	0.00000
Fe	16.26	0.4790	0.06	0.00000	0.00000
K	30.67	1.0260	6.27	0.00000	0.00000
La	8.57	-0.003	-21.43	0.00000	0.00000

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Li	5.59	0.0002	300.14	0.00000	0.00000
Mg	5.83	0.0150	0.20	0.00000	0.00000
In	5.99	0.0020	5.08	0.00000	0.00000
Io	5.12	0.0301	6.75	0.00000	0.00000
Na	783.00	)468.22	0.44	0.00000	0.00000
Nd	5.62	-0.007	-86.60	0.00000	0.00000
Ni	4.97	0.0010	259.79	0.00000	0.00000
P	59.08	)45.053	3.26	0.00000	0.00000
Pb	8.22	0.0335	41.77	0.00000	0.00000
Re	5.16	-0.002	-34.64	0.00000	0.00000
Rh	9.29	-0.008	-107.85	0.00000	0.00000
Ru	9.99	0.0038	117.06	0.00000	0.00000
Sb	3.88	-0.002	-299.91	0.00000	0.00000
Se	8.74	0.0727	57.73	0.00000	0.00000
Si	13.03	2.6623	0.43	0.00000	0.00000
Sr	7.10	0.0041	0.80	0.00000	0.00000
Te	4.60	0.0133	38.49	0.00000	0.00000
Th	7.97	-0.012	-50.00	0.00000	0.00000
Ti	3.85	0.0022	76.38	0.00000	0.00000
Tl	5.20	0.2020	105.37	0.00000	0.00000
U	37.56	-0.275	-22.88	0.00000	0.00000
V	10.52	0.0020	28.39	0.00000	0.00000
Zn	4.62	0.0043	39.71	0.00000	0.00000
Zr	7.51	0.0008	115.48	0.00000	0.00000

```
More samples [Y/N] ?
Sample name     = 904180
Sample number   = 2091
Sample code 1   = C-1
Sample code 2   = 2P0698
Sample code 3   = 2XDIL
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904180
Sample number   : 2091
Sample code 1   : C-1
Sample code 2   : 2P0698
Sample code 3   : 2XDIL
Programme       : ALLELE          29-Oct-90  13:07:42
[1] Direct Intensities
Ag 4.78000 Al 8.39000 As 13.2800 B  4.79000 Ba 5.40000 Be 5.45000 Ca 15.7100
Cd 7.29000 Ce 12.2800 Co 37.7700 Cr 8.95000 Cu 10.7900 Dy 6.49000 Fe 16.3900
K  28.1700 La 7.36000 Li 4.75000 Mg 5.01000 Mn 5.13000 Mo 4.38000 Na 807.400
Nd 4.67000 Ni 4.11000 P  44.6300 Pb 6.96000 Re 4.31000 Rh 8.07000 Ru 8.64000
Sb 3.09000 Se 7.68000 Si 11.4600 Sr 6.23000 Te 3.76000 Th 6.78000 Ti 3.13000
Tl 3.93000 U  33.6800 V  9.01000 Zn 3.81000 Zr 6.42000
[1] Direct Intensities
Ag 4.80000 Al 8.39000 As 13.3500 B  4.77000 Ba 5.41000 Be 5.43000 Ca 15.6300
Cd 7.22000 Ce 12.2700 Co 37.7700 Cr 8.93000 Cu 10.8000 Dy 6.51000 Fe 16.3400
K  28.1700 La 7.39000 Li 4.74000 Mg 5.00000 Mn 5.18000 Mo 4.43000 Na 803.000
Nd 4.65000 Ni 4.10000 P  46.6500 Pb 7.08000 Re 4.33000 Rh 8.08000 Ru 8.63000
Sb 3.11000 Se 7.68000 Si 11.4100 Sr 6.23000 Te 3.77000 Th 6.76000 Ti 3.11000
Tl 4.10000 U  33.7400 V  9.00000 Zn 3.80000 Zr 6.41000
[1] Direct Intensities
Ag 4.77000 Al 8.36000 As 13.4600 B  4.80000 Ba 5.42000 Be 5.45000 Ca 15.6700
Cd 7.31000 Ce 12.3400 Co 37.9000 Cr 8.97000 Cu 10.8100 Dy 6.51000 Fe 16.3900
K  28.1900 La 7.40000 Li 4.75000 Mg 5.00000 Mn 5.15000 Mo 4.38000 Na 803.800
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Nd 4.68000 Ni 4.08000 P 46.7000 Pb 7.05000 Re 4.35000 Rh 8.08000 Ru 8.70000
Sb 3.16000 Se 7.74000 Si 11.4500 Sr 6.19000 Te 3.76000 Th 6.76000 Ti 3.13000
Tl 4.10000 U 33.7500 V 9.02000 Zn 3.79000 Zr 6.43000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.71	0.0035	35.25	0.00000	0.00000
Al	9.23	0.0777	6.34	0.00000	0.00000
As	14.70	0.0142	108.88	0.00000	0.00000
B	5.62	0.0525	2.40	0.00000	0.00000
Ba	6.37	-0.001	-33.33	0.00000	0.00000
Be	6.31	-0.000	-49.49	0.00000	0.00000
Ca	15.37	0.0461	0.32	0.00000	0.00000
Cd	8.32	-0.002	-64.44	0.00000	0.00000
Ce	14.04	-0.041	-37.86	0.00000	0.00000
Co	41.96	-0.139	-14.07	0.00000	0.00000
Cr	9.63	0.3095	0.51	0.00000	0.00000
Cu	12.30	0.0015	15.79	0.00000	0.00000
Dy	7.57	-0.003	-18.23	0.00000	0.00000
Fe	16.61	0.4959	0.27	0.00000	0.00000
K	30.62	0.9928	0.68	0.00000	0.00000
La	8.56	-0.004	-32.87	0.00000	0.00000
Li	5.57	-0.001	-28.87	0.00000	0.00000
Mg	5.59	0.0137	0.22	0.00000	0.00000
Mn	5.95	0.0017	15.73	0.00000	0.00000
Mo	5.14	0.0314	5.31	0.00000	0.00000
Na	743.50	)444.40	0.29	0.00000	0.00000
Nd	5.59	-0.022	-35.25	0.00000	0.00000
Ni	4.95	-0.003	-91.65	0.00000	0.00000
P	53.86	)40.603	2.91	0.00000	0.00000
Pb	8.14	0.0097	170.31	0.00000	0.00000
Re	5.18	-0.000	-599.96	0.00000	0.00000
Rh	9.25	-0.023	-9.12	0.00000	0.00000
Ru	9.93	-0.003	-141.97	0.00000	0.00000
Sb	3.84	-0.029	-83.20	0.00000	0.00000
Se	8.60	0.0000	1761250	0.00000	0.00000
Si	12.05	2.2954	0.41	0.00000	0.00000
Sr	7.11	0.0042	3.15	0.00000	0.00000
Te	4.59	0.0074	34.64	0.00000	0.00000
Th	7.96	-0.020	-34.64	0.00000	0.00000
Ti	3.85	0.0018	69.28	0.00000	0.00000
Tl	5.19	0.1414	420.71	0.00000	0.00000
U	37.47	-0.355	-9.46	0.00000	0.00000
V	10.45	0.0000		0.00000	0.00000
Zn	4.57	0.0032	6.82	0.00000	0.00000
Zr	7.46	-0.001	-30.00	0.00000	0.00000

More samples [Y/N] ?
Sample name = CH2
Sample number = 2092
Sample code 1 =
Sample code 2 =
Sample code 3 =
Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : CH2
Sample number : 2092

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Programme : ALLÈLE 29-Oct-90 13:12:17

[1] Direct Intensities

Ag 5.80000 Al 9.50000 As 70.7800 B 4.62000 Ba 552.200 Be 393.600 Ca 11.7600
Cd 7.97000 Ce 36.0800 Co 75.4100 Cr 5.28000 Cu 418.600 Dy 6.94000 Fe 221.100
K 26.4100 La 8.52000 Li 4.75000 Mg 1870.00 Mn 5.31000 Mo 174.600 Na 23.1900
Nd 4.92000 Ni 69.2600 P 7.68000 Pb 43.9500 Re 4.54000 Rh 35.0900 Ru 9.65000
Sb 17.9300 Se 10.1000 Si 5.90000 Sr 1744.00 Te 26.0100 Th 8.35000 Ti 93.8000
Tl 4.41000 U 70.2800 V 371.400 Zn 452.100 Zr 239.700

[1] Direct Intensities

Ag 5.80000 Al 9.53000 As 69.9400 B 4.60000 Ba 554.800 Be 395.200 Ca 11.8000
Cd 7.95000 Ce 36.1600 Co 75.5400 Cr 5.31000 Cu 420.900 Dy 6.95000 Fe 221.700
K 26.5100 La 8.54000 Li 4.70000 Mg 1877.00 Mn 5.28000 Mo 175.100 Na 23.3700
Nd 4.92000 Ni 69.4400 P 7.99000 Pb 44.1800 Re 4.51000 Rh 35.1800 Ru 9.66000
Sb 17.9300 Se 10.1400 Si 5.95000 Sr 1750.00 Te 25.9900 Th 8.34000 Ti 94.1400
Tl 4.50000 U 70.3800 V 372.600 Zn 454.300 Zr 240.500

[1] Direct Intensities

Ag 5.80000 Al 9.51000 As 71.1100 B 4.60000 Ba 552.400 Be 393.400 Ca 11.7600
Cd 8.08000 Ce 36.0800 Co 75.5000 Cr 5.28000 Cu 419.300 Dy 6.93000 Fe 221.100
K 26.2900 La 8.52000 Li 4.73000 Mg 1872.00 Mn 5.29000 Mo 174.200 Na 23.3100
Nd 4.94000 Ni 69.2900 P 8.01000 Pb 44.1400 Re 4.52000 Rh 35.0800 Ru 9.60000
Sb 17.8000 Se 10.2500 Si 5.93000 Sr 1741.00 Te 26.1000 Th 8.36000 Ti 93.8000
Tl 4.53000 U 70.3200 V 371.600 Zn 452.000 Zr 239.600

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	6.67	0.0867	0.00	0.00000	0.00000
Al	10.30	0.3998	1.09	0.00000	0.00000
As	68.04	9.7699	1.05	0.00000	0.00000
B	5.45	0.0377	2.53	0.00000	0.00000
Ba	513.05	9.8354	0.26	0.00000	0.00000
Be	367.94	0.9900	0.25	0.00000	0.00000
Ca	11.75	0.0318	0.27	0.00000	0.00000
Cd	9.01	0.0196	10.71	0.00000	0.00000
Ce	36.06	9.7881	0.19	0.00000	0.00000
Co	77.47	9.7072	0.18	0.00000	0.00000
Cr	6.14	0.0225	6.04	0.00000	0.00000
Cu	387.92	9.7683	0.29	0.00000	0.00000
Dy	7.97	0.0172	2.68	0.00000	0.00000
Fe	209.55	9.8539	0.16	0.00000	0.00000
K	29.98	-0.047	-137.70	0.00000	0.00000
La	9.62	0.0675	1.07	0.00000	0.00000
Li	5.55	-0.003	-62.91	0.00000	0.00000
Mg	1782.92	9.8284	0.19	0.00000	0.00000
Mn	6.08	0.0031	5.09	0.00000	0.00000
Mo	166.05	9.8728	0.26	0.00000	0.00000
Na	22.96	9.8538	0.52	0.00000	0.00000
Nd	5.83	0.1088	5.33	0.00000	0.00000
Ni	66.74	9.8455	0.15	0.00000	0.00000
P	9.22	2.5033	7.39	0.00000	0.00000
Pb	43.01	9.8235	0.33	0.00000	0.00000
Re	5.36	0.0187	8.04	0.00000	0.00000
Rh	34.35	9.7789	0.20	0.00000	0.00000
Ru	10.87	0.1194	3.37	0.00000	0.00000
Sb	17.83	9.7635	0.51	0.00000	0.00000
Se	10.93	1.1944	3.15	0.00000	0.00000
Si	6.81	0.3252	2.77	0.00000	0.00000
Sr	1607.43	9.8509	0.26	0.00000	0.00000
Te	25.38	9.8715	0.26	0.00000	0.00000
Th	9.43	0.9206	0.65	0.00000	0.00000
Ti	89.08	9.8371	0.22	0.00000	0.00000

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Tl	5.58	2.7879	13.58	0.00000	0.00000
J	71.60	32.168	0.14	0.00000	0.00000
'	351.97	9.8311	0.18	0.00000	0.00000
Zn	432.61	9.7936	0.29	0.00000	0.00000
Zr	224.16	9.8468	0.21	0.00000	0.00000

More samples [Y/N] ?
Sample name = CL1
Sample number = 2093
Sample code 1 =
Sample code 2 =
Sample code 3 =

Weight =

Press <CR> when ready to start measurement
24;132H6n
Sample name : CL1
Sample number : 2093
Programme : ALLELE 29-Oct-90 13:18:10
[1] Direct Intensities
Ag 4.77000 Al 8.26000 As 13.1900 B 4.20000 Ba 5.49000 Be 5.50000 Ca 2.98000
Cd 7.38000 Ce 12.3700 Co 37.9800 Cr 5.01000 Cu 10.8000 Dy 6.54000 Fe 5.51000
K 26.2600 La 7.45000 Li 4.75000 Mg 2.47000 Mn 4.99000 Mo 4.05000 Na 5.56000
Nd 4.69000 Ni 4.11000 P 5.48000 Pb 7.18000 Re 4.38000 Rh 8.13000 Ru 8.70000
Sb 3.20000 Se 7.74000 Si 5.01000 Sr 5.52000 Te 3.80000 Th 6.80000 Ti 3.16000
Tl 4.22000 U 33.8900 V 9.07000 Zn 3.73000 Zr 6.49000
[1] Direct Intensities
Ag 4.78000 Al 8.25000 As 13.7500 B 4.18000 Ba 5.46000 Be 5.52000 Ca 2.99000
Cd 7.39000 Ce 12.3400 Co 37.9600 Cr 5.02000 Cu 10.7400 Dy 6.55000 Fe 5.48000
K 26.2000 La 7.46000 Li 4.72000 Mg 2.41000 Mn 5.00000 Mo 3.94000 Na 5.53000
Nd 4.71000 Ni 4.16000 P 5.38000 Pb 7.16000 Re 4.35000 Rh 8.14000 Ru 8.67000
Sb 3.15000 Se 7.67000 Si 5.02000 Sr 5.49000 Te 3.78000 Th 6.79000 Ti 3.14000
Tl 4.18000 U 33.8000 V 9.00000 Zn 3.74000 Zr 6.49000
[1] Direct Intensities
Ag 4.74000 Al 8.27000 As 13.4400 B 4.19000 Ba 5.42000 Be 5.49000 Ca 3.00000
Cd 7.33000 Ce 12.3500 Co 37.9900 Cr 5.01000 Cu 10.7800 Dy 6.55000 Fe 5.50000
K 26.2000 La 7.40000 Li 4.76000 Mg 2.48000 Mn 5.00000 Mo 4.00000 Na 5.52000
Nd 4.70000 Ni 4.13000 P 5.55000 Pb 7.11000 Re 4.36000 Rh 8.13000 Ru 8.69000
Sb 3.20000 Se 7.69000 Si 5.01000 Sr 5.46000 Te 3.78000 Th 6.80000 Ti 3.15000
Tl 4.19000 U 33.8000 V 9.00000 Zn 3.74000 Zr 6.44000

NAME	MV INT	CONCEN	RSD	BCOR	SCOR
Ag	5.69	0.0019	89.22	0.00000	0.00000
Al	9.12	0.0436	6.52	0.00000	0.00000
As	14.79	0.0307	155.85	0.00000	0.00000
B	5.06	0.0033	25.00	0.00000	0.00000
Ba	6.42	0.0003	210.70	0.00000	0.00000
Be	6.37	0.0001	41.66	0.00000	0.00000
Ca	3.59	-0.001	-7.14	0.00000	0.00000
Cd	8.41	0.0006	160.72	0.00000	0.00000
Ce	14.09	-0.018	-35.25	0.00000	0.00000
Co	42.12	-0.097	-4.13	0.00000	0.00000
Cr	5.88	0.0008	57.73	0.00000	0.00000
Cu	12.28	0.0009	83.32	0.00000	0.00000
Dy	7.61	-0.001	-28.87	0.00000	0.00000
Fe	6.37	-0.001	-91.66	0.00000	0.00000
K	28.81	-0.154	-13.16	0.00000	0.00000

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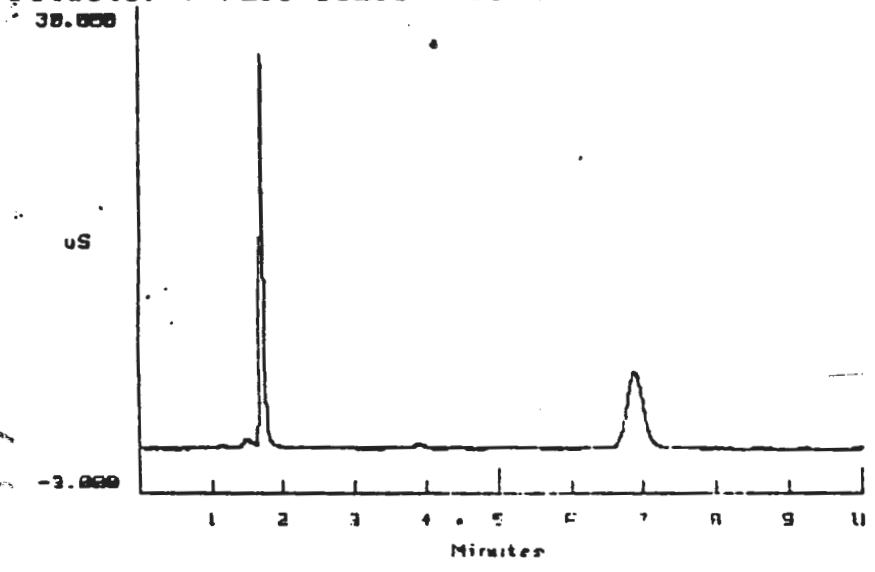
La	8.61	-0.001	-321.46	0.00000	0.00000
Li	5.57	-0.002	-89.21	0.00000	0.00000
Mg	3.16	0.0003	75.72	0.00000	0.00000
Mn	5.80	0.0000	173.24	0.00000	0.00000
Mo	4.76	0.0083	38.42	0.00000	0.00000
Na	6.59	-0.019	-62.45	0.00000	0.00000
Nd	5.62	-0.005	-99.99	0.00000	0.00000
Ni	4.99	0.0030	125.83	0.00000	0.00000
P	6.38	0.0800	106.80	0.00000	0.00000
Pb	8.25	0.0415	23.01	0.00000	0.00000
Re	5.21	0.0030	50.92	0.00000	0.00000
Rh	9.30	-0.002	-86.60	0.00000	0.00000
Ru	9.96	0.0004	458.26	0.00000	0.00000
Sb	3.90	0.0133	144.35	0.00000	0.00000
Se	8.60	0.0000	1833200	0.00000	0.00000
Si	5.95	-0.001	-173.23	0.00000	0.00000
Sr	6.44	0.0000	-450.06	0.00000	0.00000
Te	4.61	0.0177	28.87	0.00000	0.00000
Th	7.99	-0.002	-173.11	0.00000	0.00000
Ti	3.87	0.0047	23.08	0.00000	0.00000
Tl	5.33	1.0707	11.78	0.00000	0.00000
U	37.57	-0.261	-17.71	0.00000	0.00000
V	10.46	0.0004	303.13	0.00000	0.00000
Zn	4.51	0.0018	6.93	0.00000	0.00000
Zr	7.51	0.0008	144.34	0.00000	0.00000

More samples [Y/N] ? N
>LGF

Real time chromatogram of CIM 705 System 1 Cycle 7

Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



E03-124

E4 - IC/TOC/TIC/TC

IC CALCULATIONS

Calculations to support the generation of the final IC reports are performed within a LOTUS 123 spreadsheet. The raw analytical data (in µg/mL or ppm) and sample preparation data are keyed into an IC spreadsheet template and both a raw data report and final report are generated. The calculations below (identified as A thru F) accompany the IC CALCULATION KEY.

General Information:

The "boxed" areas in the IC CALCULATION KEY are sample information and worksheet analysis data which is keyed into the spreadsheet template. This data/information is verified by both the analyst and reviewer.

Calculated mg/kg values are calculated and displayed to 3 significant digits only.

At the current time, the "measured" (not the true) spike control values are used to calculated the spike added to the sample (in mg/kg) and the percent spike recovery. Difficulties have arisen in the longterm stability of the multi-anion control standard which has prompted this decision.

Key A: Dilution factors for Samples 1,2,3 & 5 (blank)

$$\text{Samp Dil} = \frac{(\text{Vol mL}) + (\text{Wt gm})}{(\text{Wt gm})}$$

Key B: Dilution factor for Spike Control, Sample 4

$$\text{Samp Dil} = \frac{(\text{Vol mL})}{(\text{Spike mL})}$$

Key C: Concentration for Samples 1 thru 5 (blank)

Sample X (mg/kg) = (µg/mL Sample X) * (Samp Dil Sample X)

Key D: Relative Percent Difference between Sample 1 & 2

$$RPD = \left| \frac{(S1 - S2)}{(S1 + S2) / 2} \right| * 100$$

Where: S1 = mg/kg concentration of sample 1
S2 = mg/kg concentration of sample 2

Key E: Spike added to Sample 3 [Sample 3 mg/kg equilalency]

(Sample 4 [µg/mL]) * (Spike mL) * (Samp Dil Sample 3)

Key F: Percent Spike Recovery (based on measured spike control)

$$\% \text{ Spk Rec} = \frac{S3 - ((S1 + S2)/2)}{S3 \text{ Spk}}$$

Where: S3 = mg/kg concentration of sample 3
S2 = mg/kg concentration of sample 2
S1 = mg/kg concentration of sample 1
S3 Spk = mg/kg spike added

IC CALCULATION KEY

Date Reported: 04/03/90

Analyst: _____

Reviewer: _____

Subject: SST IC Results
Method: PNL-MA-599 7-40.8
M&TE: WA94483
Method: PNL-MA-599 7-40.7
M&TE: WA64102

Sample: 90-0716 File: ic0716

Sample: 90-0716
04/03/90

	Smpl C1 (ug/mL)	Smpl C2 (ug/mL)	Smpl C3 +Spike (ug/mL)	Cntr C4 (ug/mL)	Blk C5 (ug/mL)
F	22.0	23.7	30.5	5.2	0.14
Cl	14.8	15.0	25.4	7.1	0.07
NO2	121.0	120.0	148.0	18.2	0.11
NO3	2315.0	2340.0	2617.0	123.0	0.00
PO4	272.0	295.0	456.0	158.0	0.00
SO4	138.0	140.0	181.0	26.4	0.04
TIC	9.8	9.7			0.1
TOC	4.5	4.1			0.9
Wt-gm	0.997	1.056	1.017		1.026
Vol-mL	100.02	100.76	100.00	100.00	100.79
Samp Dil	101.32	96.47	99.33	19.72	99.21
Spike ID			A-1	A-1	
Spike-mL			5.071	5.871	

	C1 (mg/kg)	C2 (mg/kg)	RPD	Spike Control True (ug/mL)	C4 (ug/mL)	C3 spk (mg/kg)	C3 (mg/kg)	% Spk Rec	C5 (c) (mg/kg)
F	2230	2290	2.7%	100	103	517	3030	148.9%	<20
Cl	1500	1450	3.4%	150	140	705	2520	148.2%	<20
NO2	12300	11600	5.9%	1000	359	1810	14700	(b)	<40
NO3	235000	226000	3.9%	1500	2425	12200	260000	(b)	<40
PO4	27600	28500	3.2%	3000	3116	15700	45300	109.9%	<40
SO4	14000	13500	3.6%	500	521	2620	18000	(b)	<40
TIC	993	936	5.9%						<99
TOC	456	396	14.1%						<99

(a) The spike's measured concentration has been used to calculate the quantity of spike added in mg/kg.
(b) The % spike recovery is valid only if the spike level is over 20% of the sample's base value.
(c) The average Wt-gm of Sample 1 & 2 is used to calculate blank in mg/kg.

A B C D E F

E04-004

Sample: 90-4180
09/19/90

	C1 (mg/kg)	C2 (mg/kg)	RPD	-----Spike*Control--(a)- True (ug/mL)	C4---> (ug/mL)	C3 Spk (mg/kg)	C3 (mg/kg)	% Spk Rec	C5 (c) (mg/kg)
F	1940	2010	3.5%	50	58	575	2710	127.8%	<19
Cl	1430	1440	0.7%	100	110	1080	2620	109.7%	<19
NO2	10300	10300	0.0%	1000	1014	9990	21300	110.1%	<37
NO3	167000	170000	1.8%	5000	5328	52500	226000	109.5%	<37
PO4	23600	24300	2.9%	1500	1393	13700	36100	88.7%	<37
SO4	11100	11200	0.9%	500	542	5340	17000	109.6%	<37
TIC	828	742	11.0%						<94
TOC	457	407	11.6%						168

(a) The spike's measured concentration has been used to calculate the quantity of spike added in mg/kg.
(b) The % spike recovery is valid only if the spike level is over 20% of the sample's base value.
(c) The average Wt-gm of Sample 1 & 2 is used to calculate blank in mg/kg.

E04-005

Date Reported: 09/19/90

Analyst: John Carver

Reviewer: MWilson 9/19/90

Subject: SST IC Results
Method: PNL-MA-599 7-40.8
M&TE: WA94483
Method: PNL-MA-599 7-40.7
M&TE: WA64102

Sample: 90-4180 File: ic4180

Sample: 90-4180
09/19/90

Estimated Det Limit (ug/mL)	Smpl C1 (ug/mL)	Smpl C2 (ug/mL)	Smpl C3 +Spike (ug/mL)	Cntr C4 (ug/mL)	Blk C5 (ug/mL)		C1 (mg/kg)	C2 (mg/kg)	RPD	-----Spike*Control--(a)- True (ug/mL)	C4---> (ug/mL)	C3 Spk (mg/kg)	C3 (mg/kg)	% Spk Rec	C5 (c) (mg/kg)
0.20	20.4	22.2	27.5	5.7	0.07	F	1940	2010	3.5%	50	58	575	2710	127.8%	<19
0.20	15.0	15.9	26.6	10.7	0.00	Cl	1430	1440	0.7%	100	110	1080	2620	109.7%	<19
0.40	108.0	114.0	216.0	99.0	0.00	NO2	10300	10300	0.0%	1000	1014	9990	21300	110.1%	<37
0.40	1753.0	1880.0	2290.0	520.0	0.32	NO3	167000	170000	1.8%	5000	5328	52500	226000	109.5%	<37
0.40	248.0	268.0	366.0	136.0	0.00	PO4	23600	24300	2.9%	1500	1393	13700	36100	88.7%	<37
0.40	117.0	124.0	173.0	52.9	0.27	SO4	11100	11200	0.9%	500	542	5340	17000	109.6%	<37
1.00	8.7	8.2			0.1	TIC	828	742	11.0%						<94
1.00	4.8	4.5			1.8	TOC	457	407	11.6%						168

Wt-gm	2.070	2.198	1.043		2.134
Vol-mL	194.88	196.77	101.69	102.46	197.57
Samp Dil	95.16	90.53	98.53	10.25	93.59
Spike ID			A-2	A-2	
Spike-mL			10.000	10.000	

(a) The spike's measured concentration has been used to calculate the quantity of spike added in mg/kg.
(b) The % spike recovery is valid only if the spike level is over 20% of the sample's base value.
(c) The average Wt-gm of Sample 1 & 2 is used to calculate blank in mg/kg.

E04-006

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

epa | Date: | Project:

9/11/90 TK 110BC 16 Composite 90-4180 JK

Sample ID	F	Cl	NO_2	NO_3	PO_4	SO_4
90-4180						
C1/100	0.21	0.20	1.08	17.53	2.18	1.09
x100	21	20	108	1753	218	109
C1/10	2.04	1.499	10.8	Hi	24.8	11.7
x10	20.4	15.0	108	—	248	117
90-4180						
C2/100	0.20	0.21	1.14	18.8	2.44	1.17
x100	20	21	114	1880	244	117
C2/10	2.22	1.587	11.4	Hi	26.8	12.4
x10	22.2	15.9	114	—	268	124
90-4180	0.23	0.30	2.00	22.9	3.43	1.62
C3/100	23	30	200	2290	343	162
C3/20	1.18	1.20	10.1	Hi	18.3	8.46
x20	23.6	24	202	—	366	169
C3/10	2.75	2.66	21.6	"	37.0	17.3
x10	27.5	26.6	216	—	370	173
90-4180						
C4/100	0.07	—	1.00	5.20	1.23	0.48
x100	7	—	100	520	123	48
C4/10	0.52	1.07	9.91	Hi	13.6	5.29
x10	5.2	10.7	99	—	136	52.9
C4	5.7	10.3	—	—	—	—
C5	0.07	—	—	—	—	0.27
	<0.2	<0.2	<0.4	<0.4	<0.4	<0.4

E04-007

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

By:	Date:	Project:

Subject:

9/11/90 JE

90-4180		TC		TIC		TOC
C1	x2	6.79 6.66	13.6 13.3 } 13.5	x2	4.408 = 8.8 4.263 = 8.5 } 8.7	4.8
C2	x2	6.43 6.27	12.9 12.5 } 12.7	x2	4.085 = 8.2 4.110 = 8.2 } 8.2	4.5
C5	x2	0.496 0.457	0.99 0.91 } 1.9	x2	0.02 = 0.04 0.11 = 0.22 } 0.13	1.8

standard 10 ppm
before 10.0 ppm C
10.0

9.9
10.0

After samples 10.0
9.8

9112151495

E04-008

9/10/90

100 g = 100.006
1 g = 1.000
1 ml = 1.000
.5 = 0.499
.3 = 0.300
.1 = 0.100
.050 = 0.051

JK

E04-009

9/6/90

100g = 100.005

1g = 1.001

1.0 ml = 1.000

.5 = 0.501

.3 = 0.300

.1 = .099

.050 = 0.051

E04-010

PACIFIC NORTHWEST LABORATORY
RECEIVED
SEP 27 1988
BATTELLE TECH. INFO

1 —
9-27-88

THIS BOOK IS INTENDED TO BE USED FOR RECORDING RESEARCH PERFORMED FOR THE U.S. DEPARTMENT OF ENERGY UNDER BNW'S OPERATING CONTRACT EY-76-C-06-1830

M 35459

	LABORATORY RECORD BOOK NUMBER BNW- 53093	This document consists of ..... pages, copy no. .....
	TITLE (INDICATE SUBJECT CONTENT)	
AUTHOR - DIVISION AND DEPARTMENT		
PERIOD COVERED FROM	TO	

Route To	P. R. No.	Location	Route Date	Signature & Date
MC. Burt	30797	P1-22 325	SEP 28 1988	

9112051498

E04-011

TABLE OF CONTENTS

SUBJECT MATTER	PAGE
* The following Personel are authorized to enter data in the Laboratory Note book. John Ewen	10/24/89
the following personel are authorized to review intries in the laboratory note book	
John Ewen	10/24/89
Michael W Ulie MWU	10/16/90
reviewed Intries } See page 150	150
reviewed by — }	
* all Carbon Analysis ran on Dohrmann Instrumnt WA 64102 — method #0.4-PNL-MA-597, VII	
- mercury Analysis	
Perkin-Elmer 306 Atomic absorption spectrophotomer	
#WB76821	
method 245.1 manual cold vapor technique	

100 Area Trench #90-6136
SST 90 – 4180 9/11/90

SELFTESTS
NO ERRORS
9/10/90

1 TOC 10.27

CAL -- 1 ML
CAL REQ'D 3.33

1 TOC 10.07

2 TOC 10.00

100 Area Trench 90-6136 #3360 1 ml

3 TOC 1.596
4 TOC 1.496 } 1.55

Acidified

10 ppm std

5 TOC 9.938

6 TOC 9.974

90-4180 C-1 0.5 ml

7 TOC 6.790

8 TOC 6.659

90-4180 C2 0.5 ml

9 TOC 6.435

10 TOC 6.274

90-4180 C5 0.5 ml

11 TOC 0.496

12 TOC 0.457

10 ppm std

13 TOC 9.968

14 TOC 9.769

8.69

Lite 0.55

90-4180 C-1 0.5 ml

15 TOC 4.408

16 TOC 4.253

90-4180 C2 0.5 ml

17 TOC 4.085

18 TOC 4.110

90-4180 C5 0.5 ml

19 TOC 0.024

20 CANCELLED
NEG DET SIGN-
21 TOC 0.107

Project No. _____ Date of Work _____
Entered By John Enner Date 8/31/90
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

E04-013

Date: Sept. 5 1990

Analyst: [signature] 6-3089 PT-22

Review: [signature]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B C16

Segment(s): Composite

☑ Composite
☐ Prehomogenized
☐ Homogenized

CoC #283

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (~~ml~~) (g)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
NA	90-4180 C1	IC/TOC/TIC/TC	2.0698			194.8843							Sample
	90-4180 C2	"	2.1978			196.7726							dup. sample
	90-4180 C3	IC only	1.0426			91.6868		SST-II	10.00				anion spike sample
	90-4180 C4	IC only	—			92.4592		SST-II	10.00				anion spike blank
	90-4180 C5	IC/TOC/TIC/TC	—			~~199.5897~~ 199.5712							blank

E04-014

Method Name: BNWEL
ate : 3/90
' rator : JE

METHOD PARAMETERS

Detector Parameters

1 or 2 detectors ? (1 OR 2).....	1.00
The detector is a CDM (0) or not a CDM (1)	0.00

Graphics Parameters

Run time (minutes).....	10.00
End time for plot (minutes).....	10.00
Initial delay time (minutes).....	0.00
Number of pages for real time plot (0 to 99)...	1.00
Hard copy real time plot (0=no, 1=yes).....	1.00
Full scale for plot of detector 1 (CDM=uS;others=mV)....	30.00
Number of pages for replot (0 TO 99).....	1.00
Vertical scale facter for replot (units of largest peak)	1.00
Offset for the replot ? (mV or uS)	0.00
Put component names on the replot? (0=no, 1=yes).....	1.00

Report Parameters

Printer select code.....	717.00
Print result report (0=no, 1=yes).....	1.00
List components not found in sample? (0=no, 1=yes).....	0.00
Include unknown peaks in report ? (0=no, 1=yes).....	1.00
Print group report ? (0=no, 1=yes).....	0.00
Record raw data ? (0=no, 1=yes).....	0.00
Record result data ? (0=no, 1=yes).....	0.00
Link to user program ? (0=no, 1=yes).....	0.00

Integration Parameters

Peak threshold (mV or uS/data pt interval).....	.02
Starting peak width (seconds).....	4.00
Peak area reject (microvolt-sec).....	1000.00

Calibration Parameters

Internal or external standard ? (0=external, 1=internal)	0.00
Quantitate peaks by height (1) or area (0).....	0.00
Update response factors by replacement(0) or average (1)	0.00

Number of calibration levels (1 TO 10).....	6.00
Fit type for multilevel cal.(0=p to p,1=linear,2=quadratic)	2.00
Default sample volume injected.....	1.00
Default dilution factor.....	1.00
Total numbers of components ? (0 to 50)	7.00
Area reject for ref. peaks ?.....	1000.00
% ret. time window for reference peaks.....	5.00
Ref. peak ret. time window (sec).....	15.00

IC CONTROL FILE: BNWELTF

E04-015

9112151502

Number of calibration levels (1 TO 10).....	6.00
Fit type for multilevel cal.(0=p to p,1=linear,2=quadratic)	2.00
fault sample volume injected.....	1.00
Default dilution factor.....	1.00
Total numbers of components ? (0 to 50)	7.00
Area reject for ref. peaks ?.....	1000.00
% ret. time window for reference peaks.....	5.00
Ref. peak ret. time window (sec).....	15.00

: CONTROL FILE: BNWELTE

esponse factor for unknowns = 1.0000E-04

omponent Units= ppm

FLUORIDE Ret.Time= 1.12 min.
Ref. peak: FLUORIDE Window size: 5%
Least squares slope = 1.8674E-05 Least squares Intercept = 7.7287E-03

LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	12304	2.500000E-01	2.0317935E-05
2	26550	5.000000E-01	1.8832507E-05
3	53649	1.000000E+00	1.8639660E-05
4	141243	2.500000E+00	1.7699958E-05
5	287586	5.000000E+00	1.7386091E-05
6	458301	7.500000E+00	1.6364802E-05

CHLORIDE Ret.Time= 1.69 min.
Ref. peak: CHLORIDE Window size: 5%
Least squares slope = 2.9146E-05 Least squares Intercept = -4.7028E-03

LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	7883	2.500000E-01	3.1715424E-05
2	16550	5.000000E-01	3.0211480E-05
3	34474	1.000000E+00	2.9007368E-05
4	94938	2.500000E+00	2.6332997E-05
5	177473	5.000000E+00	2.8173309E-05
6	287101	7.500000E+00	2.6123254E-05

NITRITE Ret.Time= 2.06 min.
Ref. peak: NITRITE Window size: 5%
Least squares slope = 4.3057E-05 Least squares Intercept = 1.1331E-01

LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	10626	5.000000E-01	4.7054395E-05
2	20914	1.000000E+00	4.7814861E-05
3	109890	5.000000E+00	4.5500046E-05
4	229632	1.000000E+01	4.3547863E-05
5	459481	2.000000E+01	4.3527413E-05
6	686006	3.000000E+01	4.3731405E-05

BROMIDE Ret.Time= 3.15 min.
Ref. peak: BROMIDE Window size: 5%
Least squares slope = 7.1968E-05 Least squares Intercept = -2.8080E-02

LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	3865	2.500000E-01	6.4689748E-05
2	7295	5.000000E-01	6.8540096E-05
3	14496	1.000000E+00	6.8984547E-05
4	36472	2.500000E+00	6.8545734E-05
5	74521	5.000000E+00	6.7095181E-05
6	116420	7.500000E+00	6.4421921E-05

E04-016

NITRATE Ret.Time= 3.56 min.
f. peak: NITRATE Window size: 10%
Least squares slope = 4.9863E-05 Least squares Intercept = -3.4186E-03

LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	9826	5.000000E-01	5.0884888E-05
2	19282	1.000000E+00	5.1861840E-05
3	102500	5.000000E+00	4.8780488E-05
4	209460	1.000000E+01	4.7741812E-05
5	426810	2.000000E+01	4.6859258E-05
6	671150	3.000000E+01	4.4699397E-05

6 PHOSPHATE Ret.Time= 4.91 min.
Ref. peak: PHOSPHATE Window size: 10%
Least squares slope = 8.9433E-05 Least squares Intercept = 2.3534E-01

LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	4196	5.000000E-01	1.1916466E-04
2	8693	1.000000E+00	1.1503585E-04
3	52498	5.000000E+00	9.5242364E-05
4	112835	1.000000E+01	8.8624756E-05
5	241093	2.000000E+01	8.2955560E-05
6	379017	3.000000E+01	7.9152087E-05

7 SULFATE Ret.Time= 6.82 min.
Ref. peak: SULFATE Window size: 10%
Least squares slope = 3.9931E-05 Least squares Intercept = -3.6107E-02

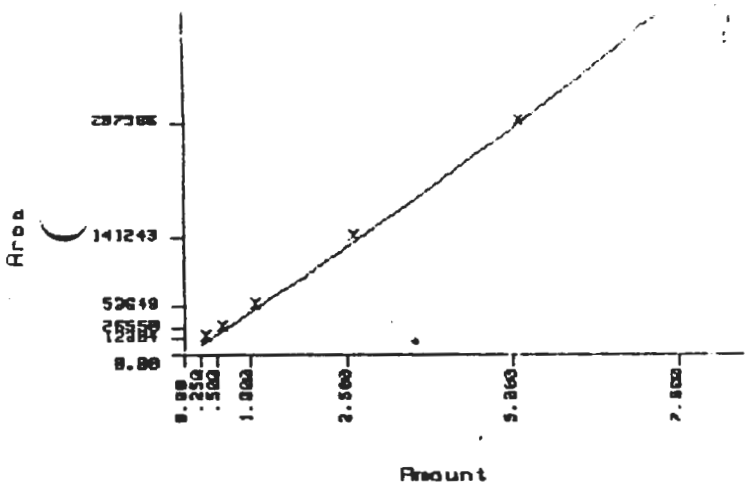
LEVEL	AREA	CONCENTRATION	RATIO(CONC./ AREA)
1	16131	5.000000E-01	3.0996795E-05
2	22916	1.000000E+00	4.3638395E-05
3	127686	5.000000E+00	3.9158622E-05
4	263271	1.000000E+01	3.7983675E-05
5	540929	2.000000E+01	3.6973443E-05
6	854218	3.000000E+01	3.5119845E-05

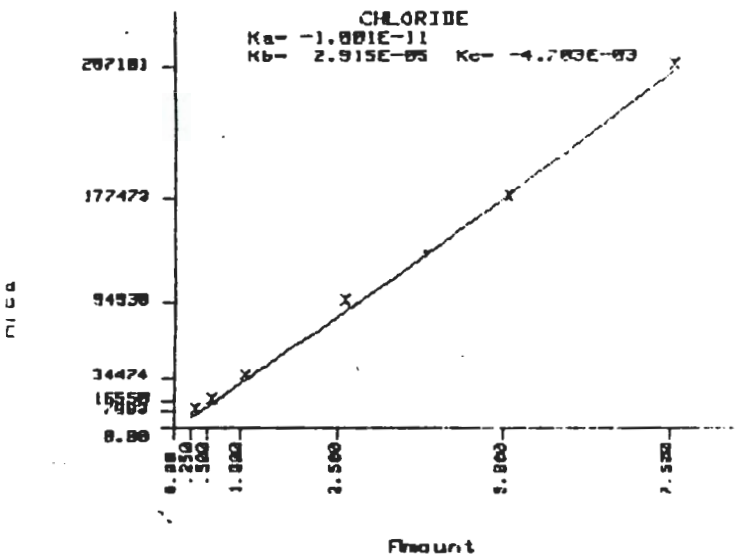
ile : BNWELTE

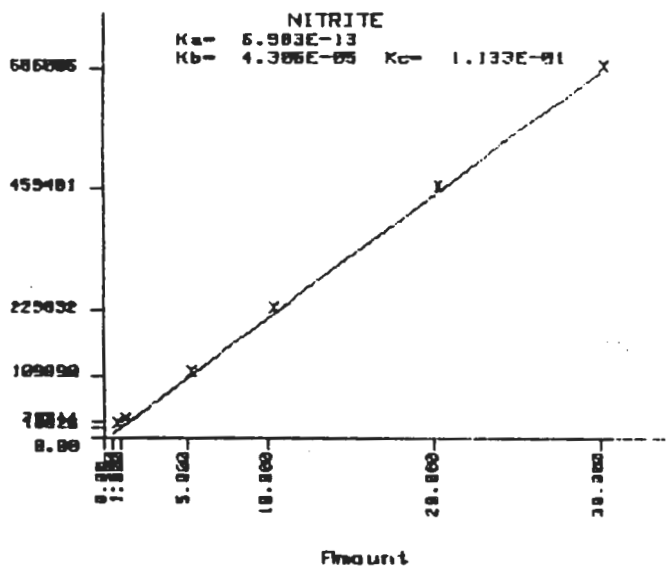
VENT#	TIME	CIM EVENT DISCPT.		EVENT CODE
1	0.0	E1 ON		E1
2	0.0	TMP COMP=	1.7	TC0-TC9.9
3	0.0	AC1 ON		AC1
4	0.0	FLOW=	1.8	F0-F9.9
5	0.0	B ON		B
6	0.0	LOAD		L
7	0.0	CELL ON		CC
8	0.0	RANGE=	100.0	CR.1-CR10000
9	.1	RLY2 ON		RL2
10	2.2	OFFSET OFF		-CO
11	2.3	OFFSET ON		CO
12	2.4	INJECT		I
13	2.9	LOAD		L
14	3.0	RLY2 OFF		-RL2

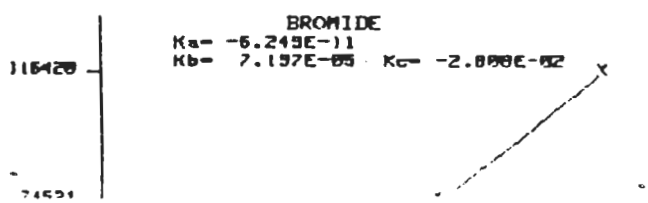
E04-017

mount = Ka*Area*Area + Kb*Area + Kc

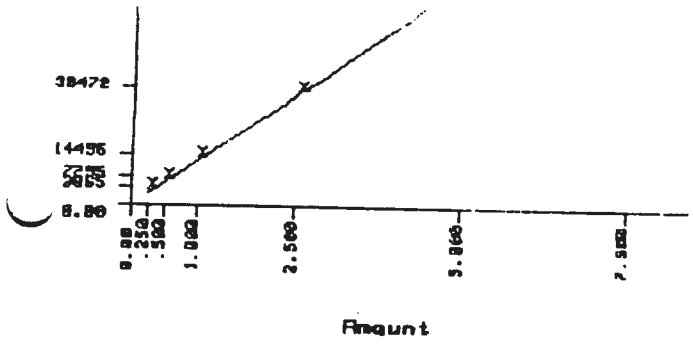

Area
287586
141243
52649
26550
12384
0.00
1.000
2.500
5.000
7.500
Amount

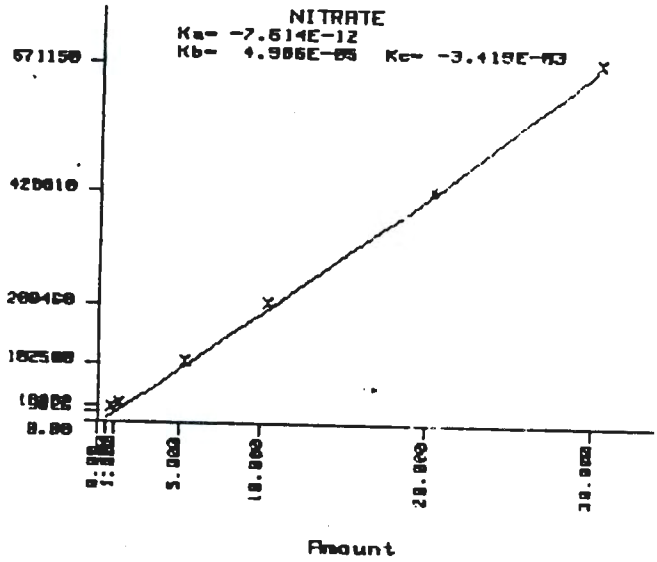

CHLORIDE
Ka= -1.001E-11
Kb= 2.915E-05 Kc= -4.703E-03
207181
177472
94530
34474
15550
7889
0.00
1.000
2.500
5.000
7.500
Amount

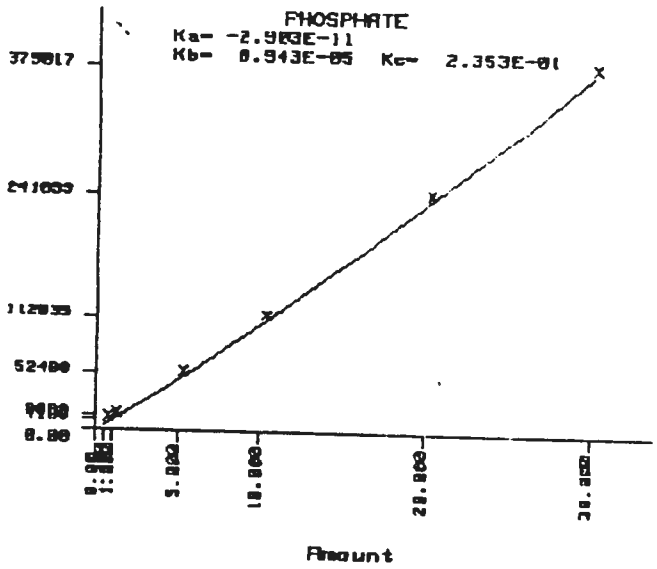

NITRITE
Ka= 6.903E-13
Kb= 4.306E-05 Kc= 1.133E-01
686086
455481
225032
109090
70014
0.00
5.000
10.000
20.000
30.000
Amount

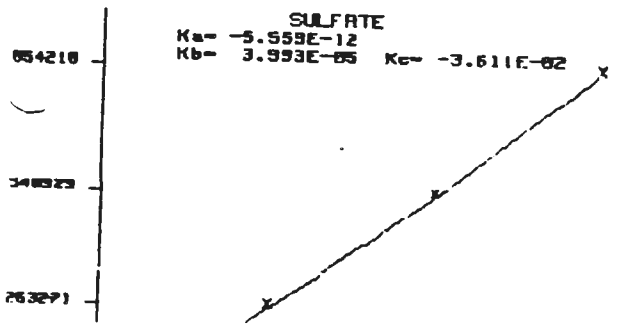

BROMIDE
Ka= -6.249E-11
Kb= 7.197E-05 Kc= -2.000E-02
116420
74521

E04-018

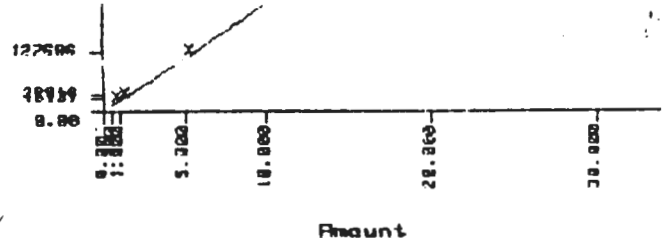

38472
14456
8.00
1.000
2.500
Amount


NITRATE
Ka= -7.614E-12
Kb= 4.986E-05 Kc= -3.419E-03
671150
420010
8.00
5.000
10.000
20.000
30.000
Amount

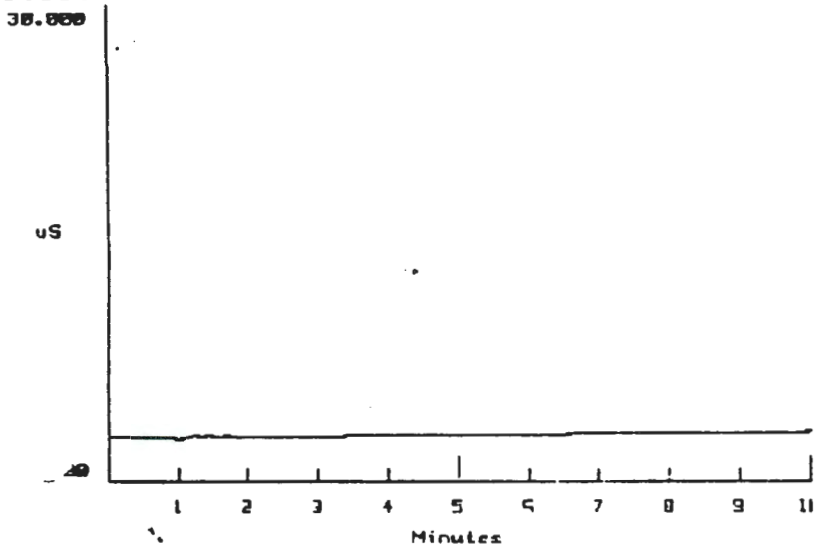

PHOSPHATE
Ka= -2.983E-11
Kb= 8.943E-05 Kc= 2.353E-01
375017
241033
112035
52400
8.00
5.000
10.000
20.000
30.000
Amount


SULFATE
Ka= -5.559E-12
Kb= 3.993E-05 Kc= -3.611E-02
054210
263271

E04-019



eal time chromatogram of CIM 705 System 1 Cycle 1
tart time = 0 Run time = 10
etector 1 full scale = 30 microSiemens



Time : 9/06/1990 8:11

Sample Name: BLANK			
Date : 9/06/1990 8:11	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 1	Detector: 1	System: 1

Instrument Type	: DIONEX 2320i	Column Type:	AG4A/AS4A/AMMS
Detector 1	: CDM	Detector 2 :	NONE
Eluent Description	: 1.75mMNaHCO3-1.85mMNa2CO3		
Operating Condition	: RM.TEMP		
Misc Information	: CALIBRATED 8-27-1990		

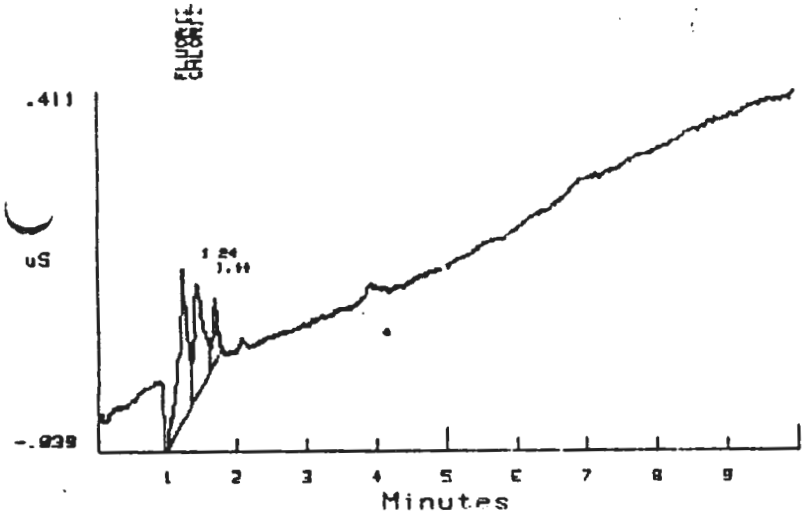
********** EXTERNAL STANDARD REPORT **********

tart time = 0 Stop time = 10.0
rea reject = 1000 One sample per .2 sec
mount Injected = 1 Dilution factor = 1

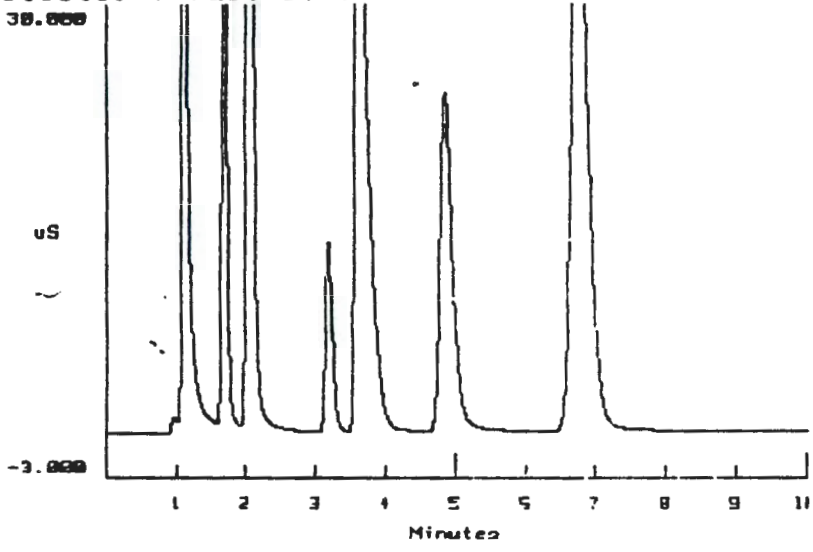
~	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	1.24	FLUORIDE	3.913E-02	56.95	1.6823E+03	185	9.1E+00	2	1	0	2.33E-05
2	1.44	CHLORIDE	3.235E-02	43.05	1.2719E+03	133	9.6E+00	2	2	0	2.54E-05

E04-020

Start time = 0 Stop time = 10 minutes Offset = 0



eal time chromatogram of CIM 705 System 1 Cycle 1
tart time = 0 Run time = 10
etector 1 full scale = 30 microSiemens



Time : 9/06/1990 8:25

Sample Name: HI-STD.
Date : 9/06/1990 8:25 Method: BNWEL Operator: JE
CIM Address: 705 Cycle#: 1 Detector: 1 System: 1

Instrument Type : DIONEX 2320i Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3
Operating Condition: RM.TEMP
Misc Information : CALIBRATED 8-27-1990

********** EXTERNAL STANDARD REPORT **********

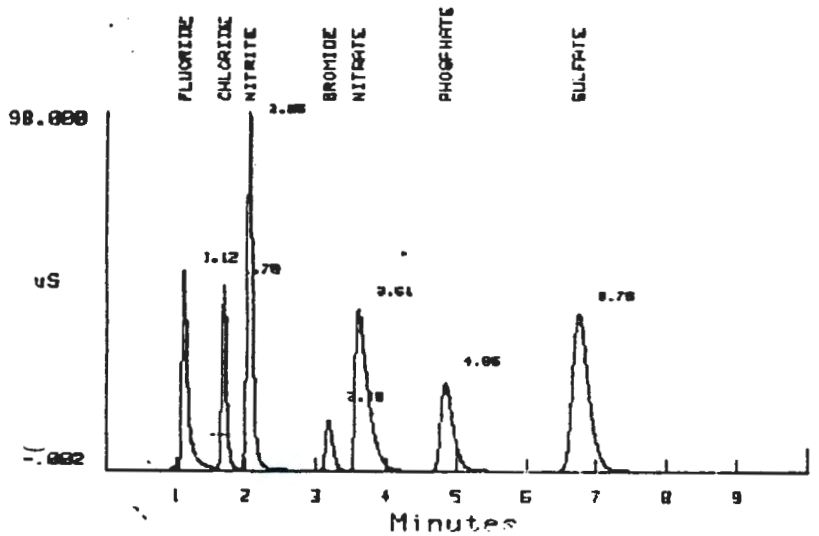
art time = 0 Stop time = 10.0
ea reject = 1000 One sample per .2 sec
ount Injected = 1 Dilution factor = 1

E04-021

K	RET	PEAK	CONC. in	AREA	AREA/	REF	% DELTA

	TIME	NAME	ppm	%	AREA	HEIGHT	HEIGHT	BL	PEAK		RET TIME	CONC/AREA
	.98		6.155E-01	.22	6.1549E+03	1183	5.2E+00	2				1.00E-04
2	1.12	FLUORIDE	5.868E+00	12.34	3.4603E+05	54458	6.4E+00	2	2		0	1.70E-05
3	1.70	CHLORIDE	6.591E+00	8.82	2.4732E+05	50736	4.9E+00	2	3		0	2.67E-05
4	2.06	NITRITE	2.489E+01	20.34	5.7024E+05	97722	5.8E+00	2	4		0	4.37E-05
5	3.19	BROMIDE	6.243E+00	3.39	9.4961E+04	13378	7.1E+00	2	5		0	6.57E-05
6	3.61	NITRATE	2.538E+01	19.84	5.5627E+05	44362	1.3E+01	2	6		0	4.56E-05
7	4.86	PHOSPHATE	2.430E+01	10.63	2.9795E+05	23700	1.3E+01	1	7		0	8.16E-05
8	6.76	SULFATE	2.472E+01	24.44	6.8526E+05	42879	1.6E+01	1	8		0	3.61E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999998 Highest Value = 1.098E+6 Scale factor = 1

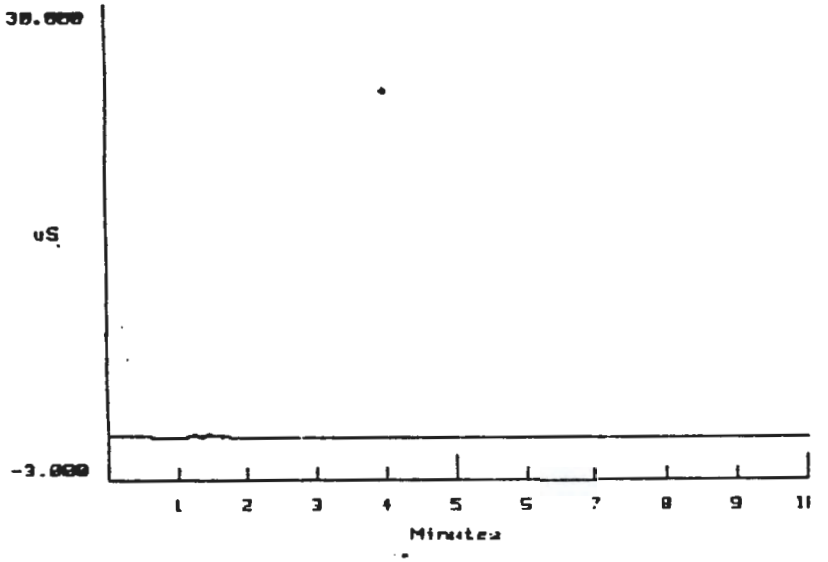


23 methods in this schedule, schedule recorded in file BNWELSCH:.703,0

	Sample_name	Method_file	Data_file	Volume injected	Int.std. conc.	Dilution factor
1	MID-STD.	BNWEL		1.00	1.0000	1.00
2	LO-STD.	BNWEL		1.00	1.0000	1.00
3	4180C1/100	BNWEL		1.00	1.0000	1.00
4	4180C1/10	BNWEL		1.00	1.0000	1.00
5	4180C2/10	BNWEL		1.00	1.0000	1.00
6	4180C2/100	BNWEL		1.00	1.0000	1.00
7	4180C3/100	BNWEL		1.00	1.0000	1.00
8	4180C3/20	BNWEL		1.00	1.0000	1.00
9	4180C3/10	BNWEL		1.00	1.0000	1.00
10	MI-STD.	BNWEL		1.00	1.0000	1.00
11	HI-STD.	BNWEL		1.00	1.0000	1.00
12	LO-STD.	BNWEL		1.00	1.0000	1.00
13	4180C4/100	BNWEL		1.00	1.0000	1.00
14	4180C4/10	BNWEL		1.00	1.0000	1.00
1	4180-C4	BNWEL		1.00	1.0000	1.00
	4180-C5	BNWEL		1.00	1.0000	1.00
	TR6027/5	BNWEL		1.00	1.0000	1.00
	TR-6027	BNWEL		1.00	1.0000	1.00
19	LO-STD.	BNWEL		1.00	1.0000	1.00
20	MID-STD.	BNWEL		1.00	1.0000	1.00
21	HI-STD.	BNWEL		1.00	1.0000	1.00
22	BLANK	BNWEL		1.00	1.0000	1.00

E04-022

al time chromatogram of CIM 705 System 1 Cycle 1
t time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 8:42

Sample Name: BLANK			
ate : 9/10/1990 8:42	Method: BNWEL	Operator: JE	
IM Address: 705	Cycle#: 1	Detector: 1	System: 1

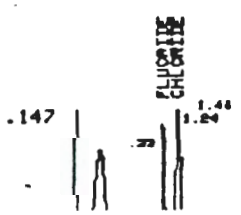
Instrument Type : DIONEX 2320i	Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM	Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3	
Operating Condition: RM.TEMP	
Misc Information : CALIBRATED 8-27-1990	

********** EXTERNAL STANDARD REPORT **********

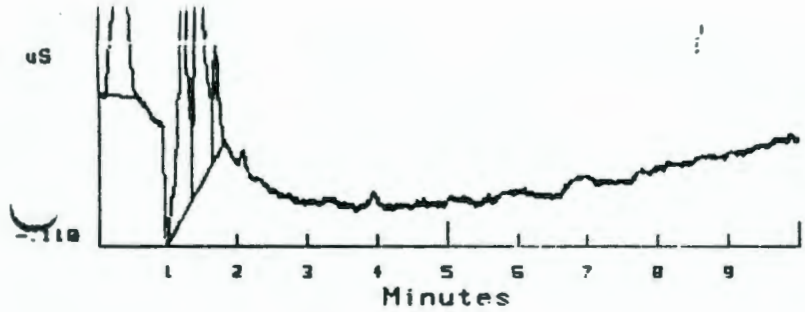
Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK		% DELTA RET TIME	CONC/AREA
1	.33		1.625E-01	30.04	1.6254E+03	118	1.4E+01	1				1.00E-04
2	1.24	FLUORIDE	4.157E-02	33.51	1.8133E+03	223	8.1E+00	2	2		0	2.29E-05
3	1.44	CHLORIDE	5.276E-02	36.46	1.9728E+03	215	9.2E+00	2	3		0	2.67E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999890 Highest Value = 1.000147E+6 Scale factor = 1

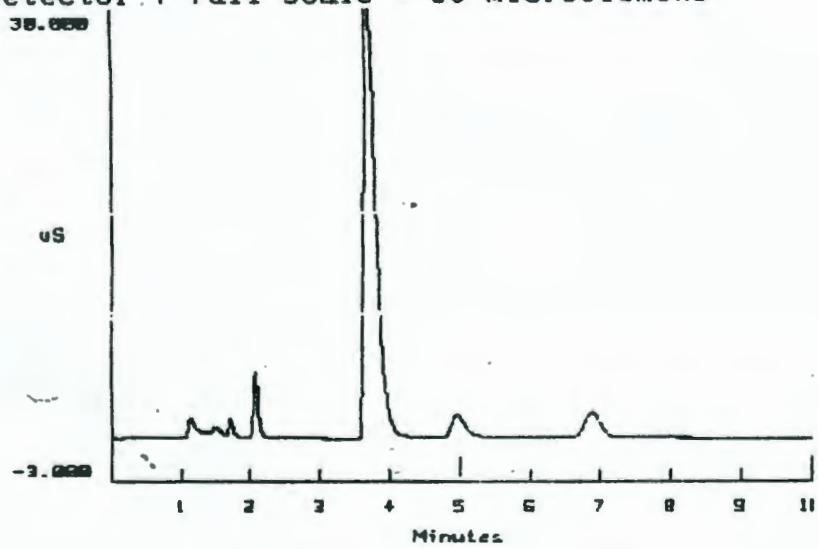


E04-023



23 methods in this schedule, schedule recorded in file BNWELSCH:,703,0

eal time chromatogram of CIM 705 System I Cycle 3
tart time = 0 Run time = 10
etector 1 full scale = 30 microSiemens



Time : 9/10/1990 9:28

Sample Name: 4180C1/100			
Date : 9/10/1990 9:28	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 3	Detector: 1	System: 1
Instrument Type : DIONEX 2320i		Column Type: AG4A/AS4A/AMMS	
Detector 1 : CDM		Detector 2 : NONE	
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3			
Operating Condition: RM.TEMP			
Misc Information : CALIBRATED 8-27-1990			

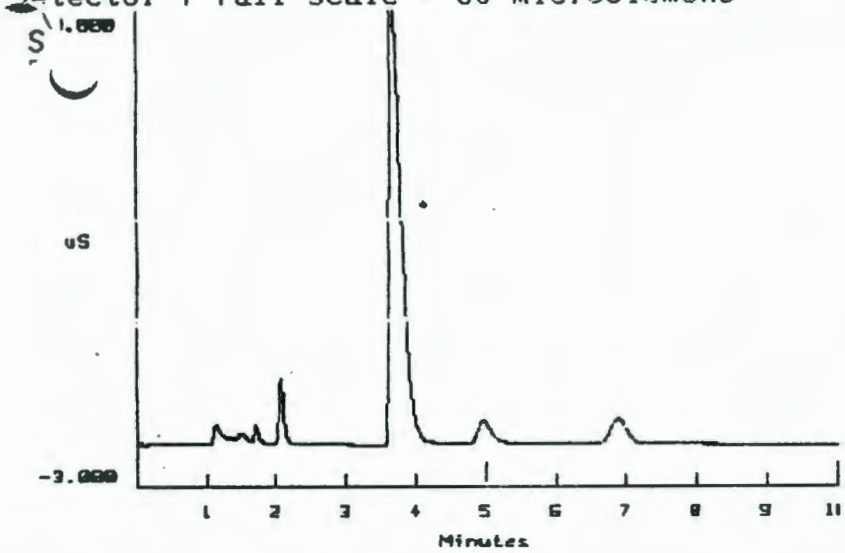
********** EXTERNAL STANDARD REPORT **********

S+-rt time = 0 Stop time = 10.0
^ i reject = 1000 One sample per .2 sec
ount Injected = 1 Dilution factor = 1

E04-024

PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
2	1.13	FLUORIDE	2.053E-01	2.24	1.0613E+04	1483	7.2E+00	2	2	0	1.93E-05
3	1.33		2.507E-01	.53	2.5067E+03	438	5.7E+00	2			1.00E-04
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	766	9.4E+00	2	4	0	2.84E-05

Real time chromatogram of CIM 705 System 1 Cycle 3
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 9:28

Sample Name: 4180C1/100
Date : 9/10/1990 9:28 Method: BNWEL Operator: JE
CIM Address: 705 Cycle#: 3 Detector: 1 System: 1

Instrument Type : DIONEX 2320i Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3
Operating Condition: RM.TEMP
Misc Information : CALIBRATED 8-27-1990

********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

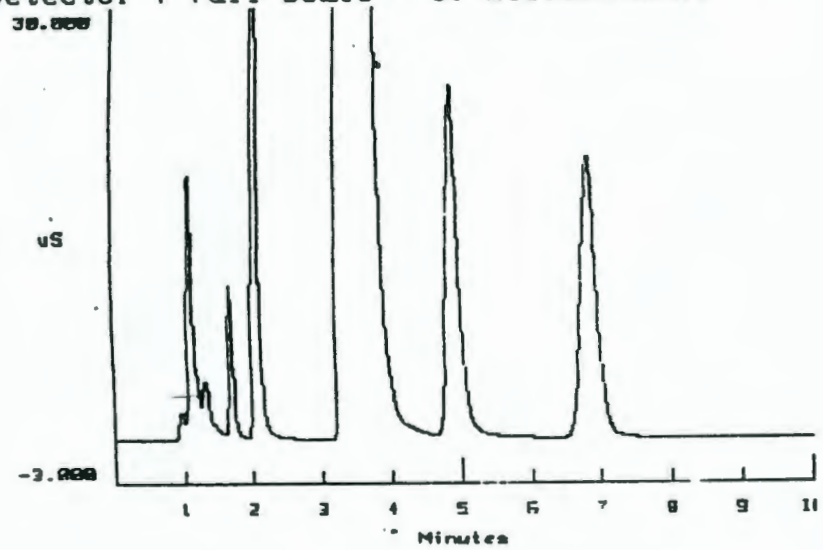
PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
2	1.13	FLUORIDE	2.053E-01	2.24	1.0613E+04	1483	7.2E+00	2	2	0	1.93E-05
3	1.33		2.507E-01	.53	2.5067E+03	438	5.7E+00	2			1.00E-04
4	1.49	~~CHLORIDE~~	2.049E-01	1.52	7.2096E+03	766	9.4E+00	2	4	0	2.84E-05
5	1.71	Cl	7.016E-01	1.48	7.0157E+03	1428	4.9E+00	2			1.00E-04
6	2.07	NITRITE	1.083E+00	4.76	2.2505E+04	4556	4.9E+00	2	6	0	4.81E-05
7	3.68	NITRATE	1.753E+01	78.83	3.7277E+05	32502	1.1E+01	1	7	0	4.70E-05
8	4.97	PHOSPHATE	2.184E+00	4.64	2.1949E+04	1642	1.3E+01	1	8	0	9.95E-05
9	6.88	SULFATE	1.090E+00	5.99	2.8314E+04	1818	1.6E+01	1	9	0	3.85E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999976 Highest Value = 1.0325E+6 Scale factor = 1

E04-025

Real time chromatogram of CIM /05 System 1 Cycle 4

Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 9:41

Sample Name: 4180C1/10			
Date : 9/10/1990 9:41	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 4	Detector: 1	System: 1

Instrument Type : DIONEX 2320i	Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM	Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3	
Operating Condition: RM.TEMP	
Misc Information : CALIBRATED 8-27-1990	

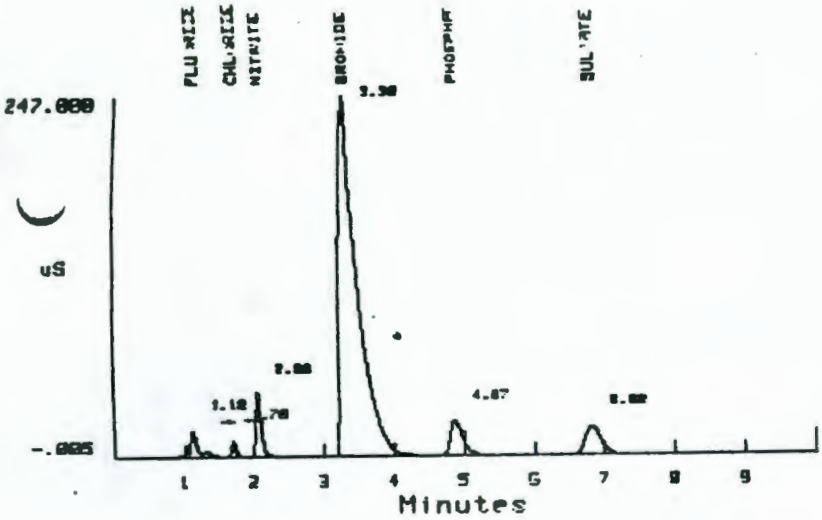
********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

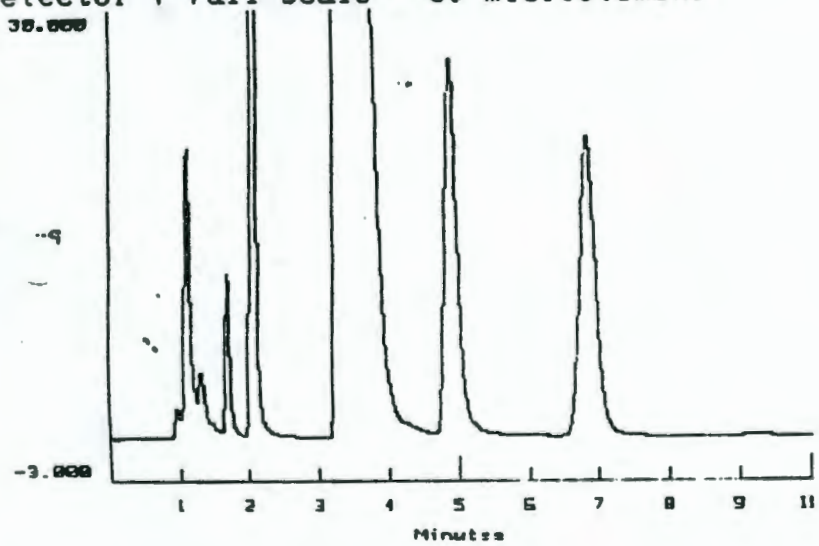
PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK		% DELTA RET TIME	CONC/AREA
1	.98		1.098E+00	.20	1.0985E+04	2000	5.5E+00	2				1.00E-04
2	1.12	FLUORIDE	2.043E+00	2.06	1.1240E+05	18377	6.1E+00	2	2		0	1.82E-05
3	1.32		3.625E+00	.66	3.6254E+04	4231	8.6E+00	2				1.00E-04
4	1.70	CHLORIDE	1.499E+00	.96	5.2530E+04	10860	4.8E+00	2	4		0	2.85E-05
5	2.06	NITRITE	1.079E+01	4.52	2.4687E+05	45250	5.5E+00	2	5		0	4.37E-05
	3.30	BROMIDE	-8.896E+02	80.39	4.3926E+06	246945	1.8E+01	2	6		0	-2.03E-04
	4.87	PHOSPHATE	2.476E+01	5.57	3.0430E+05	24475	1.2E+01	2	7		0	8.14E-05
8	6.82	SULFATE	1.169E+01	5.61	3.0679E+05	19692	1.6E+01	1	8		1.3884	3.81E-05
9	9.24		1.151E-01	.02	1.1508E+03	60	1.9E+01	1				1.00E-04

E04-026

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999995 Highest Value = 1.247E+6 Scale factor = 1



Real time chromatogram of CIM 705 System 1 Cycle 5
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 9:55

Sample Name: 4180C2/10			
Date : 9/10/1990 9:55	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 5	Detector: 1	System: 1

Instrument Type : DIONEX 2320i	Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM	Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3	
Operating Condition: RM.TEMP	
Misc Information : CALIBRATED 8-27-1990	

********** EXTERNAL STANDARD REPORT **********

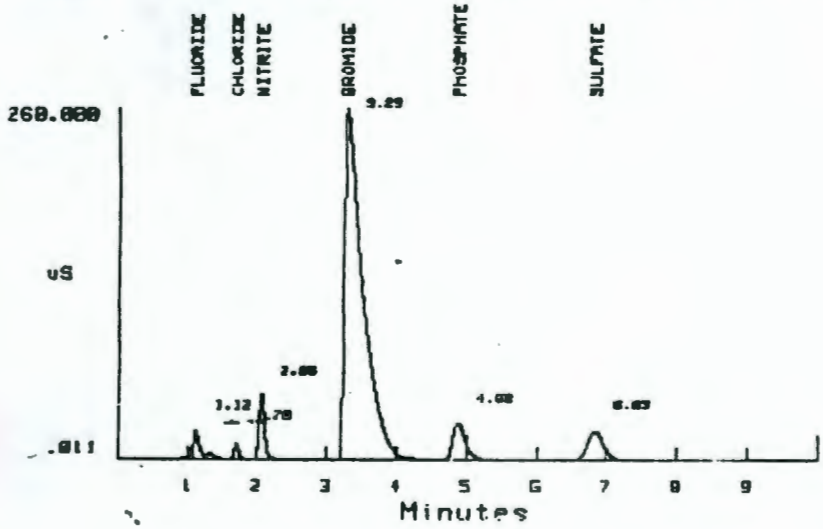
..rt time = 0 Stop time = 10.0
rea reject = 1000 One sample per .2 sec
mount Injected = 1 Dilution factor = 1

E04-027

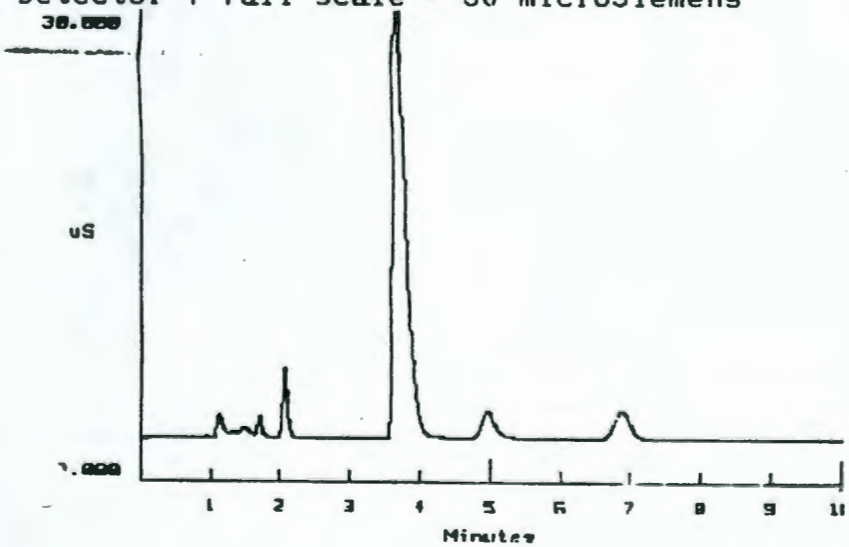
OK	RET	PEAK	CONC. in	AREA	AREA/	REF	% DELTA

NUM	TIME	NAME	ppm	%	AREA	HEIGHT	HEIGHT	BL	PEAK	RET TIME	CONC/AREA
1	.98		1.161E+00	.20	1.1613E+04	2089	5.6E+00	2			1.00E-04
2	1.12	FLUORIDE	2.222E+00	2.10	1.2259E+05	20344	6.0E+00	2	2	0	1.81E-05
3	1.32		3.768E+00	.65	3.7680E+04	4528	8.3E+00	2			1.00E-04
4	1.70	CHLORIDE	1.587E+00	.95	5.5681E+04	11426	4.9E+00	2	4	0	2.85E-05
5	2.06	NITRITE	1.136E+01	4.46	2.6021E+05	47715	5.5E+00	2	5	0	4.37E-05
6	3.29	BROMIDE	-1.037E+03	80.34	4.6902E+06	259915	1.8E+01	2	6	0	-2.21E-04
7	4.88	PHOSPHATE	2.680E+01	5.71	3.3309E+05	26460	1.3E+01	2	7	0	8.05E-05
8	6.83	SULFATE	1.241E+01	5.59	3.2656E+05	20877	1.6E+01	1	8	0	3.80E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999989 Highest Value = 1.26E+6 Scale factor = 1



Real time chromatogram of CIM 705 System 1 Cycle 6
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 10:09 E04-028

Sample Name: 4180C2/100
Date : 9/10/1990 10:09 Method: BNWEL Operator: JE
CIM Address: 705 Cycle#: 6 Detector: 1 System: 1

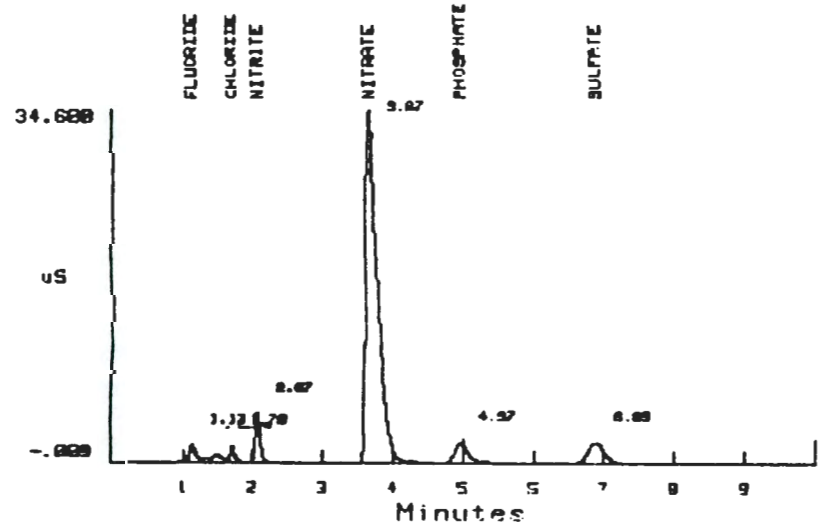
Instrument Type : DIONEX 2320i Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3
Operating Condition: RM.TEMP
Misc Information : CALIBRATED 8-27-1990

********** EXTERNAL STANDARD REPORT **********

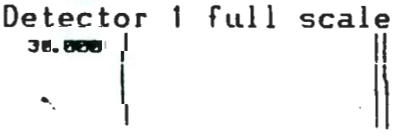
Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
2	1.13	FLUORIDE	2.016E-01	2.05	1.0413E+04	1650	6.3E+00	2	2	0	1.94E-05
3	1.33		2.579E-01	.51	2.5786E+03	425	6.1E+00	2			1.00E-04
4	1.49		7.030E-01	1.39	7.0297E+03	750	9.4E+00	2			1.00E-04
5	1.70	CHLORIDE	2.075E-01	1.44	7.2994E+03	1512	4.8E+00	2	5	0	2.84E-05
6	2.07	NITRITE	1.137E+00	4.68	2.3757E+04	4851	4.9E+00	2	6	0	4.78E-05
7	3.67	NITRATE	1.876E+01	79.04	4.0084E+05	34580	1.2E+01	2	7	0	4.68E-05
	4.97	PHOSPHATE	2.439E+00	4.90	2.4839E+04	1871	1.3E+01	2	8	0	9.82E-05
9	6.89	SULFATE	1.172E+00	5.99	3.0373E+04	1949	1.6E+01	1	9	0	3.86E-05

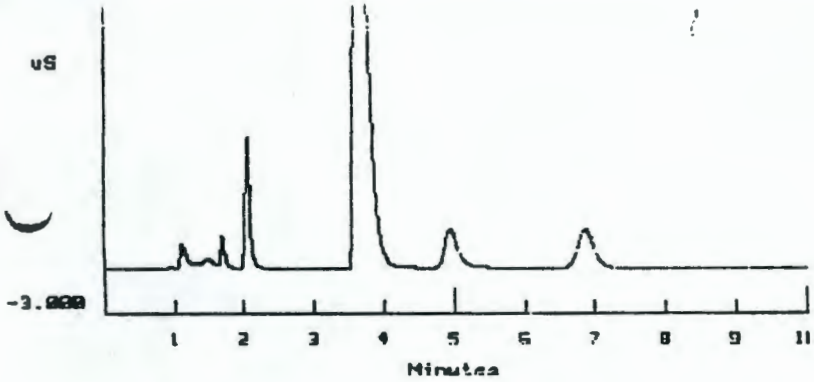
Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999991 Highest Value = 1.0346E+6 Scale factor = 1



eal time chromatogram of CIM 705 System 1 Cycle 7
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



E04-029



Time : 9/10/1990 10:22

Sample Name: 4180C3/100			
Date : 9/10/1990 10:22	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 7	Detector: 1	System: 1

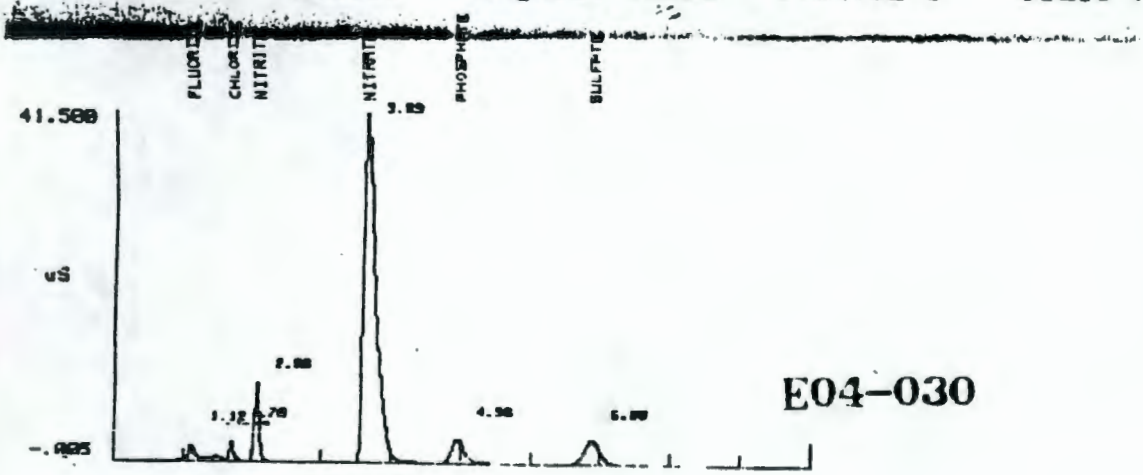
Instrument Type	: DIONEX 2320i	Column Type:	AG4A/AS4A/AMMS
Detector 1	: CDM	Detector 2 :	NONE
Eluent Description	: 1.75mMNaHCO3-1.85mMNa2CO3		
Operating Condition	: RM.TEMP		
Misc Information	: CALIBRATED 8-27-1990		

********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
2	1.12	FLUORIDE	2.297E-01	1.83	1.1926E+04	1868	6.4E+00	2	2	0	1.93E-05
3	1.33		2.501E-01	.38	2.5005E+03	429	5.8E+00	2			1.00E-04
4	1.48		6.921E-01	1.06	6.9206E+03	737	9.4E+00	2			1.00E-04
5	1.70	CHLORIDE	2.988E-01	1.60	1.0452E+04	2297	4.6E+00	2	5	0	2.86E-05
6	2.06	NITRITE	1.997E+00	6.71	4.3711E+04	8953	4.9E+00	2	6	0	4.57E-05
7	3.63	NITRATE	2.294E+01	76.47	4.9805E+05	41460	1.2E+01	2	7	0	4.61E-05
8	4.96	PHOSPHATE	3.425E+00	5.55	3.6134E+04	2769	1.3E+01	2	8	0	9.49E-05
9	6.88	SULFATE	1.617E+00	6.39	4.1638E+04	2687	1.5E+01	1	9	0	3.88E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999995 Highest Value = 1.0415E+6 Scale factor = 1

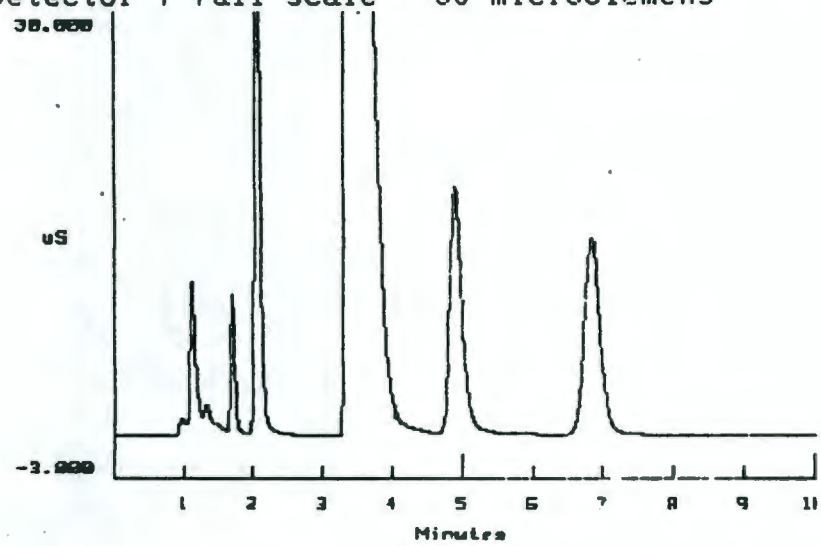


E04-030

Minutes

eal time chromatogram of CIM 705 System 1 Cycle 8

Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 10:36

Sample Name: 4180C3/20			
Date : 9/10/1990 10:36	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 8	Detector: 1	System: 1
Instrument Type : DIONEX 2320i		Column Type: AG4A/AS4A/AMMS	
Detector 1 : CDM		Detector 2 : NONE	
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3			
Operating Condition: RM.TEMP			
Misc Information : CALIBRATED 8-27-1990			

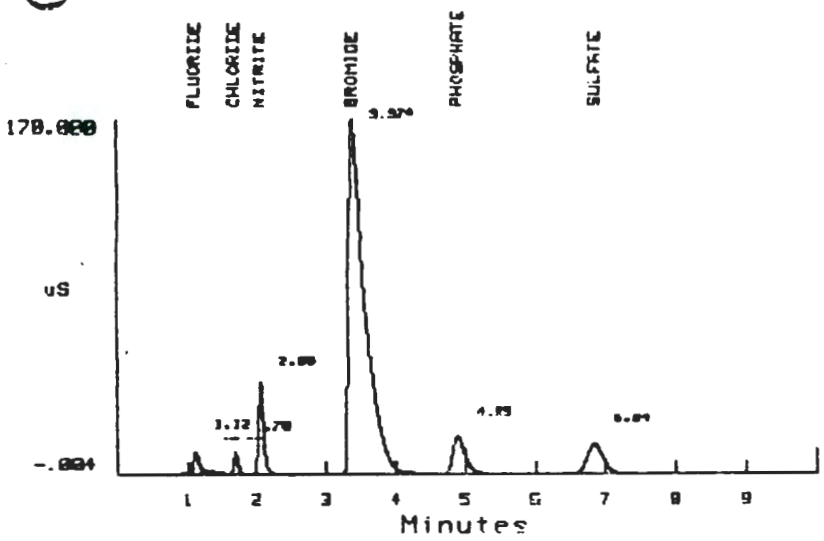
********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

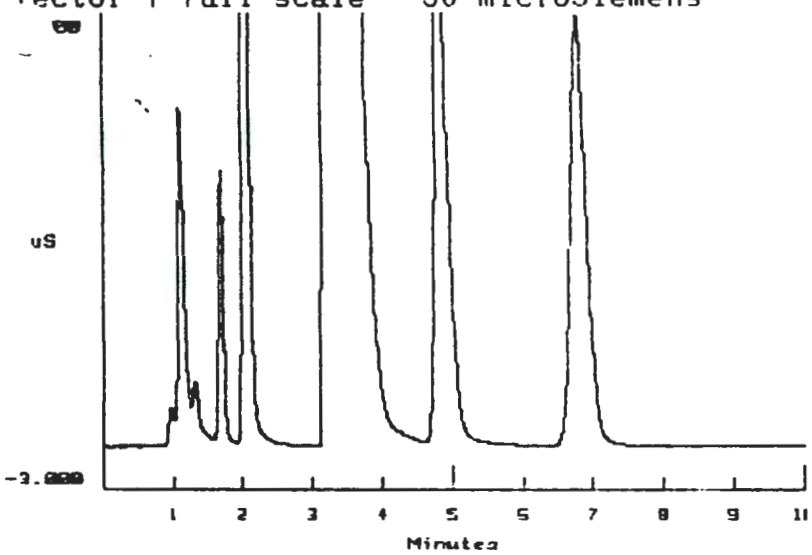
PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK		% DELTA RET TIME	CONC/AREA
1	.97		6.387E-01	.18	6.3866E+03	1190	5.4E+00	2				1.00E-04
	1.12	FLUORIDE	1.177E+00	1.79	6.3710E+04	10605	6.0E+00	3	2		0	1.85E-05
3	1.32		5.862E-01	.16	5.8620E+03	1181	5.0E+00	4				1.00E-04
4	1.70	CHLORIDE	1.197E+00	1.18	4.1832E+04	9781	4.3E+00	1	4		0	2.86E-05
5	2.06	NITRITE	1.014E+01	6.52	2.3190E+05	44545	5.2E+00	1	5		0	4.37E-05
6	3.37	BROMIDE	-2.800E+02	77.88	2.7695E+06	169942	1.6E+01	2	6		0	-1.01E-04
7	4.89	PHOSPHATE	1.831E+01	6.11	2.1740E+05	17652	1.2E+01	2	7		0	8.42E-05
8	6.84	SULFATE	8.458E+00	6.17	2.1943E+05	14085	1.6E+01	1	8		0	3.85E-05

E04-031

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999996 Highest Value = 1.17E+6 Scale factor = 1



Real time chromatogram of CIM 705 System 1 Cycle 9
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 10:50

Sample Name: 4180C3/10			
Date : 9/10/1990 10:50	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 9	Detector: 1	System: 1

Instrument Type	: DIONEX 2320i	Column Type:	AG4A/AS4A/AMMS
Detector 1	: CDM	Detector 2 :	NONE
Eluent Description	: 1.75mMNaHCO3-1.85mMNa2CO3		
Operating Condition	: RM.TEMP		
Misc Information	: CALIBRATED 8-27-1990		

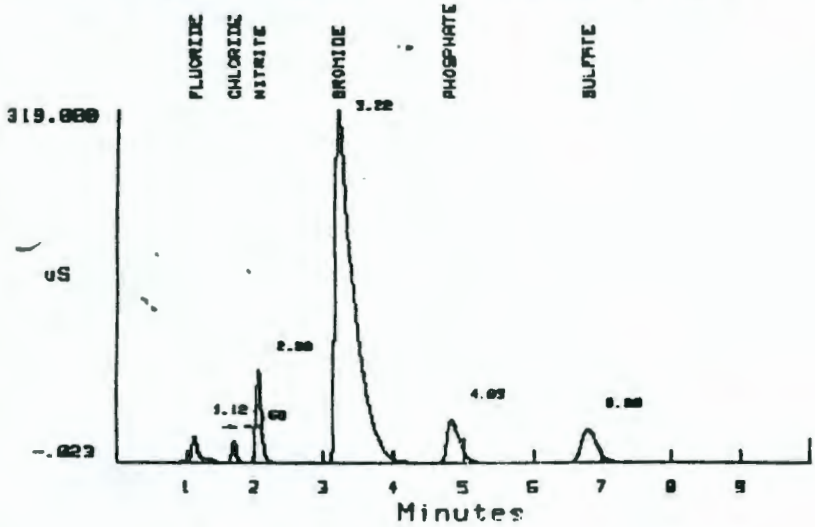
E04-032

********** EXTERNAL STANDARD REPORT **********

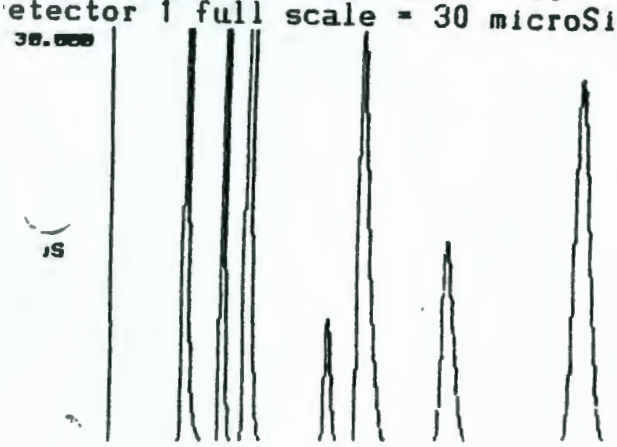
'tart time = 0 Stop time = 10.0
rea reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm *	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	.98		1.425E+00	.19	1.4246E+04	2706	5.3E+00	2			1.00E-04
2	1.12	FLUORIDE	2.753E+00	2.03	1.5335E+05	23490	6.5E+00	3	2	0	1.80E-05
3	1.32		2.884E+00	.38	2.8837E+04	3628	7.9E+00	4			1.00E-04
4	1.69	CHLORIDE	2.662E+00	1.25	9.4570E+04	19067	5.0E+00	2	4	0	2.81E-05
5	2.06	NITRITE	2.155E+01	6.52	4.9304E+05	84252	5.9E+00	2	5	0	4.36E-05
6	3.22	BROMIDE	-1.706E+03	77.03	5.8326E+06	318965	1.8E+01	2	6	0	-2.92E-04
7	4.83	PHOSPHATE	3.701E+01	6.46	4.8876E+05	38519	1.3E+01	2	7	0	7.57E-05
8	6.80	SULFATE	1.734E+01	6.15	4.6535E+05	29739	1.6E+01	1	8	0	3.73E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999977 Highest Value = 1.319E+6 Scale factor = 1

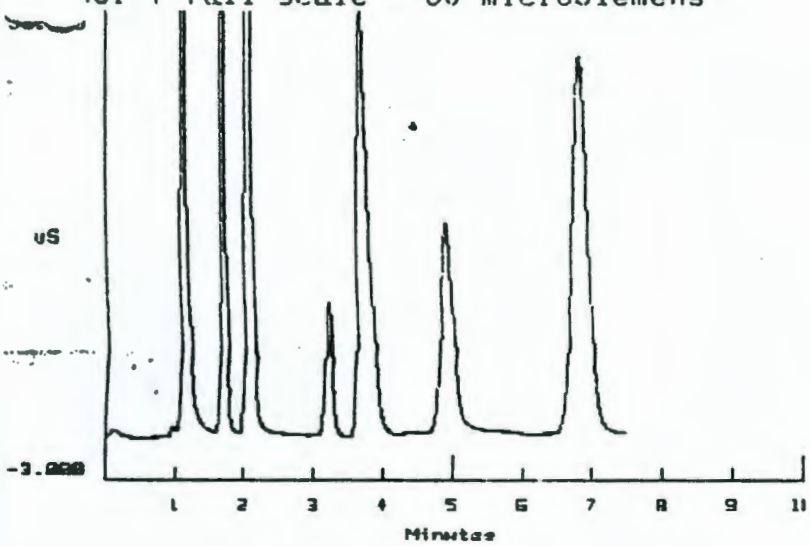


eal time chromatogram of CIM 705 System 1 Cycle 1
tart time = 0 Run time = 10
etector 1 full scale = 30 microSiemens



E04-033

ıl time chromatogram of CIM 705 System 1 Cycle 1
ırt time = 0 Run time = 10
tor 1 full scale = 30 microSiemens



Time : 9/10/1990 11:56

Sample Name: MID-STD.
Date : 9/10/1990 11:56 Method: BNWEL Operator: JE
Address: 705 Cycle#: 1 Detector: 1 System: 1

Instrument Type : DIONEX 2320i Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3
Operating Condition: RM.TEMP
Misc Information : CALIBRATED 8-27-1990

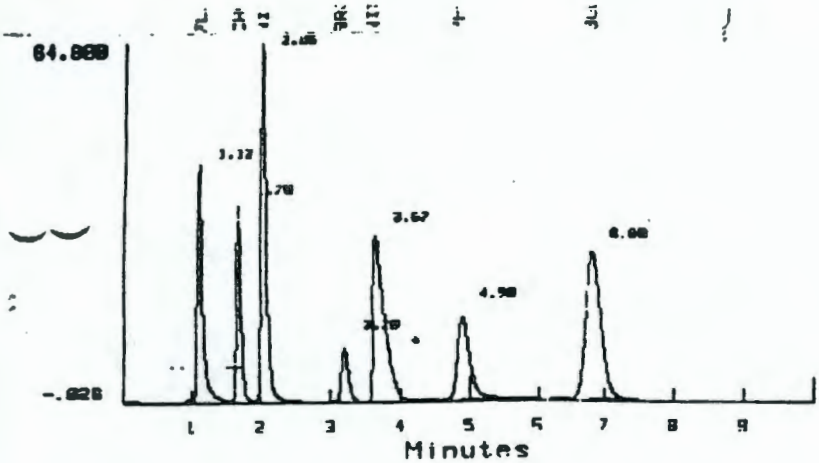
********** EXTERNAL STANDARD REPORT **********

art time = 0 Stop time = 10.0
ea reject = 1000 One sample per .2 sec
ount Injected = 1 Dilution factor = 1

RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
.14		4.036E-01	.23	4.0363E+03	464	8.7E+00	1			1.00E-04
.98		3.808E-01	.22	3.8084E+03	704	5.4E+00	2			1.00E-04
1.12	FLUORIDE	4.227E+00	13.65	2.4166E+05	42581	5.7E+00	2	3	0	1.75E-05
1.70	CHLORIDE	4.228E+00	9.09	1.6096E+05	35429	4.5E+00	2	4	0	2.63E-05
2.06	NITRITE	1.555E+01	20.13	3.5643E+05	64496	5.5E+00	2	5	0	4.36E-05
3.20	BROMIDE	4.427E+00	3.71	6.5652E+04	9566	6.9E+00	1	6	0	6.74E-05
3.67	NITRATE	1.582E+01	18.89	3.3440E+05	30073	1.1E+01	1	7	0	4.73E-05
[illegible]	PHOSPHATE	1.590E+01	10.53	1.8644E+05	14951	1.2E+01	2	10	0	8.53E-05
[illegible]	SULFATE	1.566E+01	23.57	4.1733E+05	26633	1.6E+01	2	12	-1.392	3.75E-05

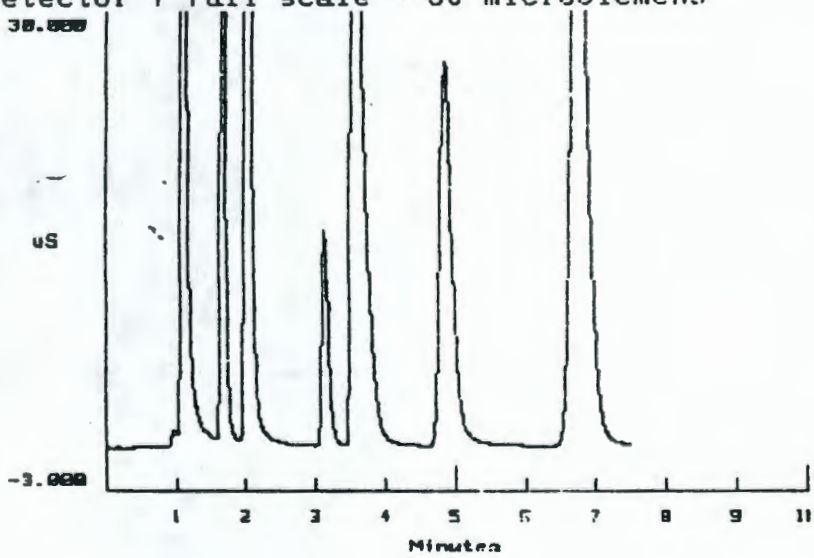
tart time = 0 Stop time = 10 minutes Offset = 0
owest Value = 999974 Highest Value = 1.0648E+6 Scale factor = 1

E04-034



eal time chromatogram of CIM 705 System 1 Cycle 1

tart time = 0 Run time = 10
etector 1 full scale = 30 microSiemens



Time : 9/10/1990 12:21

Sample Name: HI-STD.
Date : 9/10/1990 12:21 Method: BNWEL Operator: JE
CIM Address: 705 Cycle#: 1 Detector: 1 System: 1

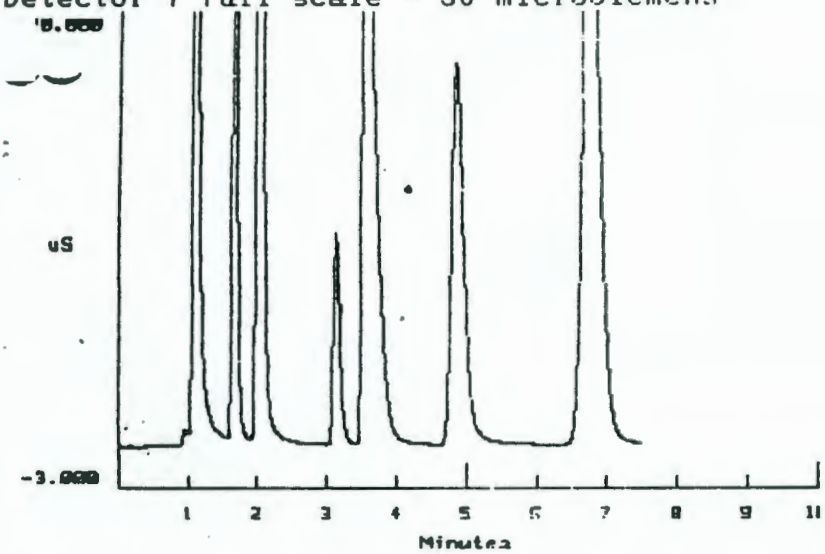
Instrument Type : DIONEX 2320i Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3
erating Condition: RM.TEMP
isc Information : CALIBRATED 8-27-1990

********** EXTERNAL STANDARD REPORT **********

E04-035

tart time = 0 Stop time = 10.0

Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 12:21

Sample Name: HI-STD.			
Date : 9/10/1990 12:21	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 1	Detector: 1	System: 1

Instrument Type : DIONEX 2320i	Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM	Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3	
Operating Condition: RM.TEMP	
Misc Information : CALIBRATED 8-27-1990	

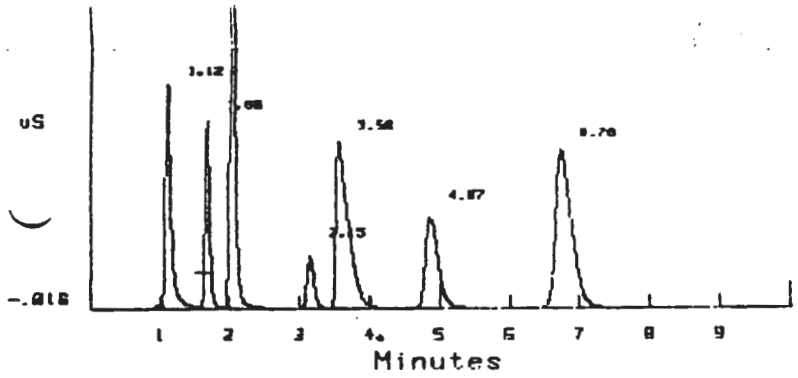
********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

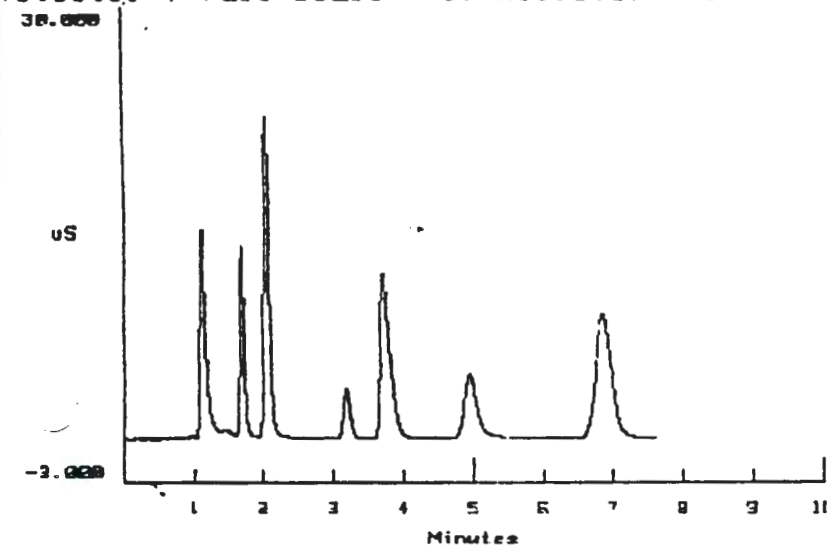
PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK		% DELTA RET TIME	CONC/AREA
1	.98		6.181E-01	.21	6.1809E+03	1189	5.2E+00	2				1.00E-04
2	1.12	FLUORIDE	6.345E+00	12.72	3.7805E+05	65756	5.7E+00	2		2	0	1.68E-05
3	1.69	CHLORIDE	6.535E+00	8.65	2.5704E+05	55202	4.7E+00	2		3	0	2.54E-05
4	2.05	NITRITE	2.558E+01	19.71	5.8590E+05	103867	5.6E+00	2		4	0	4.37E-05
5	3.15	BROMIDE	6.525E+00	3.35	9.9589E+04	14770	6.7E+00	2		5	0	6.55E-05
6	3.56	NITRATE	2.682E+01	19.89	5.9121E+05	48677	1.2E+01	2		6	0	4.54E-05
7	4.87	PHOSPHATE	2.643E+01	11.03	3.2783E+05	26375	1.2E+01	1		7	0	8.06E-05
8	6.76	SULFATE	2.604E+01	24.44	7.2648E+05	46063	1.6E+01	1		8	0	3.58E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999984 Highest Value = 1.104E+6 Scale factor = 1

E04-036



Real time chromatogram of CIM 705 System 1 Cycle 1
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 12:32

LO

Sample Name: [redacted] STD.	
Date : 9/10/1990 12:32 Method: BNWEL	Operator: JE
CIM Address: 705 Cycle#: 1	Detector: 1 System: 1
Instrument Type : DIONEX 2320i	Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM	Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3	
Operating Condition: RM.TEMP	
Misc Information : CALIBRATED 8-27-1990	

********** EXTERNAL STANDARD REPORT **********

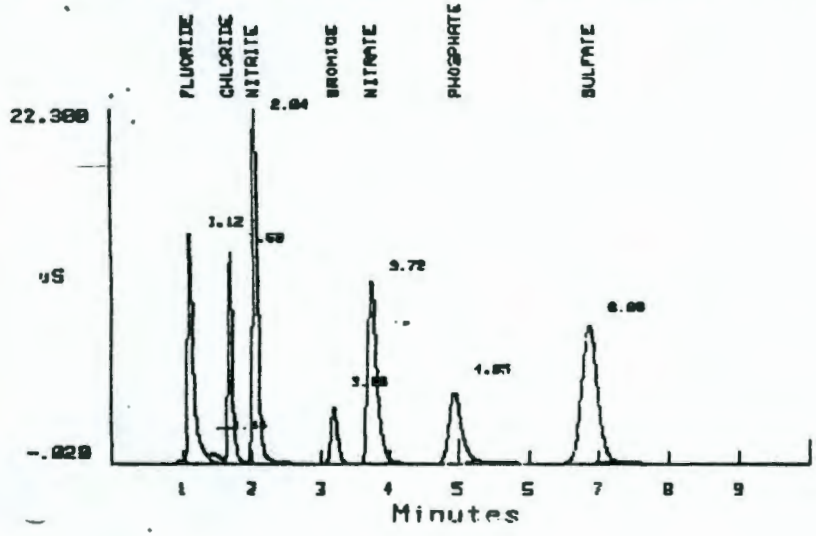
Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

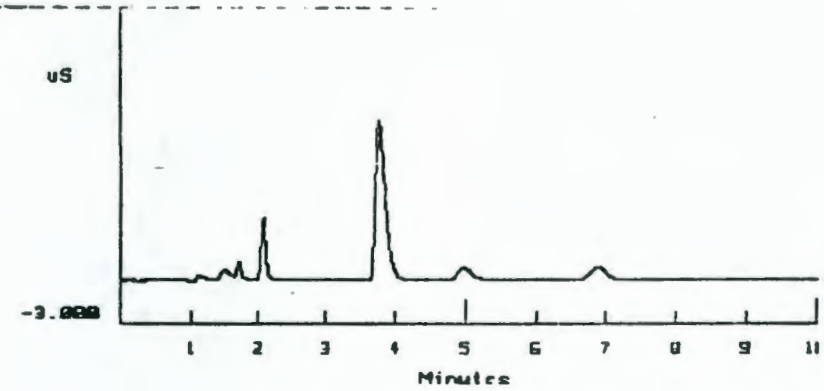
E04-037

#	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK		% DELTA RET TIME	CONC/AREA
1	.97		1.102E-01	.19	1.1019E+03	212	5.2E+00	2				1.00E-04
2	1.12	FLUORIDE	1.540E+00	14.52	8.4384E+04	14386	5.9E+00	3	2		0	1.83E-05
3	1.44		4.574E-01	.79	4.5740E+03	488	9.4E+00	4				1.00E-04

4	.69	CHLORIDE	1.561E+00	9.89	5.7505E+04	13271	4.3E+00	2	4	0	2.71E-05
5	.04	NITRITE	5.154E+00	20.10	1.1684E+05	22261	5.2E+00	2	5	0	4.41E-05
6	3.18	BROMIDE	1.608E+00	3.99	2.3204E+04	3462	6.7E+00	1	6	0	6.93E-05
7	3.72	NITRATE	5.238E+00	18.38	1.0686E+05	11364	9.4E+00	1	7	0	4.90E-05
8	4.55	PHOSPHATE	5.012E+00	9.35	5.4374E+04	4356	1.2E+01	1	8	0	9.22E-05
9	6.86	SULFATE	5.156E+00	22.79	1.3246E+05	8541	1.6E+01	1	9	0	3.89E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999980 Highest Value = 1.0223E+6 Scale factor = 1





Time : 9/10/1990 12:39

Sample Name: 4180C4/100			
Date : 9/10/1990 12:39	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 3	Detector: 1	System: 1
Instrument Type : DIONEX 2320i		Column Type: AG4A/AS4A/AMMS	
Detector 1 : CDM		Detector 2 : NONE	
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3			
Operating Condition: RM.TEMP			
Misc Information : CALIBRATED 8-27-1990			

E04-038

9 1 1 2 1 7 3 1 5 2 5

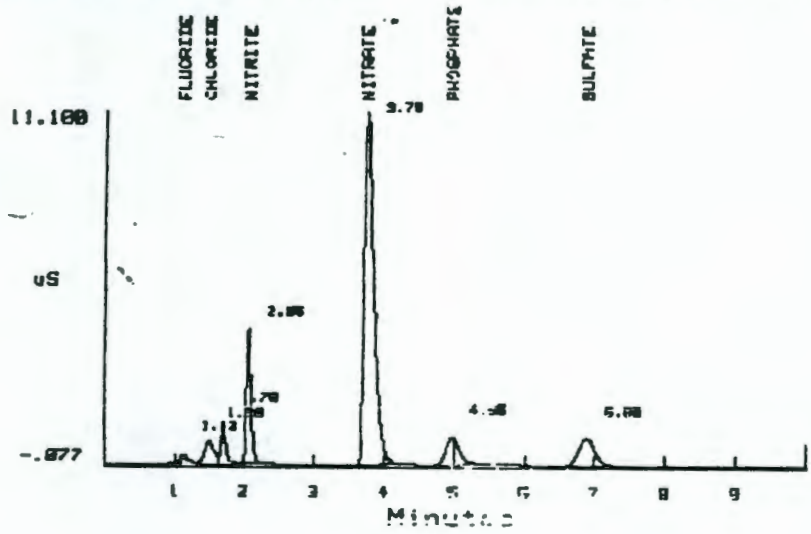
| Eluent Description : [illegible]
| Operating Condition: RM.TEMP
| Misc Information : CALIBRATED 8-27-1990

** ********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

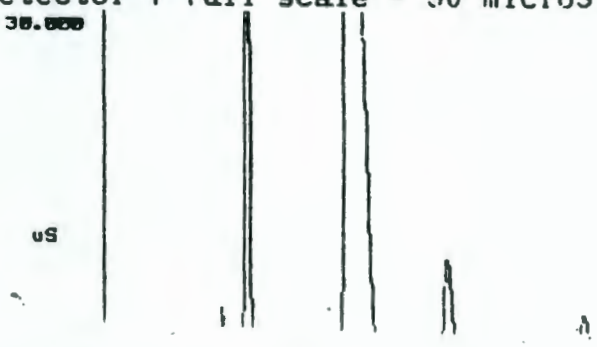
PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
2	1.13	FLUORIDE	7.011E-02	1.98	3.3438E+03	382	8.8E+00	2	2	0	2.10E-05
3	1.50	~~CHLORIDE~~	2.092E-01	4.56	7.7090E+03	798	9.7E+00	2	3	-1.582	2.71E-05
4	1.70	Cl	6.840E-01	4.05	6.8359E+03	1276	5.4E+00	2			1.00E-04
5	2.06	NITRITE	1.004E+00	12.25	2.0687E+04	4246	4.9E+00	2	5	0	4.85E-05
6	3.76	NITRATE	5.204E+00	62.85	1.0616E+05	11088	9.6E+00	1	6	-1.258	4.90E-05
7	4.98	PHOSPHATE	1.229E+00	6.60	1.1146E+04	844	1.3E+01	1	7	0	1.10E-04
8	6.89	SULFATE	4.832E-01	7.71	1.3029E+04	847	1.5E+01	1	8	0	3.71E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999923 Highest Value = 1.0111E+6 Scale factor = 1



Real time chromatogram of CIM 705 System 1 Cycle 4

Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens

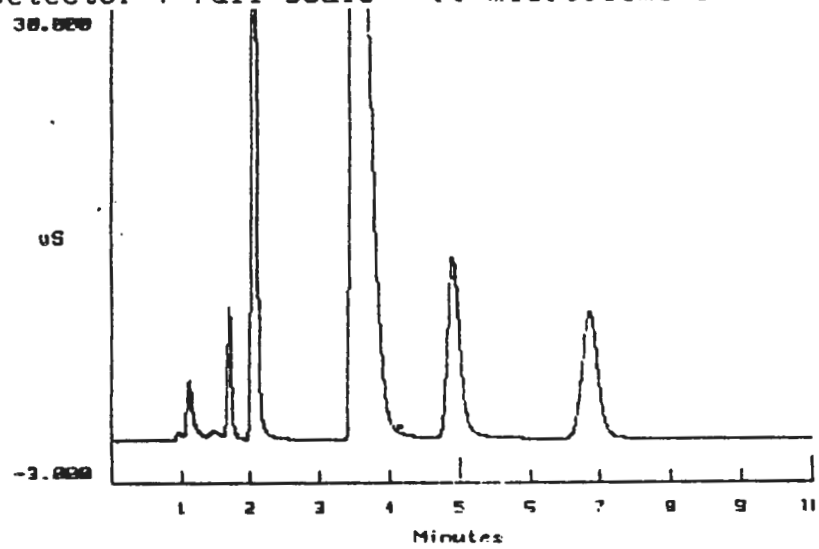


E04-039

Minutes

eal time chromatogram of CIM 705 System 1 Cycle 4

Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 12:52

Sample Name: 4180C4/10			
Date : 9/10/1990 12:52	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 4	Detector: 1	System: 1

Instrument Type	: DIONEX 2320i	Column Type:	AG4A/AS4A/AMMS
Detector 1	: CDM	Detector 2 :	NONE
Eluent Description	: 1.75mMNaHCO3-1.85mMNa2CO3		
Operating Condition	: RM.TEMP		
Misc Information	: CALIBRATED 8-27-1990		

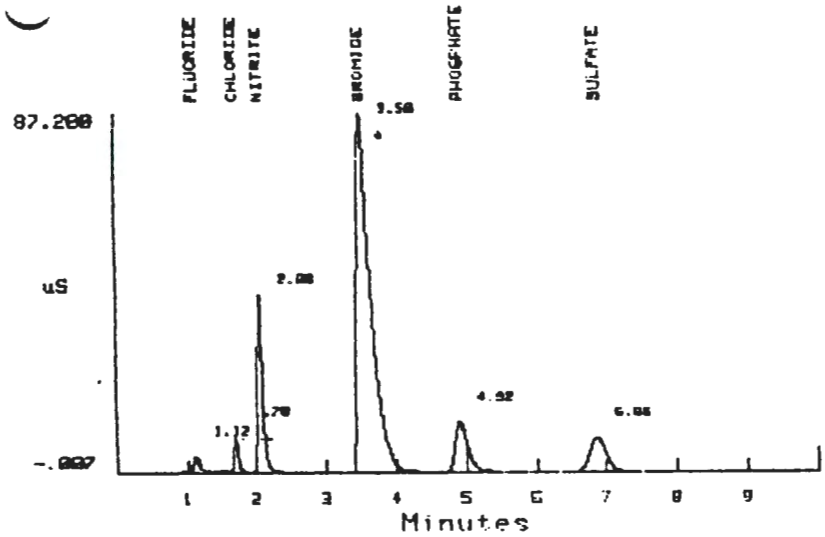
********** EXTERNAL STANDARD REPORT **********

Start time = 0 Stop time = 10.0
Area reject = 1000 One sample per .2 sec
Amount Injected = 1 Dilution factor = 1

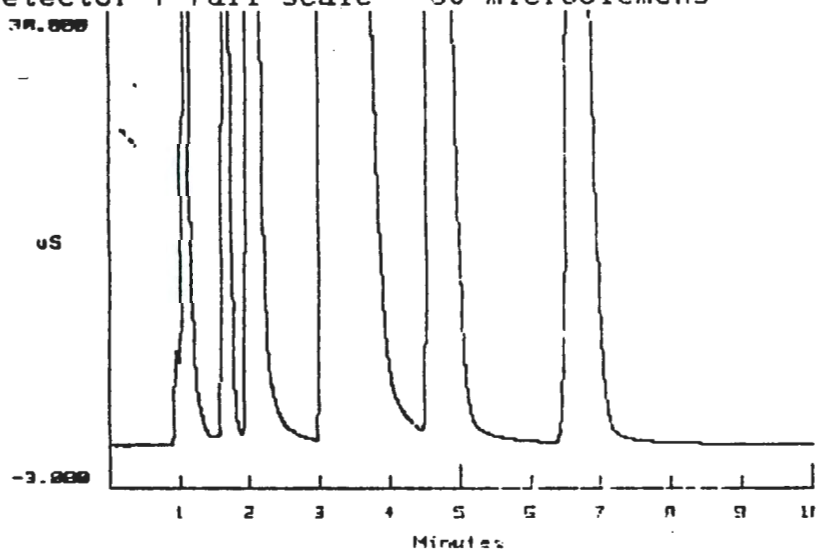
PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	.97		3.305E-01	.18	3.3046E+03	582	5.7E+00	2			1.00E-04
2	1.12	FLUORIDE	5.186E-01	1.51	2.7559E+04	4149	6.6E+00	2	2	0	1.88E-05
3	.48		6.825E-01	.37	6.8247E+03	711	9.6E+00	2			1.00E-04
	1.70	CHLORIDE	1.068E+00	2.15	3.9167E+04	9229	4.2E+00	2	4	0	2.73E-05
	2.06	NITRITE	9.908E+00	12.44	2.2666E+05	43414	5.2E+00	2	5	0	4.37E-05
	3.50	BROMIDE	-5.636E+00	67.26	1.2250E+06	87134	1.4E+01	2	6	0	-4.60E-06
7	4.92	PHOSPHATE	1.356E+01	8.62	1.5699E+05	12676	1.2E+01	2	7	0	8.64E-05
8	6.86	SULFATE	5.287E+00	7.46	1.3588E+05	8802	1.5E+01	1	8	0	3.89E-05

E04-040

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999993 Highest Value = 1.0872E+6 Scale factor = 1



Real time chromatogram of CIM 705 System 1 Cycle 5
Start time = 0 Run time = 10
Detector 1 full scale = 30 microSiemens



Time : 9/10/1990 13:06

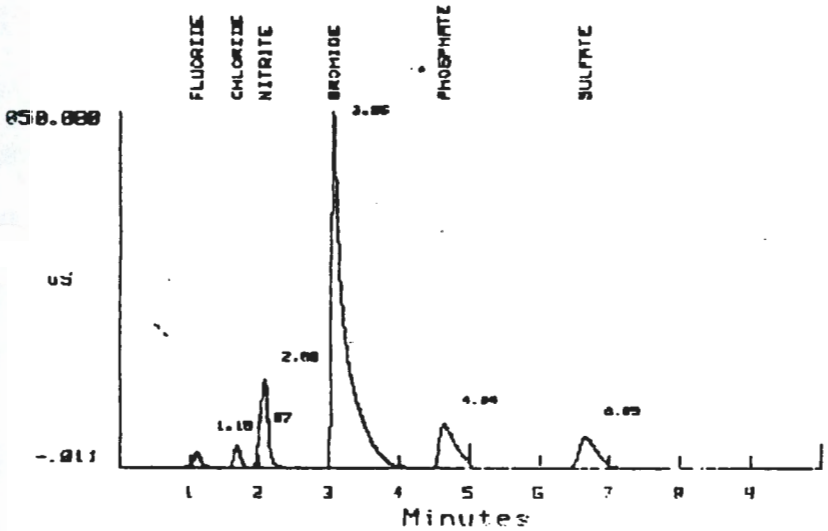
Sample Name: 4180-C4			
Date : 9/10/1990 13:06	Method: BNWEL	Operator: JE	
CIM Address: 705	Cycle#: 5	Detector: 1	System: 1
Instrument Type : DIONEX 2320i		Column Type: AG4A/AS4A/AMMS	
Detector 1 : CDM		Detector 2 : NONE	
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3			
Operating Condition: RM.TEMP			
Misc Information : CALIBRATED 8-27-1990			

********** EXTERNAL STANDARD REPORT **********

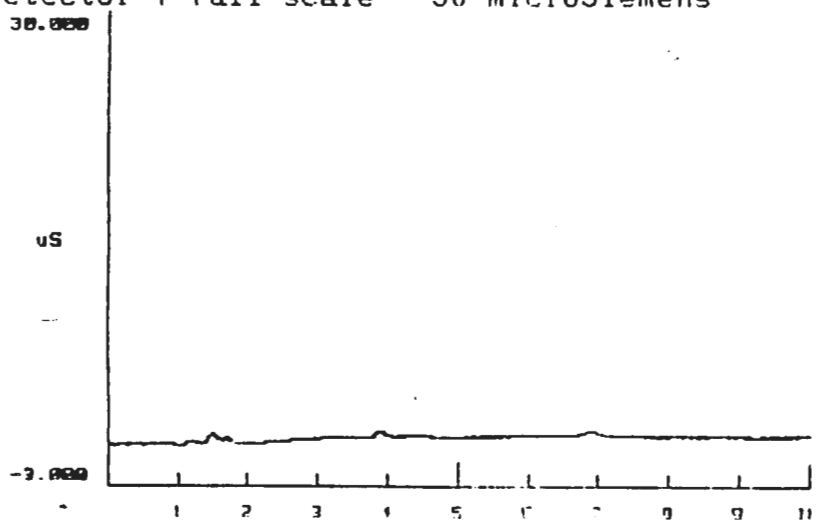
t time = 0 Stop time = 10.0
rea reject = 1000 One sample per .2 sec
mount Injected = 1 Dilution factor = 1

PEAK NUM	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK		% DELTA RET TIME	CONC/AREA
2	.98		2.864E+00	.14	2.8641E+04	6575	4.4E+00	2				1.00E-04
3	1.10	FLUORIDE	5.664E+00	1.63	3.3267E+05	45172	7.4E+00	2	3		0	1.70E-05
4	1.67	CHLORIDE	1.034E+01	2.12	4.3308E+05	65260	6.6E+00	2	4		0	2.39E-05
5	2.08	NITRITE	9.520E+01	10.47	2.1345E+06	261951	8.1E+00	2	5		0	4.46E-05
6	3.06	BROMIDE	-1.082E+04	67.40	1.3746E+07	1039929	1.3E+01	2	6		0	-7.87E-04
7	4.64	PHOSPHATE	5.986E+01	10.32	2.1056E+06	126895	1.7E+01	2	7		0	2.84E-05
8	6.65	SULFATE	4.991E+01	7.91	1.6130E+06	92150	1.8E+01	2	8		0	3.09E-05

Start time = 0 Stop time = 10 minutes Offset = 0
Lowest Value = 999989 Highest Value = 2.05E+6 Scale factor = 1



eal time chromatogram of CIM 705 System 1 Cycle 6
tart time = 0 Run time = 10
etector 1 full scale = 30 microSiemens



E04-042

Time : 9/10/1990 13:20

Sample Name: 4180-C5
Date : 9/10/1990 13:20 Method: BNWEL Operator: JE
CIM Address: 705 Cycle#: 6 Detector: 1 System: 1

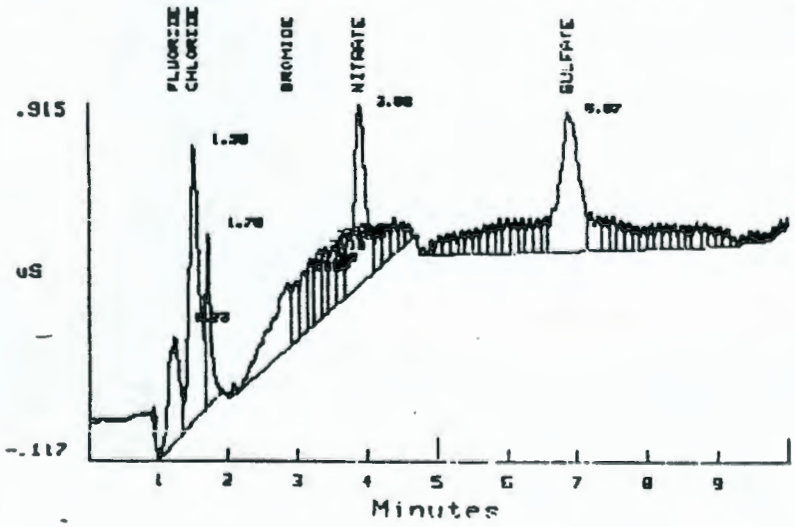
Instrument Type : DIONEX 2320i Column Type: AG4A/AS4A/AMMS
Detector 1 : CDM Detector 2 : NONE
Eluent Description : 1.75mMNaHCO3-1.85mMNa2CO3
Operating Condition: RM.TEMP
Misc Information : CALIBRATED 8-27-1990

********** EXTERNAL STANDARD REPORT **********

tart time = 0 Stop time = 10.0
rea reject = 1000 One sample per .2 sec
nount Injected = 1 Dilution factor = 1

K M	RET TIME	PEAK NAME	CONC. in ppm	AREA %	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
	1.23	FLUORIDE	6.906E-02	8.29	3.2870E+03	306	1.1E+01	2	2	0	2.10E-05
	50	~~CHLORIDE~~	2.075E-01	19.29	7.6459E+03	806	9.5E+00	2	3	-1.582	2.71E-05
	70	Cl	2.683E-01	6.77	2.6834E+03	501	5.4E+00	2			1.00E-04
	2.86	~~BROMIDE~~	2.752E-01	10.67	4.2290E+03	188	2.2E+01	2	6	0	6.51E-05
	2.98		1.005E-01	2.54	1.0087E+03	175	5.7E+00	2			1.00E-04
	3.08		1.143E-01	2.88	1.1433E+03	182	6.3E+00	2			1.00E-04
	3.19		1.144E-01	2.89	1.1437E+03	198	5.8E+00	2			1.00E-04
	3.30		1.133E-01	2.86	1.1327E+03	208	5.5E+00	2			1.00E-04
	3.40		1.144E-01	2.89	1.1442E+03	199	5.8E+00	2			1.00E-04
	3.52	NO_2	1.058E-01	2.67	1.0579E+03	181	5.8E+00	2			1.00E-04
	3.62		1.044E-01	2.63	1.0445E+03	173	6.0E+00	2			1.00E-04
	3.88	NITRATE	3.212E-01	16.44	6.5165E+03	517	1.3E+01	2	14	1.2198	4.93E-05
	6.87	SULFATE	2.673E-01	19.19	7.6066E+03	397	1.9E+01	2	37	0	3.51E-05

tart time = 0 Stop time = 10 minutes Offset = 0
owest Value = 999883 Highest Value = 1.000915E+6 Scale factor = 1



E04-043

E5 - BISMUTH

Bismuth Analyses
WORKSHEET

Date Analyzed: 26-Oct-90
Signature: [signature]

File: Bi102690

Calibration	mV	ppm
Average High Std	25.73	10.00
Average Low Std	3.99	0.00

Calibration
Slope (mV/ppm Bi) = 2.174

Cal Run #	******Calibration***** Low mV	High mV	mV/ppm
2047/2048	3.95	25.75	2.180
2054/2055	4.01	25.91	2.190
2061/2062	3.99	25.63	2.164
2068/2069	4.02	25.62	2.160

***********Sample********** ID	mV	Dil. Factor	Bi (ug/mL)
90-3617-A3	3.96	1.0	-0.01
90-3617-A2	12.48	1.0	3.90
90-3617-A1	12.56	1.0	3.94
90-3618-A1	12.27	1.0	3.81
90-3618-A2	12.61	1.0	3.96
90-3619-A3	3.98	1.0	-0.01
90-3619-A2	13.01	1.0	4.15
90-3619-A1	11.49	1.0	3.45
90-3620-A1	11.90	1.0	3.64
90-3620-A2	12.97	1.0	4.13
90-4178-A3	3.96	1.0	-0.01
90-4178-A2	10.99	1.0	3.22
90-4178-A1	13.04	1.0	4.16
90-4179-A1	14.33	1.0	4.76
90-4179-A2	14.74	1.0	4.94

****
Note: ug/mL results to be inserted into "Sample" ICP analysis to calc Bi in wt% for each sample.
****

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

Prepared By:	Date:	Project:

Title/Subject:

Bismuths

10/26/90

2047 CL1
48 10 PPM STD
49 90-3617 A3
50 A2
51 A1
52 3618 A1
53 A2
54 CL1
55 10 PPM STD
56 90-3619 A3
57 A2
58 A1
59 3620 A1
60 A2
61 CL1
62 10 PPM STD
63 90-4178 A3
64 A2
65 A1
66 4179 A1
67 A2
68 CL1
69 10 PPM STD

E05-003

```
>SAMP BI
Result file (<CR> for no storage) = SSTBI
Sample name     = CL1
Sample number   = 2047
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : CL1
Sample number   : 2047
Programme       : BI                26-Oct-90  14:39:18
[1] Direct Intensities
Bi 3.90000
[1] Direct Intensities
Bi 4.01000
[1] Direct Intensities
Bi 3.94000

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          3.95     3.95     1.41  0.00000  0.00000


More samples [Y/N] ?
Sample name     = STD
Sample number   = 2048
Sample code 1   = 10PPM
Sample code 2   =
Sample code 3   =

Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : STD
Sample number   : 2048
Sample code 1   : 10PPM
Programme       : BI                26-Oct-90  14:41:36
[1] Direct Intensities
Bi 25.6600
[1] Direct Intensities
Bi 25.7100
[1] Direct Intensities
Bi 25.8800

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi         25.75    25.75     0.45  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903617
Sample number   = 2049
Sample code 1   = A3
Sample code 2   = BLK
Sample code 3   = DIRECT
Weight          =
```

E05-004

```
Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903617
Sample number   : 2049
Sample code 1   : A3
Sample code 2   : BLK
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  14:44:31
[1] Direct Intensities
Bi 3.99000
[1] Direct Intensities
Bi 3.96000
[1] Direct Intensities
Bi 3.94000

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi           3.96     3.96     0.63  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903617
Sample number   = 2050
Sample code 1   = A2
Sample code 2   = P5295G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903617
Sample number   : 2050
Sample code 1   : A2
Sample code 2   : P5295G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  14:47:05
[1] Direct Intensities
Bi 12.3800
[1] Direct Intensities
Bi 12.5800
[1] Direct Intensities
Bi 12.4900

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          12.48    12.48     0.80  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903617
Sample number   = 2051
Sample code 1   = A1
Sample code 2   = P5321G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903617
```

E05-005

```
Sample number  : 2051
Sample code 1  : A1
Sample code 2  : P5321G
Sample code 3  : DIRECT
Programme      : BI              26-Oct-90  14:49:36
[1] Direct Intensities
Bi 12.4800
[1] Direct Intensities
Bi 12.5000
[1] Direct Intensities
Bi 12.7100

NAME      MV INT   CONCEN      RSD     BCOR     SCOR

Bi         12.56    12.56     1.01  0.00000  0.00000


More samples [Y/N] ?
Sample name    = 903618
Sample number  = 2052
Sample code 1  = A1
Sample code 2  = P5171G
Sample code 3  = DIRECT
Weight         =

Press <CR> when ready to start measurement
24:132H6n
Sample name    : 903618
Sample number  : 2052
Sample code 1  : A1
Sample code 2  : P5171G
Sample code 3  : DIRECT
Programme      : BI              26-Oct-90  14:52:09
[1] Direct Intensities
Bi 12.2000
[1] Direct Intensities
Bi 12.2600
[1] Direct Intensities
Bi 12.3500

NAME      MV INT   CONCEN      RSD     BCOR     SCOR

Bi         12.27    12.27     0.62  0.00000  0.00000


More samples [Y/N] ?
Sample name    = 903618
Sample number  = 2053
Sample code 1  = A2
Sample code 2  = P5121G
Sample code 3  = DIRECT
Weight         =

Press <CR> when ready to start measurement
24:132H6n
Sample name    : 903618
Sample number  : 2053
Sample code 1  : A2
Sample code 2  : P5121G
Sample code 3  : DIRECT
```

E05-006

```
Programme       : BI                26-Oct-90  14:54:45
[1] Direct Intensities
Bi 12.5900
[1] Direct Intensities
Bi 12.5900
[1] Direct Intensities
Bi 12.6400

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          12.61    12.61     0.23  0.00000  0.00000


More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2054
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : CL1
Sample number   : 2054
Programme       : BI                26-Oct-90  14:58:25
[1] Direct Intensities
Bi 3.98000
[1] Direct Intensities
Bi 3.96000
[1] Direct Intensities
Bi 4.08000

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi           4.01     4.01     1.60  0.00000  0.00000


More samples [Y/N] ?
Sample name     = STD
Sample number   = 2055
Sample code 1   = 10PPM
Sample code 2   =
Sample code 3   =

Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : STD
Sample number   : 2055
Sample code 1   : 10PPM
Programme       : BI                26-Oct-90  15:00:48
[1] Direct Intensities
Bi 25.9100
[1] Direct Intensities
Bi 25.8000
[1] Direct Intensities
Bi 26.0200
```

E05-007

```
NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          25.91    25.91     0.42  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903619
Sample number   = 2056
Sample code 1   = A3
Sample code 2   = BLK
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903619
Sample number   : 2056
Sample code 1   : A3
Sample code 2   : BLK
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:04:02
[1] Direct Intensities
Bi 3.99000
[1] Direct Intensities
Bi 3.93000
[1] Direct Intensities
Bi 4.01000

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi           3.98     3.98     1.05  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903619
Sample number   = 2057
Sample code 1   = A2
Sample code 2   = P5561G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903619
Sample number   : 2057
Sample code 1   : A2
Sample code 2   : P5561G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:06:39
[1] Direct Intensities
Bi 13.0100
[1] Direct Intensities
Bi 12.9800
[1] Direct Intensities
Bi 13.0300

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          13.01    13.01     0.19  0.00000  0.00000
```

E05-008

```
More samples [Y/N] ?
Sample name     = 903619
Sample number   = 2058
Sample code 1   = A1
Sample code 2   = P5017G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903619
Sample number   : 2058
Sample code 1   : A1
Sample code 2   : P5017G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:09:16
[1] Direct Intensities
Bi 11.4800
[1] Direct Intensities
Bi 11.4900
[1] Direct Intensities
Bi 11.4900

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          11.49    11.49     0.05  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903620
Sample number   = 2059
Sample code 1   = A1
Sample code 2   = P5078G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 903620
Sample number   : 2059
Sample code 1   : A1
Sample code 2   : P5078G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:11:58
[1] Direct Intensities
Bi 11.8900
[1] Direct Intensities
Bi 11.9100
[1] Direct Intensities
Bi 11.9100

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          11.90    11.90     0.10  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 903620
Sample number   = 2060
```

E05-009

```
Sample code 1  = A2
Sample code 2  = P5729G
Sample code 3  = DIRECT
Weight         =

Press <CR> when ready to start measurement
24:132H6n
Sample name    : 903620
Sample number  : 2060
Sample code 1  : A2
Sample code 2  : P5729G
Sample code 3  : DIRECT
Programme      : BI              26-Oct-90  15:14:40
[1] Direct Intensities
Bi 12.9700
[1] Direct Intensities
Bi 12.9600
[1] Direct Intensities
Bi 12.9900

NAME      MV INT   CONCEN      RSD     BCOR     SCOR

Bi         12.97    12.97     0.12  0.00000  0.00000


More samples [Y/N] ?
Sample name    = CL1
Sample number  = 2061
Sample code 1  =
Sample code 2  =
Sample code 3  =

Weight         =

Press <CR> when ready to start measurement
24:132H6n
Sample name    : CL1
Sample number  : 2061
Programme      : BI              26-Oct-90  15:18:26
[1] Direct Intensities
Bi 3.98000
[1] Direct Intensities
Bi 3.99000
[1] Direct Intensities
Bi 3.99000

NAME      MV INT   CONCEN      RSD     BCOR     SCOR

Bi          3.99     3.99     0.14  0.00000  0.00000


More samples [Y/N] ?
Sample name    = STD
Sample number  = 2062
Sample code 1  = 10PPM
Sample code 2  =
Sample code 3  =
Weight         =

Press <CR> when ready to start measurement
```

E05-010

```
24:132H6n
Sample name     : STD
Sample number   : 2062
Sample code 1   : 10PPM
Programme       : BI                26-Oct-90  15:20:56
[1] Direct Intensities
Bi 25.3600
[1] Direct Intensities
Bi 25.8900
[1] Direct Intensities
Bi 25.6400

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          25.63    25.63     1.03  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 904178
Sample number   = 2063
Sample code 1   = A3
Sample code 2   = DIRECT
Sample code 3   = BLK
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 904178
Sample number   : 2063
Sample code 1   : A3
Sample code 2   : DIRECT
Sample code 3   : BLK
Programme       : BI                26-Oct-90  15:23:42
[1] Direct Intensities
Bi 3.95000
[1] Direct Intensities
Bi 3.98000
[1] Direct Intensities
Bi 3.95000

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi           3.96     3.96     0.44  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 904178
Sample number   = 2064
Sample code 1   = A2
Sample code 2   = P#527G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 904178
Sample number   : 2064
Sample code 1   : A2
Sample code 2   : P4527G
Sample code 3   : DIRECT
```

E05-011

```
Programme       : BI                26-Oct-90  15:26:28
[1] Direct Intensities
Bi 10.9600
[1] Direct Intensities
Bi 11.0200
[1] Direct Intensities
Bi 10.9900

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          10.99    10.99     0.27  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 904178
Sample number   = 2065
Sample code 1   = A1
Sample code 2   = P6025G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 904178
Sample number   : 2065
Sample code 1   : A1
Sample code 2   : P6025G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:29:07
[1] Direct Intensities
Bi 13.0400
[1] Direct Intensities
Bi 13.0600
[1] Direct Intensities
Bi 13.0100

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          13.04    13.04     0.19  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 904179
Sample number   = 2066
Sample code 1   = A1
Sample code 2   = P6768G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24;132H6n
Sample name     : 904179
Sample number   : 2066
Sample code 1   : A1
Sample code 2   : P6768G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:31:53
[1] Direct Intensities
Bi 14.1600
[1] Direct Intensities
```

E05-012

```
Bi 14.3800
[1] Direct Intensities
Bi 14.4600

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          14.33    14.33     1.08  0.00000  0.00000


More samples [Y/N] ?
Sample name     = 904179
Sample number   = 2067
Sample code 1   = A2
Sample code 2   = P6811G
Sample code 3   = DIRECT
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : 904179
Sample number   : 2067
Sample code 1   : A2
Sample code 2   : P6811G
Sample code 3   : DIRECT
Programme       : BI                26-Oct-90  15:34:40
[1] Direct Intensities
Bi 14.8000
[1] Direct Intensities
Bi 14.7700
[1] Direct Intensities
Bi 14.6600

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi          14.74    14.74     0.50  0.00000  0.00000


More samples [Y/N] ?
Sample name     = CL1
Sample number   = 2068
Sample code 1   =
Sample code 2   =
Sample code 3   =

Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : CL1
Sample number   : 2068
Programme       : BI                26-Oct-90  15:37:35
[1] Direct Intensities
Bi 3.99000
[1] Direct Intensities
Bi 4.01000
[1] Direct Intensities
Bi 4.07000

NAME       MV INT   CONCEN      RSD     BCOR     SCOR
```

```
Bi          4.02     4.02     1.03  0.00000  0.00000


More samples [Y/N] ?
Sample name     = STD
Sample number   = 2069
Sample code 1   =
Sample code 2   =
Sample code 3   =
Weight          =

Press <CR> when ready to start measurement
24:132H6n
Sample name     : STD
Sample number   : 2069
Programme       : BI                26-Oct-90  15:40:11
[1] Direct Intensities
Bi 25.4900
[1] Direct Intensities
Bi 25.6400
[1] Direct Intensities
Bi 25.7300

NAME       MV INT   CONCEN      RSD     BCOR     SCOR

Bi         25.62    25.62     0.47  0.00000  0.00000


More samples [Y/N] ? N
>
```

E05-014

E6 - ATOMIC ABSORPTION (AA)

E06-001

Date: October 10, 1990

To: Tom Jones
Analyst: PK Melethil
Reviewed: MW Urie

Subject: AA Results for SST TK110B Core 9, 10 & 16 Composite

The AA results for sample 90-1257, 90-1279 and 90-4180 are reported below. The supporting raw data (i.e., AA computer reports and calculation worksheets) are archive in the SST files.

	Sam B1 mg/kg	Sam B2 mg/kg	Spike mg/kg	Sam B3 +Spike mg/kg	%rec	Spike Control - B4 Calc µg/mL	Meas µg/mL	%rec	Blank B5(a) mg/kg
90-1257									
As	<2 (76)	<2	37.4	34.5	92	7.6	7.4	97	<2
Se	(c) (d)	(c)	49.8	40.2	80	10.1	10.5	104	<2
Pb	253 (80)	265	49.8	308	98	10.1	10.4	103	<2
90-1279									
As	<2 (80)	<2	34.3	29.4	86	7.6	7.1	93	<2
Se	(c) (d)	(c)	45.8	31.0	68	10.1	9.9	98	<2
Pb	423 (100)	390	45.8	423	36(e)	10.1	10.4	98	<2
90-4180									
As	<2 (80)	<2	33.1	29.3	88	7.6	7.3	96	<2
Se	(c) (d)	(c)	44.2	30.0	68	10.2	10.1	99	<2
Pb	188 (100)	182	44.2	230	101	10.2	9.3	92	<2

(a) The average of sample weights B1 thru B3 is used to calculate the average blank in mg/kg.
(b) To evaluate matrix effects a 25 ppb spike was added to each sample (at the final dilution). The values reported in parentheses are the %recovery for that spike.
(c) Analyte suppression due to matrix effect observed on final dilution runs.
(d) A 25 ppb spike showed no recovery; the results obtained were less negative than the sample results. Further dilutions of the samples may improve this recovery; however, will increase the detection levels.
(e) Spike level <20% of sample concentration.

9 1 1 2 1 3 1 5 4 7

TK 110 B : CORES 4, 9, 10, 16 (COMPOSITE)

ANALYSIS ARSENIC **ANALYST** P K MELETHIL pkm **DATE** 9/25/90

SAMPLE ID	SAMPLE WT. (gm)	SPIKE/ VOLUME	PPB FOUND	MULTIPLY BY	PPM FOUND	COMMENTS
1. BLANK						STANDARD USED:
2. 25 PPB CAL. STD.						As, 1 PPM, LOT # 3103, P.O. # 09231-AAF
3. 50 PPB CAL. STD.						1% HNO_3, TJW, 1/31/91 (EXPIRY)
4. ~1000 PPM Pd						
5. ICV-2 (0590, x20 DIL.)			48 (102%)			EXPECTED VALUE: 47.4 PPB PREPD. 6/13/90, 2% HNO_3, pkm
6. 90-0716/B1	1.0061		-4	248.5	<1.25	DL = $\frac{5\ PPB \times 250\ mL}{gm}$ = 1.25 µg/gm
7. 90-0716/B2	0.9619		-4	259.9	<1.25	
8. 90-0716/B3	1.0695	AAGF-2/ 5.0546 mL	136	233.8	31.8	RECOVERY: 90% EXPECTED VALUE: 35.5 PPM $\left(\frac{1.5 \times 5.0546}{1.0695}\right)$
9. 90-0716/B4		5.0546 mL	146		7.2 µg/mL	RECOVERY: 95% EXPECTED VALUE: 7.58 µg/mL
10. 90-0716/B5	avg. = 1.013		0		<1.25	
11. 90-1257/B1	1.0390		-5	240.6	<1.25	
12. 90-1257/B2	1.0486		-3	238.4	<1.25	
13. 90-1257/B3	1.0148	AAGF-2/ 5.0546 mL	140	246.4	34.5	RECOVERY: 92% EXPECTED VALUE: 37.4 PPM
14. 90-1257/B4		5.0546 mL	149		7.4 µg/mL	RECOVERY: 97% EXPECTED VALUE: 7.58 µg/mL $\left(\frac{149 \times 250}{5.0546 \times 1000}\right)$ ↳ = 7.4 µg/mL
15. 90-1257/B5	avg. = 1.034		1		<1.25	
16. ICV-2 (0590, x20 DIL.)			46 (98%)			
17. 90-1279/B1	0.9989		-4	250.3	<1.25	
18. 90-1279/B2	1.1022		-3	226.8	<1.25	
19. 90-1279/B3	1.1042	AAGF-2/ 5.0546 mL	130	226.4	29.4	RECOVERY: 86% EXPECTED VALUE: 34.3 PPM
20. 90-1279/B4		AAGF-2/ 5.0546 mL	143		7.1 µg/mL	RECOVERY: 93% EXPECTED VALUE: 7.58 µg/mL

E06-003

pkm 10/8/90

9 1 1 2 1 9 5 1 5 4 8

TK 110B : CORES 4, 9, 10, 16 (COMPOSITE)

ANALYSIS ARSENIC **ANALYST** P K MELETHIL pkm **DATE** 9/25/90

SAMPLE ID	SAMPLE WT. (gm)	SPIKE/ VOLUME	PPB FOUND	MULTIPLY BY	PPM FOUND	COMMENTS
21. 90-1279/B5	avg. = 1.068		1		<1.25	
22. 90-4180/B1	1.2598		-6	198.4	<1.25	
23. 90-4180/B2	1.1135		-4	224.5	<1.25	
24. 90-4180/B3	1.1517	AAGF-2 5.0854 mL	135	217.1	29.3	RECOVERY = 88% EXPECTED VALUE = 33.1 PPM
25. 90-4180/B4		5.0854 mL	149		7.3 µg/ml	RECOVERY = 96% EXPECTED VALUE = 7.63 µg/ml
26. 90-4180/B5	avg = 1.175		2			
27. ICV-2 (0590, x20 DIL.)			47 (100%)			
28. 100 PPB CAL. STD (SOURCE)			104 (104%)			

NOTE: SLIGHTLY NEGATIVE VALUES QUANTITATED FOR A/S REFLECT THE ACTION OF MATRIX COMPONENTS (e.g. Cl^-, SO_4^{2-}). 25 PPB SPIKE (POST-DIGEST) RECOVERY LISTED ON SEPARATE SHEET (RUN 10/1/90).

RESULTS (IN PPB) EXCEEDING 50 PPB WERE COMPUTED USING A x 4 AUTO-DILUTE FUNCTION.

E06-004

pkm 10/8/90

9 1 1 2 1 7 5 1 5 4 9

TK 110 B : CORES 4, 9, 10, 16 (COMPOSITE)

ANALYSIS SELENIUM ANALYST P K MELETHIL pkm DATE 9/25/90

SAMPLE ID	SAMPLE WT. (gm)	SPIKE/ VOLUME	PPB FOUND	MULTIPLY BY	PPM FOUND	COMMENTS
1. BLANK						STANDARD USED:
2. 25 PPB CAL. STD.						Se, 1PPM, LOT # 3149, P.O. # 092311-AAF
3. 50 PPB CAL. STD.						1% HNO_3, 1/31/90 (PREP D.), TJW
4. ~1000 PPM Pd						
5. ICV-2 (0590, x20DIL)			49 (92%)			EXPECTED VALUE = 52.6 PPB PREP D. 6/13/90, 2% HNO_3, pkm
6. 90-0716/B1	1.0061		-25	248.5	<1.25	DL = 5 PPB x 250 mL / 1.0 gm = 1.25 µg/gm
7. 90-0716/B2	0.9619		-27	259.9	<1.25	
8. 90-0716/B3	1.0695	AAGF-2/ 5.0546 mL	151	233.8	35.3	RECOVERY = 75% EXPECTED VALUE = 47.3 PPM (10 x 5.0546 / 1.0695)
9. 90-0716/B4		5.0546 mL	214		10.58 µg/mL	RECOVERY = 105% EXPECTED VALUE = 10.11 µg/mL
10. 90-0716/B5	avg. = 1.013		3		<1.25	
11. 90-1257/B1	1.0390		-21	240.6	<1.25	
12. 90-1257/B2	1.0486		-26	238.4	<1.25	
13. 90-1257/B3	1.0148	AAGF-2/ 5.0546 mL	163	246.4	40.2	RECOVERY = EXPECTED VALUE =
14. 90-1257/B4		5.0546 mL	213		10.5 µg/mL	RECOVERY = 104% EXPECTED VALUE = 10.11 µg/mL (213 x 250 / 5.0546 x 1000 = 10.5 µg/L)
15. 90-1257/B5	avg. = 1.034		3		<1.25	
16. ICV-2 (0590 x 20DIL)			50 (94%)			
17. 90-1279/B1	0.9989		-20	250.3	<1.25	
18. 90-1279/B2	1.1022		-28	226.8	<1.25	
19. 90-1279/B3	1.1042	AAGF-2/ 5.0546 mL	137	226.4	31.0	RECOVERY = 68% EXPECTED VALUE = 45.8 PPM
20. 90-1279/B4		AAGF-2/ 5.0546 mL	201		9.9 µg/mL	RECOVERY = 98% EXPECTED VALUE = 10.11 µg/mL

E06-005

pkm 10/8/90

TK 110B : CORES 4,9,10,16 (COMPOSITE)

ANALYSIS SELENIUM ANALYST P K MELETHIL pkm DATE 9/25/90

SAMPLE ID	SAMPLE WT. (gm)	SPIKE/ VOLUME	PPB FOUND	MULTIPLY BY	PPM FOUND	COMMENTS
21. 90-1279/B5	avg = 1.068		2		<1.25	
22. 90-4180/B1	1.2598		-26	198.4	<1.25	
23. 90-4180/B2	1.1135		-28	224.5	<1.25	
24. 90-4180/B3	1.1517	AAGF-2/ 5.0854mL	138	217.1	30.0	RECOVERY = EXPECTED VALUE = 44.2 PPM
25. 90-4180/B4		5.0854mL	206	ug/mL	10.1	RECOVERY = 99% EXPECTED VALUE = 10.2 ug/mL
26. 90-4180/B5	avg = 1.175		3		<1.25	
27. ICV			56 (106%)			
28. 100 PPB (SOURCE) CAL.STD			115 (115%)			

NOTES: SEVERE ANALYTE SIGNAL SUPPRESSION CAUSED BY MATRIX COMPONENTS.
25 PPB POST-DIGEST SPIKE RECOVERIES LISTED ON SEPARATE DATA SHEET (RUN 10/1/90).
BASED ON THE RESPONSE OF A 6 PPB POST-DIGEST SPIKE TO 90-1279/B2, A DETECTION LIMIT OF 5 PPB APPEARS POSSIBLE FOR THE DIGESTATE SOLUTIONS DERIVED FROM TK 110-B CORES. A 10-FOLD DILUTION, WHICH WILL REDUCE MATRIX EFFECTS, WILL PRODUCE A 10-FOLD INCREASE IN DETECTION LIMIT.

pkm

RESULTS EXCEEDING 50PPB WERE PRODUCED USING A x4 AUTO-DILUTE FUNCTION.

E06-006

pkm 10/8/90

As-Se Runs: TK-110B – C4
C9
C10
C16
(COMPOSITE)

Element Title: As pir
Date: [illegible]
Data Storage File: [illegible]
Technique: HGA
Remark 1: pyro-coated tube plus platform
Remark 2: peak area AA-BG
Remark 3: modifier: 5 uL of 000 ppm Pd
Remark 4:

Sample ID: Blank

Peak Area (A-s): -0.005
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area: [illegible]

Peak Area (A-s): [illegible]
Background Pk Area: [illegible]
Blank Corrected Pk Area: [illegible]

Mean Pk Area (A-s): [illegible] RSD(%): 27.4

Auto-zero performed

printer ribbon problems

Sample ID: Standard 1 Sequence No.: 00002 Sampler Position: 2

Peak Area (A-s): [illegible] Peak Height (A): 0.502
Background Pk Area (A-s): 0.030 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.167

Peak Area (A-s): 0.164 Peak Height (A): 0.509
Background Pk Area (A-s): 0.028 Background Pk Height: [illegible]
Blank Corrected Pk Area (A-s): 0.171

Mean Pk Area (A-s): 0.169 SD: 0.0034 RSD(%): [illegible]

Standard number 1 applied. [25]

Sample ID: Standard 2 Sequence No.: 00002 Sampler Position: 3

Peak Area (A-s): 0.330 Peak Height (A): 0.939
Background Pk Area (A-s): 0.030 Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0.337
Concentration (ug/L): 50

Peak Area (A-s): 0.336 Peak Height: [illegible]
Background Pk Area (A-s): 0.031 Background Pk Height: [illegible]
Blank Corrected Pk Area (A-s): 0.342
Concentration (ug/L): 51.

E06-007

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Mean Conc (ug/L): 50 RSD(%): [illegible]

Standard number 7 applied

Sample ID: [illegible] 00004 Sampler Position: 1

Peak [illegible] Peak Height (A): 0.010
[illegible] 0.027 Background Pk Height (A): 0.016
[illegible] Pk Area (A-s): 0.006
[illegible] 1

[illegible] 0.002 Peak Height (A): 0.008
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.

Mean Conc (ug/L): 1. SD: 0.2 RSD(%): 22.9

Auto-zero performed

Sample ID: 5 Sequence No.: 00005 Sampler Position: 5

Peak Area (A-s): 0.321 Peak Height (A): 0.935
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.322
Concentration (ug/L): 47.

Peak Area (A-s): 0.327 Peak Height (A): 0.940
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 0.328
Concentration (ug/L): 48.

Mean Conc (ug/L): 48. SD: 0.6 RSD(%): 1.3

Sample ID: 6 Sequence No.: 00006 Sampler Position: 6

Peak Area (A-s): -0.026 Peak Height (A): 0.007
Background Pk Area (A-s): 0.245 Background Pk Height (A): 0.162
Blank Corrected Pk Area (A-s): -0.025
Concentration (ug/L): -4.

Peak Area (A-s): -0.028 Peak Height (A): 0.010
Background Pk Area (A-s): 0.263 Background Pk Height (A): 0.168
Blank Corrected Pk Area (A-s): -0.027
Concentration (ug/L): -4

Mean Conc (ug/L): -4. SD: 0.2 RSD(%): 4.6

Sample ID: 7 Sequence No.: 00007 Sampler Position: 7

Peak Area (A-s): -0.029 Peak Height (A): 0.010
Background Pk Area (A-s): 0.246 Background Pk Height (A): 0.152
Blank Corrected Pk Area (A-s): -0.028
Concentration (ug/L): -4

E06-008

Peak Area (A-s): -0.033 Peak Height (A): 0.005
Background Pk Area (A-s): 0.252 Background Pk Height (A): 0.155
Blank Corrected Pk Area (A-s): -0.032
Concentration (ug/L): -5.

Mean Conc (ug/L): -4. SD: 0.4 RSD(%): 9.2

Sample ID: 8 Sequence No : 00008 Sampler Position: 8

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.663 Peak Height (A): 1.343
Background Pk Area (A-s): 0.282 Background Pk Height (A): 0.173
Blank Corrected Pk Area (A-s): 0.664
Concentration (ug/L): 97

Sample ID: 8 Sequence No : 00009 Sampler Position: 8

Peak Area (A-s): 0.238 Peak Height (A): 0.351
Background Pk Area (A-s): 0.114 Background Pk Height (A): 0.084
Blank Corrected Pk Area (A-s): 0.239
Concentration (ug/L): 35 Corrected Conc (ug/L): 141

Peak Area (A-s): 0.222 Peak Height (A): 0.338
Background Pk Area (A-s): 0.094 Background Pk Height (A): 0.080
Blank Corrected Pk Area (A-s): 0.223
Concentration (ug/L): 33 Corrected Conc (ug/L): 132

Mean Conc (ug/L): 34 SD: 1.6 RSD(%): 4.8
Corrected Conc (ug/L): 136

Sample ID: 9 Sequence No : 00010 Sampler Position: 9

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.826 Peak Height (A): 2.134
Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): 0.827
Concentration (ug/L): 120

Sample ID: 9 Sequence No : 00011 Sampler Position: 9

Peak Area (A-s): 0.253 Peak Height (A): 0.700
Background Pk Area (A-s): 0.030 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.254
Concentration (ug/L): 37 Corrected Conc (ug/L): 150

Peak Area (A-s): 0.238 Peak Height (A): 0.666
Background Pk Area (A-s): 0.030 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.239
Concentration (ug/L): 35 Corrected Conc (ug/L): 141

Mean Conc (ug/L): 36 SD: 1.5 RSD(%): 4.2
Corrected Conc (ug/L): 146

E06-009

Peak Area (A-s): 0.004 Peak Height (A): 0.016
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1

Peak Area (A-s): -0.002 Peak Height (A): 0.015
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0

Mean Conc (ug/L): 0 SD: 0.7 RSD(%): 224.9

Sample ID: 11 Sequence No.: 00013 Sampler Position: 11

Peak Area (A-s): -0.039 Peak Height (A): 0.007
Background Pk Area (A-s): 0.201 Background Pk Height (A): 0.132
Blank Corrected Pk Area (A-s): -0.038
Concentration (ug/L): -6

Peak Area (A-s): -0.031 Peak Height (A): 0.006
Background Pk Area (A-s): 0.174 Background Pk Height (A): 0.147
Blank Corrected Pk Area (A-s): -0.030
Concentration (ug/L): -4

Mean Conc (ug/L): -5 SD: 0.8 RSD(%): 16.0

Sample ID: 12 Sequence No.: 00014 Sampler Position: 12

Peak Area (A-s): -0.024 Peak Height (A): 0.011
Background Pk Area (A-s): 0.204 Background Pk Height (A): 0.129
Blank Corrected Pk Area (A-s): -0.023
Concentration (ug/L): -3

Peak Area (A-s): -0.022 Peak Height (A): 0.015
Background Pk Area (A-s): 0.208 Background Pk Height (A): 0.145
Blank Corrected Pk Area (A-s): -0.021
Concentration (ug/L): -3

Mean Conc (ug/L): -3 SD: 0.2 RSD(%): 6.7

Sample ID: 13 Sequence No.: 00015 Sampler Position: 13

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 0.691 Peak Height (A): 1.288
Background Pk Area (A-s): 0.214 Background Pk Height (A): 0.138
Blank Corrected Pk Area (A-s): 0.693
Concentration (ug/L): 101

Sample ID: 13 Sequence No.: 00016 Sampler Position: 13

E06-010

Peak Area (A-s): 0.244 Peak Height (A): 0.307
Background Pk Area (A-s): 0.000 Background Pk Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.243

Peak Area (A-s): 0.227 Peak Height (A): 0.391
Background Pk Area (A-s): 0.079 Background Pk Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.228
Concentration (ug/L): 34. Corrected Conc (ug/L): 135

Mean Conc (ug/L): 35 SD: 1.7 RSD(%): 5.0
Corrected Conc (ug/L). 140

Sample ID: 14 Sequence No.: 00017 Sampler Position: 14

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.792 Peak Height (A): 1.926
Background Pk Area (A-s): 0.037 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s) 0.793
Concentration (ug/L): 115.

Sample ID: 14 Sequence No.: 00018 Sampler Position: 14

Peak Area (A-s): 0.259 Peak Height (A): 0.739
Background Pk Area (A-s): 0.032 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.260
Concentration (ug/L): 38 Corrected Conc (ug/L): 154.

Peak Area (A-s): 0.245 Peak Height (A): 0.706
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s) 0.246
Concentration (ug/L): 36 Corrected Conc (ug/L): 145

Mean Conc (ug/L). 37. SD 1.5 RSD(%): 4.0
Corrected Conc (ug/L). 149

Sample ID: 15 Sequence No 00019 Sampler Position: 15

Peak Area (A-s): 0.007 Peak Height (A): 0.023
Background Pk Area (A-s): 0.025 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 1.

Peak Area (A-s): 0.005 Peak Height (A): 0.015
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s) 0.006
Concentration (ug/L): 1

Mean Conc (ug/L). 1 SD. 0.3 RSD(%) 24.2

Sample ID: 16 Sequence No 00020 Sampler Position 16

Peak Area (A-s): 0.309 Peak Height (A): 0.935
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.310
Concentration (ug/L). 46.

E06-011

Peak Area (A-s): 0.312 Peak Height (A): 0.926

Blank Corrected Pk Area (A-s): 0.313
Concentration (ug/L): 46

Mean Conc (ug/L): 46. SD: 0.3 RSD(%): 0.7

Sample ID: 17 Sequence No.: 00021 Sampler Position: 17

Peak Area (A-s): -0.028 Peak Height (A): 0.005
Background Pk Area (A-s): 0.244 Background Pk Height (A): 0.161
Blank Corrected Pk Area (A-s): -0.027
Concentration (ug/L): -4.

Peak Area (A-s): -0.027 Peak Height (A): 0.006
Background Pk Area (A-s): 0.248 Background Pk Height (A): 0.169
Blank Corrected Pk Area (A-s): -0.026
Concentration (ug/L): -4

Mean Conc (ug/L): -4 SD: 0.1 RSD(%): 3.7

Sample ID: 18 Sequence No.: 00022 Sampler Position: 18

Peak Area (A-s): -0.025 Peak Height (A): 0.009
Background Pk Area (A-s): 0.261 Background Pk Height (A): 0.170
Blank Corrected Pk Area (A-s): -0.024
Concentration (ug/L): -4.

Peak Area (A-s): -0.015 Peak Height (A): 0.022
Background Pk Area (A-s): 0.250 Background Pk Height (A): 0.167
Blank Corrected Pk Area (A-s): -0.014
Concentration (ug/L): -2.

Mean Conc (ug/L): -3. SD: 1.0 RSD(%): 36.3

Sample ID: 19 Sequence No.: 00023 Sampler Position: 19

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.651 Peak Height (A): 1.329
Background Pk Area (A-s): 0.262 Background Pk Height (A): 0.165
Blank Corrected Pk Area (A-s): 0.652
Concentration (ug/L): 95

Sample ID: 19 Sequence No.: 00024 Sampler Position: 19

Peak Area (A-s): 0.237 Peak Height (A): 0.361
Background Pk Area (A-s): 0.106 Background Pk Height (A): 0.082
Blank Corrected Pk Area (A-s): 0.239
Concentration (ug/L): 35. Corrected Conc (ug/L): 141.

Peak Area (A-s): 0.227 Peak Height (A): 0.346
Background Pk Area (A-s): 0.093 Background Pk Height (A): 0.076
Blank Corrected Pk Area (A-s): 0.228
Concentration (ug/L): 34 Corrected Conc (ug/L): 135

Mean Conc (ug/L): 34 SD: 1.0 RSD(%): [illegible]

E06-012

Sample ID: 20 Sequence No : 00025 Sampler Position: 20

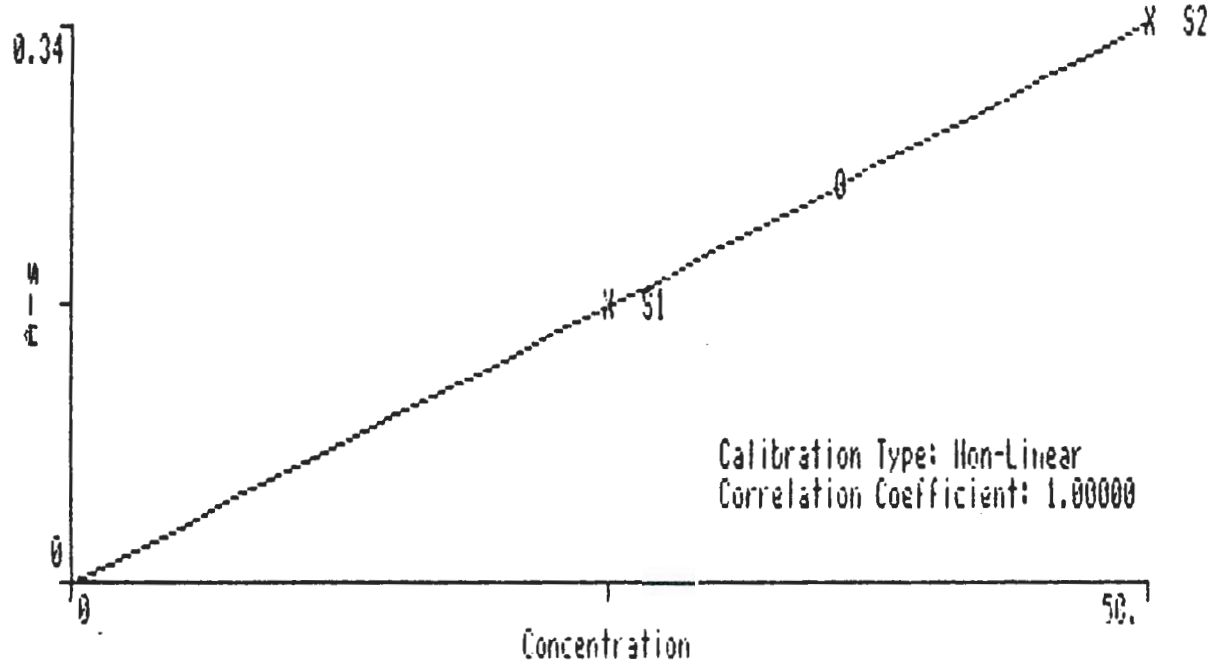
The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 0.760 Peak Height (A): 1.901
Background Pk Area (A-s): 0.040 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.761
Concentration (ug/L): 111.

Sample ID: 20 Sequence No : 00026 Sampler Position: 20

Peak Area (A-s): 0.248 Peak Height (A): 0.707
Background Pk Area (A-s): 0.031 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.249
Concentration (ug/L): 37 Corrected Conc (ug/L): 147.

Peak Area (A-s): 0.234 Peak Height (A): 0.680
Background Pk Area (A-s): 0.030 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.235
Concentration (ug/L): 35 Corrected Conc (ug/L): 139.

Mean Conc (ug/L): 36. SD: 1.4 RSD(%): 4.0
Corrected Conc (ug/L): 143.



E06-013

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Sample ID: 20 Sequence No : 00027 Sampler Position: 20

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.778 Peak Height (A): 1.211
Background Pk Area (A-s): 0.033 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): 0.779
Concentration (ug/L): 113

Sample ID: 20 Sequence No : 00028 Sampler Position: 20

Peak Area (A-s): 0.213 Peak Height (A): 0.691
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): 0.244
Concentration (ug/L): 36 Corrected Conc (ug/L): 144

Peak Area (A-s): 0.235 Peak Height (A): 0.663
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.236
Concentration (ug/L): 35 Corrected Conc (ug/L) 139

Mean Conc (ug/L): 35 SD: 0.0 RSD(%): 2.4
Corrected Conc (ug/L): 142

sample 20 has been repeated following autosampler shutdown

Sample ID: 21 Sequence No : 00029 Sampler Position: 21

Peak Area (A-s): 0.006 Peak Height (A) 0.017
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s) 0.007
Concentration (ug/L): 1

Peak Area (A-s): 0.004 Peak Height (A): 0.014
Background Pk Area (A-s): 0.024 Background Pk Height (A) 0.014
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1

Mean Conc (ug/L): 1. SD: 0.2 RSD(%): 20.1

Sample ID: 22 Sequence No : 00030 Sampler Position: 22

Peak Area (A-s): -0.044 Peak Height (A): 0.013
Background Pk Area (A-s): 0.299 Background Pk Height (A): 0.195
Blank Corrected Pk Area (A-s): -0.043
Concentration (ug/L): -6

Peak Area (A-s): -0.039 Peak Height (A): 0.012
Background Pk Area (A-s): 0.312 Background Pk Height (A): 0.200
Blank Corrected Pk Area (A-s): -0.038
Concentration (ug/L) -6

E06-014

Mean Conc (ug/L): -6. SD: 0.6 RSD(%): 9.5

Sample ID: 23 Sequence No.: 00031 Sampler Position: 23

Peak Area (A-s): -0.030 Peak Height (A): 0.010
Background Pk Area (A-s): 0.281 Background Pk Height (A): 0.185
Blank Corrected Pk Area (A-s): -0.029
Concentration (ug/L): -4.

Peak Area (A-s): -0.023 Peak Height (A): 0.010
Background Pk Area (A-s): 0.278 Background Pk Height (A): 0.186
Blank Corrected Pk Area (A-s): -0.022
Concentration (ug/L): -3.

Mean Conc (ug/L): -4 SD: 0.8 RSD(%): 19.9

Sample ID: 24 Sequence No: 00032 Sampler Position: 24

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.636 Peak Height (A): 1.339
Background Pk Area (A-s): 0.304 Background Pk Height (A): 0.196
Blank Corrected Pk Area (A-s): 0.637
oncentration (ug/L): 93

Sample ID: 24 Sequence No: 00033 Sampler Position: 24

Peak Area (A-s): 0.230 Peak Height (A): 0.315
Background Pk Area (A-s): 0.119 Background Pk Height (A): 0.096
Blank Corrected Pk Area (A-s): 0.231
Concentration (ug/L): 34 Corrected Conc (ug/L): 136.

Peak Area (A-s): 0.225 Peak Height (A): 0.316
Background Pk Area (A-s): 0.107 Background Pk Height (A): 0.092
Blank Corrected Pk Area (A-s): 0.226
Concentration (ug/L): 33. Corrected Conc (ug/L): 134.

Mean Conc (ug/L): 34 SD: 0.5 RSD(%): 1.4
Corrected Conc (ug/L): 135

Sample ID: 25 Sequence No: 00034 Sampler Position: 25

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.800 Peak Height (A): 2.097
Background Pk Area (A-s): 0.041 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.801
Concentration (ug/L): 117

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ample ID: 25 Sequence No: 00035 Sampler Position: 25

Peak Area (A-s): 0.260 Peak Height (A): 0.743
Background Pk Area (A-s): 0.032 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.261
Concentration (ug/L): 39 Corrected Conc (ug/L): 154

E06-015

Peak Area (A-s): 0.242 Peak Height (A): 0.716
Background Pk Area (A-s): 0.032 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.243
Concentration (ug/L): 36 Corrected Conc (ug/L): 144.

Mean Conc (ug/L): 37 SD: 1.9 RSD(%): 5.0
Corrected Conc (ug/L): 149.

Sample ID: 26 Sequence No.: 00036 Sampler Position: 26

Peak Area (A-s): 0.011 Peak Height (A): 0.029
Background Pk Area (A-s): 0.028 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 2.

Peak Area (A-s): 0.008 Peak Height (A): 0.020
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.011
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 1.

Mean Conc (ug/L): 2. SD: 0.3 RSD(%): 20.4

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ample ID: 27 Sequence No.: 00037 Sampler Position: 27

Peak Area (A-s): 0.316 Peak Height (A): 0.971
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.317
Concentration (ug/L): 47

Peak Area (A-s): 0.319 Peak Height (A): 0.960
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): 0.320
Concentration (ug/L): 47

Mean Conc (ug/L): 47. SD: 0.3 RSD(%): 0.7

Sample ID: 28 Sequence No.: 00038 Sampler Position: 28

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.632 Peak Height (A): 1.656
Background Pk Area (A-s): 0.028 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 0.633
Concentration (ug/L): 93.

Sample ID: 28 Sequence No.: 00039 Sampler Position: 28

eak Area (A-s): 0.178 Peak Height (A): 0.512
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.179
Concentration (ug/L): 26. Corrected Conc (ug/L): 106.

E06-016

Peak Area (A-s): 0.172 Peak Height (A): 0.504
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.174

Mean Conc (ug/L): 26. SD: 0.6 RSD(%): 2.2
Corrected Conc (ug/L): 104.

Element File: Se-pkm Element: Se
Date: 9/25/90 Time: 14:28
Data Storage File: A009251424 ID/Weight File:
Technique: HGA Calibration Type: NonLinear
Remark 1: pyro-coated tube plus platform, AA-BG
Remark 2: modifier: 5 of 1000ppm pd
Remark 3: peak area
Remark 4:
Remark 5:

Sample ID: Blank Sequence No.: 00001 Sampler Position: 1

Peak Area (A-s): 0.007 Peak Height (A): 0.014
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 0.007

Peak Area (A-s): 0.007 Peak Height (A): 0.011
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.007

Mean Pk Area (A-s): 0.007 SD: 0.0003 RSD(%): 4.1

Auto-zero performed

Sample ID: Standard 1 Sequence No.: 00002 Sampler Position: 2

Peak Area (A-s): 0.141 Peak Height (A): 0.271
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.135

Peak Area (A-s): 0.141 Peak Height (A): 0.267
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.134

Mean Pk Area (A-s): 0.135 SD: 0.0002 RSD(%): 0.1

Standard number 1 applied. [25]

Sample ID: Standard 2 Sequence No.: 00003 Sampler Position: 3

Peak Area (A-s): 0.281 Peak Height (A): 0.528
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.275
Concentration (ug/L): 51

Peak Area (A-s): 0.289 Peak Height (A): 0.524
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.282
Concentration (ug/L): 52.

E06-017

Standard number 2 applied. [30]

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Sample ID: Blank   Sequence No.: 00004   Sampler Position: 1

Peak Area (A-s): 0.023   Peak Height (A): 0.022
Background Pk Area (A-s): 0.010   Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 3.

Peak Area (A-s): 0.013   Peak Height (A): 0.017
Background Pk Area (A-s): 0.010   Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.

Mean Conc (ug/L): 2.   SD: 1.3   RSD(%): 62.8

Auto-zero performed

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Sample ID: 5   Sequence No.: 00005   Sampler Position: 5

Peak Area (A-s): 0.287   Peak Height (A): 0.523
ackground Pk Area (A-s): 0.013   Background Pk Height (A): 0.010
lank Corrected Pk Area (A-s): 0.269
Concentration (ug/L): 48.

Peak Area (A-s): 0.292   Peak Height (A): 0.531
Background Pk Area (A-s): 0.014   Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.274
Concentration (ug/L): 49.

Mean Conc (ug/L): 49.   SD: 0.6   RSD(%): 1.2

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Sample ID: 6   Sequence No.: 00006   Sampler Position: 6

Peak Area (A-s): -0.098   Peak Height (A): 0.023
Background Pk Area (A-s): 0.401   Background Pk Height (A): 0.170
Blank Corrected Pk Area (A-s): -0.116
Concentration (ug/L): -23

Peak Area (A-s): -0.117   Peak Height (A): 0.009
Background Pk Area (A-s): 0.434   Background Pk Height (A): 0.170
Blank Corrected Pk Area (A-s): -0.135
Concentration (ug/L): -27.

Mean Conc (ug/L): -25.   SD: 2.8   RSD(%): 11.1

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ample ID: 7   Sequence No.: 00007   Sampler Position: 7

Peak Area (A-s): -0.115   Peak Height (A): 0.008
Background Pk Area (A-s): 0.407   Background Pk Height (A): 0.187
Blank Corrected Pk Area (A-s): -0.132
Concentration (ug/L): -26

E06-018

9 1 2 4 1 5 5 2

Background Pk Area (A-s): 0.409 Background Pk Height (A): 0.172
Blank Corrected Pk Area (A-s): -0.139
Concentration (ug/L): -28.

Mean Conc (ug/L): -27. SD: 0.9 RSD(%): 3.4

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Sample ID: 8 Sequence No : 00008 Sampler Position: 8

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.687 Peak Height (A): 1.454
Background Pk Area (A-s): 0.452 Background Pk Height (A): 0.209
Blank Corrected Pk Area (A-s): 0.670
Concentration (ug/L): 110.

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Sample ID: 8 Sequence No : 00009 Sampler Position: 8

Peak Area (A-s): 0.220 Peak Height (A): 0.346
Background Pk Area (A-s): 0.155 Background Pk Height (A): 0.053
Blank Corrected Pk Area (A-s): 0.202
Concentration (ug/L): 37. Corrected Conc (ug/L): 148

Peak Area (A-s): 0.229 Peak Height (A): 0.352
Background Pk Area (A-s): 0.139 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.211
Concentration (ug/L): 39 Corrected Conc (ug/L): 154.

Mean Conc (ug/L): 38. SD: 1.1 RSD(%): 2.9
Corrected Conc (ug/L): 151.

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Sample ID: 9 Sequence No : 00010 Sampler Position: 9

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.963 Peak Height (A): 1.606
Background Pk Area (A-s): 0.034 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): 0.945
Concentration (ug/L): 147.

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Sample ID: 9 Sequence No : 00011 Sampler Position: 9

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.329 Peak Height (A): 0.526
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.311
Concentration (ug/L): 55 Corrected Conc (ug/L): 222.

Peak Area (A-s): 0.304 Peak Height (A): 0.490
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.286
Concentration (ug/L): 51 Corrected Conc (ug/L): 205

Mean Conc (ug/L): 53. SD: 3.0 RSD(%): 5.5
Corrected Conc (ug/L): 214

E06-019

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Peak Area (A-s): 0.039 Peak Height (A): 0.044
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 4.

Peak Area (A-s): 0.025 Peak Height (A): 0.036
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 1.

Mean Conc (ug/L): 3. SD: 2.0 RSD(%): 72.3

Sample ID: 11 Sequence No.: 00013 Sampler Position: 11

Peak Area (A-s): -0.081 Peak Height (A): 0.030
Background Pk Area (A-s): 0.368 Background Pk Height (A): 0.193
Blank Corrected Pk Area (A-s): -0.099
Concentration (ug/L): -19.

Peak Area (A-s): -0.095 Peak Height (A): 0.013
Background Pk Area (A-s): 0.390 Background Pk Height (A): 0.182
Blank Corrected Pk Area (A-s): -0.113
Concentration (ug/L): -22

Mean Conc (ug/L): -21. SD: 2.1 RSD(%): 9.9

Sample ID: 12 Sequence No.: 00014 Sampler Position: 12

Peak Area (A-s): -0.108 Peak Height (A): 0.008
Background Pk Area (A-s): 0.399 Background Pk Height (A): 0.179
Blank Corrected Pk Area (A-s): -0.125
Concentration (ug/L): -25.

Peak Area (A-s): -0.115 Peak Height (A): 0.008
Background Pk Area (A-s): 0.404 Background Pk Height (A): 0.196
Blank Corrected Pk Area (A-s): -0.133
Concentration (ug/L): -26.

Mean Conc (ug/L): -26. SD: 1.1 RSD(%): 4.3

Sample ID: 13 Sequence No.: 00015 Sampler Position: 13

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.727 Peak Height (A): 1.499
Background Pk Area (A-s): 0.399 Background Pk Height (A): 0.190
Blank Corrected Pk Area (A-s): 0.710
Concentration (ug/L): 116.

Sample ID: 13 Sequence No.: 00016 Sampler Position: 13

E06-020

Peak Area (A-s): 0.240 Peak Height (A): 0.384
Background Pk Area (A-s): 0.140 Background Pk Height (A): 0.053
Blank Corrected Pk Area (A-s): 0.222

Peak Area (A-s): 0.244 Peak Height (A): 0.390
Background Pk Area (A-s): 0.121 Background Pk Height (A): 0.048
Blank Corrected Pk Area (A-s): 0.226
Concentration (ug/L): 41. Corrected Conc (ug/L): 164.

Mean Conc (ug/L): 41. SD: 0.5 RSD(%): 1.2
Corrected Conc (ug/L): 163.

Sample ID: 14 Sequence No.: 00017 Sampler Position: 14

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.964 Peak Height (A): 1.570
Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.947
Concentration (ug/L): 147

Sample ID: 14 Sequence No.: 00018 Sampler Position: 14

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.330 Peak Height (A): 0.509
Background Pk Area (A-s): 0.021 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.312
Concentration (ug/L): 56 Corrected Conc (ug/L): 222.

Peak Area (A-s): 0.301 Peak Height (A): 0.492
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.284
Concentration (ug/L): 51 Corrected Conc (ug/L): 204.

Mean Conc (ug/L): 53. SD: 3.3 RSD(%): 6.3
Corrected Conc (ug/L): 213.

Sample ID: 15 Sequence No.: 00019 Sampler Position: 15

Peak Area (A-s): 0.042 Peak Height (A): 0.046
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.011
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 5.

Peak Area (A-s): 0.027 Peak Height (A): 0.020
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 2

Mean Conc (ug/L): 3 SD: 2.0 RSD(%): 64.5

Sample ID: 16 Sequence No.: 00020 Sampler Position: 16

Peak Area (A-s): 0.293 Peak Height (A): 0.539
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.275
Concentration (ug/L): 49

E06-021

Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.282
Concentration (ug/L): 51

Calibration is questionable. Calibration curve rolls over above standards.
Mean Conc (ug/L): --------- SD: 0.0 RSD(%): 1.7

Sample ID: 17 Sequence No : 00021 Sampler Position: 17

Peak Area (A-s): -0.071 Peak Height (A): 0.041
Background Pk Area (A-s): 0.390 Background Pk Height (A): 0.183
Blank Corrected Pk Area (A-s): -0.087
Concentration (ug/L): -17

Peak Area (A-s): -0.093 Peak Height (A): 0.019
Background Pk Area (A-s): 0.411 Background Pk Height (A): 0.170
Blank Corrected Pk Area (A-s): -0.110
Concentration (ug/L): -22

Mean Conc (ug/L): -20 SD: 3.1 RSD(%): 15.6

Sample ID: 18 Sequence No : 00022 Sampler Position: 18

Peak Area (A-s): -0.119 Peak Height (A): 0.009
Background Pk Area (A-s): 0.442 Background Pk Height (A): 0.200
Blank Corrected Pk Area (A-s): -0.137
Concentration (ug/L): -27

Peak Area (A-s): -0.129 Peak Height (A): 0.006
Background Pk Area (A-s): 0.447 Background Pk Height (A): 0.198
Blank Corrected Pk Area (A-s): -0.147
Concentration (ug/L): -29

Mean Conc (ug/L): -28. SD: 1.5 RSD(%): 5.2

Sample ID: 19 Sequence No : 00023 Sampler Position: 19

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.642 Peak Height (A): 1.287
Background Pk Area (A-s): 0.438 Background Pk Height (A): 0.198
Blank Corrected Pk Area (A-s): 0.624
Concentration (ug/L): 104.

Sample ID: 19 Sequence No : 00024 Sampler Position: 19

Peak Area (A-s): 0.203 Peak Height (A): 0.332
Background Pk Area (A-s): 0.155 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.185
Concentration (ug/L): 34 Corrected Conc (ug/L): 136.

Peak Area (A-s): 0.206 Peak Height (A): 0.339
Background Pk Area (A-s): 0.137 Background Pk Height (A): 0.050
Blank Corrected Pk Area (A-s): 0.188
Concentration (ug/L): 34 Corrected Conc (ug/L): [illegible]

E06-022

Mean Conc (ug/L): 34. SD. 0.3 RSD(%): 1.0
Corrected Conc (ug/L): 137.

Sample ID: 20 Sequence No.: 00025 Sampler Position: 20

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 0.922 Peak Height (A). 1.545
Background Pk Area (A-s): 0.039 Background Pk Height (A): 0.022
Blank Corrected Pk Area (A-s): 0.905
Concentration (ug/L): 142

Sample ID: 20 Sequence No.: 00026 Sampler Position: 20

Peak Area (A-s): 0.311 Peak Height (A): 0.459
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.293
Concentration (ug/L): 52 Corrected Conc (ug/L): 210.

Peak Area (A-s): 0.285 Peak Height (A): 0.458
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.268
Concentration (ug/L): 48 Corrected Conc (ug/L): 193.

Mean Conc (ug/L): 50. SD: 3.0 RSD(%): 6.0
Corrected Conc (ug/L): 201

Sample ID: 21 Sequence No.: 00027 Sampler Position: 21

Peak Area (A-s): 0.035 Peak Height (A): 0.038
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 3.

Peak Area (A-s): 0.021 Peak Height (A): 0.028
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1

Mean Conc (ug/L): 2. SD. 1.9 RSD(%): 99.0

Sample ID: 22 Sequence No.: 00028 Sampler Position: 22

Peak Area (A-s): -0.102 Peak Height (A): 0.023
Background Pk Area (A-s): 0.448 Background Pk Height (A): 0.213
Blank Corrected Pk Area (A-s): -0.120
Concentration (ug/L): -24

Peak Area (A-s): -0.125 Peak Height (A): 0.014
Background Pk Area (A-s): 0.485 Background Pk Height (A): 0.230
Blank Corrected Pk Area (A-s): -0.142
Concentration (ug/L): -28.

E06-023

Mean Conc (ug/L): -26. SD: 3.3 RSD(%): 12.5

9-12-1-5-7

Sample ID: 23 Sequence No.: 00029 Sampler Position: 23

Peak Area (A-s): -0.122 Peak Height (A): 0.009
Background Pk Area (A-s): 0.440 Background Pk Height (A): 0.196
Blank Corrected Pk Area (A-s): -0.139
Concentration (ug/L): -28.

Peak Area (A-s): -0.128 Peak Height (A): 0.008
Background Pk Area (A-s): 0.430 Background Pk Height (A): 0.187
Blank Corrected Pk Area (A-s): -0.146
Concentration (ug/L): -29.

Mean Conc (ug/L): -28. SD: 1.0 RSD(%): 3.4

~~~~~~

Sample ID: 24 Sequence No.: 00030 Sampler Position: 24

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.643 Peak Height (A): 1.339
Background Pk Area (A-s): 0.177 Background Pk Height (A): 0.223
Blank Corrected Pk Area (A-s): 0.625
Concentration (ug/L): 104

~~~~~~

ample ID: 24 Sequence No.: 00031 Sampler Position: 24

Peak Area (A-s): 0.200 Peak Height (A): 0.316
Background Pk Area (A-s): 0.167 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.182
Concentration (ug/L): 33 Corrected Conc (ug/L): 134.

Peak Area (A-s): 0.212 Peak Height (A): 0.324
Background Pk Area (A-s): 0.146 Background Pk Height (A): 0.050
Blank Corrected Pk Area (A-s): 0.194
Concentration (ug/L): 36 Corrected Conc (ug/L): 142.

Mean Conc (ug/L): 35. SD: 1.5 RSD(%): 4.4
Corrected Conc (ug/L): 138

~~~~~~

Sample ID: 25 Sequence No.: 00032 Sampler Position: 25

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 0.944 Peak Height (A): 1.521
Background Pk Area (A-s): 0.046 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): 0.927
Concentration (ug/L): 145.

~~~~~~

Sample ID: 25 Sequence No.: 00033 Sampler Position: 25

Peak Area (A-s): 0.313 Peak Height (A): 0.450
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.295
Concentration (ug/L): 53 Corrected Conc (ug/L): 211.

E06-024

Calibration is questionable. Calibration curve rolls over above standards
Peak Area (A-s): 0.296 Peak Height (A): 0.456

Blank Corrected Pk Area (A-s): 0.278
Concentration (ug/L): ---------

Mean Conc (ug/L): -------- SD: ---- RSD(%) ----

~~~~~~

Sample ID: 26 Sequence No.: 00034 Sampler Position: 26

Peak Area (A-s): 0.040 Peak Height (A): 0.042
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s) 0.022
Concentration (ug/L): 4

Peak Area (A-s): 0.022 Peak Height (A) 0.030
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s) 0.005
Concentration (ug/L). 1

Mean Conc (ug/L): 3 SD 2.3 RSD(%) 91.9

~~~~~~

Sample ID: 27 Sequence No 00035 Sampler Position: 27

Calibration is questionable. Calibration curve rolls over above standards.
eak Area (A-s): 0.296 Peak Height (A): 0.490
ickground Pk Area (A-s): 0.017 Background Pk Height (A): 0.013
lank Corrected Pk Area (A-s). 0.279
Concentration (ug/L). ---------

~~~~~~

Sample ID: 27 Sequence No 00036 Sampler Position: 27

Peak Area (A-s): 0.095 Peak Height (A): 0.145
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.077
Concentration (ug/L): 14 Corrected Conc (ug/L): 58.

Peak Area (A-s): 0.091 Peak Height (A): 0.138
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.073
Concentration (ug/L): 14. Corrected Conc (ug/L): 55.

Mean Conc (ug/L): 14. SD: 0.5 RSD(%): 3.6
Corrected Conc (ug/L): 56.

~~~~~~

Sample ID: 28 Sequence No.: 00037 Sampler Position: 28

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.576 Peak Height (A): 0.948
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.012
lank Corrected Pk Area (A-s): 0.559
oncentration (ug/L): 94.

E06-025

~~~~~~

Sample ID: 28 Sequence No.: 00038 Sampler Position: 28

Peak Area (A-s): 0.182 Peak Height (A): 0.260
~~~~~~

Blank Corrected Pk Area (A-s): 0.164
Concentration (ug/L): 30 Corrected Conc (ug/L): 121.

Peak Area (A-s): 0.165 Peak Height (A): 0.247
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.147
Concentration (ug/L): 27. Corrected Conc (ug/L): 109.

Mean Conc (ug/L): 29. SD: 2.1 RSD(%): 7.4
Corrected Conc (ug/L): 115

TEST OF SPIKE RECOVERY OF 6.25 ppb ADDED TO SAMPLE 18
****

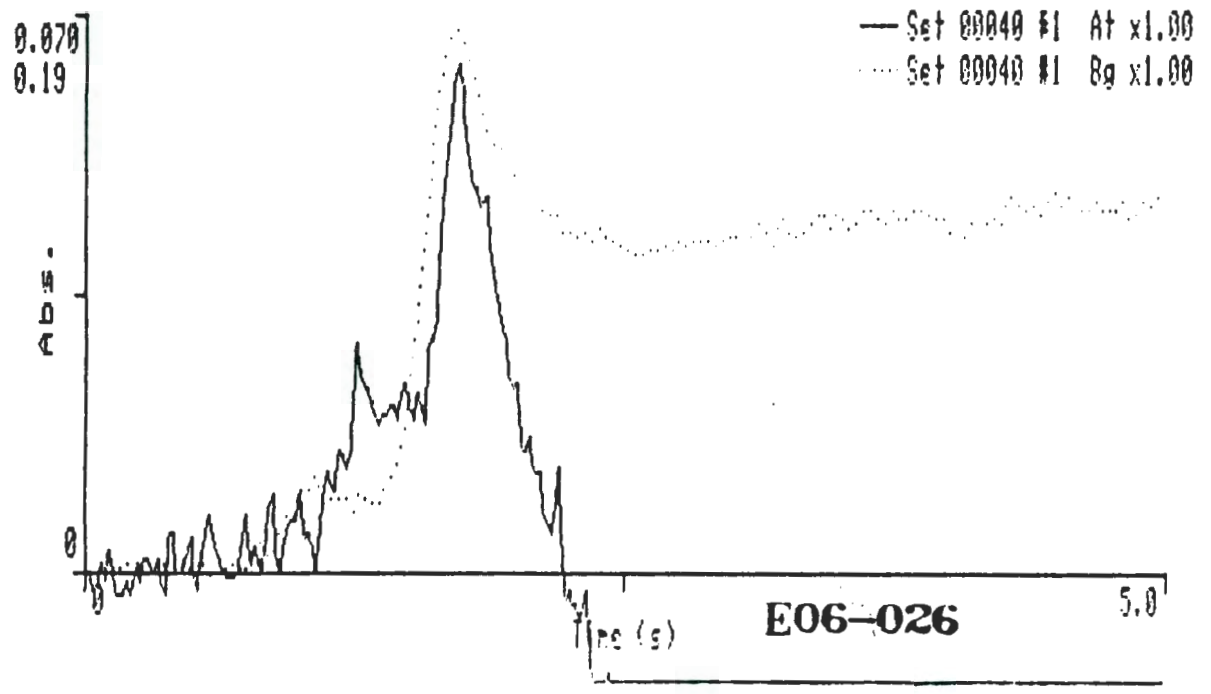
Sample ID: 18 Sequence No.: 00039 Sampler Position: 18

Peak Area (A-s): -0.054 Peak Height (A): 0.036
Background Pk Area (A-s): 0.411 Background Pk Height (A): 0.102
Blank Corrected Pk Area (A-s): -0.072
Concentration (ug/L): -14

TEST OF SPIKE RECOVERY OF 12.5 pADDED TO SAMPLE 18
****
---

ample ID: 18 Sequence No.: 00040 Sampler Position: 18

Peak Area (A-s): -0.036 Peak Height (A): 0.064
Background Pk Area (A-s): 0.448 Background Pk Height (A): 0.105
Blank Corrected Pk Area (A-s): -0.054
Concentration (ug/L): -10.



E06-026

REPEAT OF PREVIOUS INJECTION WITH 12.5 ppb SPIKE ADDED TO SAMPLE 18; PRE-TREAT TI
****

Element File: Se-pkm
Element: Se
Date: 9/25/90
Time: 18:04
Data Storage File: A009251758
ID/Weight File:
Technique: HGA
Calibration Type: Nonlinear
Remark 1: pyro-coated tube plus platform, AA-DC
Remark 2: modifier: 5 of 1000ppm pd
Remark 3: peak area
Remark 4:
Remark 5:

Sample ID: 18
Sequence No.: 00001
Sampler Position: 18

Peak Area (A-s): -0.061
Peak Height (A): 0.036
Background Pk Area (A-s): 0.445
Background Pk Height (A): 0.183
Blank Corrected Pk Area (A-s): -0.061

no significant improvement from extending pre-treat time from
60 sec to 120 sec.

As/Se POST-DIGEST SPIKE RUNS FOR TK-110B-C4 -C9 -C10 -C16 (COMPOSITE

ANALYSIS DATE: 10/01/90

SAMPLE ID	PPB As FOUND	PPB Se FOUND	COMMENTS/NOTES
1. BLANK			
2. 25 PPB CAL STD	STDS USED: Se, 1 PPM, LOT#3149, P.O.092311-AAF 1% HNO3, Y31/90 (PREPN.), TJW		
3. 50 PPB CAL STD	As, 1 PPM, LOT#3103, P.O.092311-AAF 1% HNO3, TJW, Y31/91 (EXPIRY)		
4. ~1000 PPM Pd MODIFIER			
5. ICV-2 (0590, X20 DIL.)	48 (102%)	52 (98%)	
6. 90-0716/B1	0	-27	
7. 90-0716/B1 + 25 PPB As/Se	19 (76%)	-10	
8 90-1257/B1	0	-28	
9. 90-1257/B1 + 25 PPB As/Se	19 (76%)	-7	
10. 90-1279/B1	1	-30	
11. 90-1279/B1 + 25 PPB As/Se	21 (80%)	-8	
12. 90-4180/B1	1	-36	
13. 90-4180/B1 + 25 PPB As/Se	17 (64%)	-14	
14. BLANK + 25 PPB As/Se	24 (96%)	20 (80%)	
15. 100 PPB CAL. SOURCE STD.	97	109	
16. ICV-2 (0590, X20 DIL.)	47 (100%)	51 (96%)	AUTO DILUTE: 59 PPB (111%) FOR SE, ICV-2
COMMENT: SEVERE SUPPRESSION OF ANALYTE SIGNAL NOTED FOR SE ANALYSES			
DUE TO MATRIX COMPONENTS (Cl^-, SO_4^{2-}...). 10-FOLD DILUTION MAY			
ALLEVIATE THE CONDITION.			

E06-028

As/Se POST-DIGEST SPIKE RUNS FOR TK-110B - C4, C9, C10, C16 (COMPOSITE)

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```
Multielement File  As-Se-ppm                    Analyst  ppm
Date  10/01/90                                  Time  1  8
Data Storage File  A0100.1310                   ID/Weight File
```

```
Element File: As-ppm                            Element  As
Date: 10/01/90                                  Time  13 22
Data Storage File: A0100113 0                   ID/Weight File
Technique: HGA                                  Calibration Type: Nonlinear
Remark 1: pyro-coated tube plus platform
Remark 2: peak area,AA-BG
Remark 3: modifier: 5 uL of 1000 ppm Pd
Remark 4:
```

```
Sample ID: Blank                Sequence No   00001      Sampler Position  1

Peak Area (A-s): -0.002                         Peak Height (A)  0.010
Background Pk Area (A-s): 0.015                 Background Pk Height (A)  0.017
Blank Corrected Pk Area (A-s)   0.002

Peak Area (A-s)  -0.007                         Peak Height (A)  0.002
Background Pk Area (A-s): 0.01                  Background Pk Height (A)  0.016
Blank Corrected Pk Area (A-s)  -0.007

Mean Pk Area (A-s):     -0.005          SD  0.0014                  RSD(%)  [illegible]

[illegible] performed
```

```
Sample ID  Standard 1          Sequence No   00002      Sampler Position  2

Peak Area (A-s): 0.163                          Peak Height (A)  0.453
Background Pk Area (A-s)  0.014                 Background Pk Height (A)  0.016
Blank Corrected Pk Area (A-s)  0.167

Peak Area (A-s): 0.161                          Peak Height (A)  0.45
Background Pk Area (A-s)  0.015                 Background Pk Height (A)  0.016
Blank Corrected Pk Area (A-s)  0.166

Mean Pk Area (A-s):     0.166           SD  0.0012                  RSD(%)  0.7

Standard number 1 applied  :        35 :
```

```
Sample ID: Standard 2           Sequence No  00003      Sampler Position  3

Peak Area (A-s): 0.316                          Peak Height (A)  0.843
Background Pk Area (A-s): 0.015                 Background Pk Height (A)  0.017
Blank Corrected Pk Area (A-s)  0.320
Concentration (ug/L  ):        40

Peak Area (A-s): 0.317                          Peak Height (A)  0.852
Background Pk Area (A-s)  0.014                 Background Pk Height (A)  0.016
Blank Corrected Pk Area (A-s)  0.322
Concentration (ug/L  )         40
```

E06-029

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Mean Conc (ug/L) 40 SD 0.2 RSD(%) 0.1

Standard number 2 [illegible]

Sample ID: Blank Sequence No 00004 Sampler Position

Peak Area (A-s): -0.004 Peak Height (A) 0.005
Background Pk Area (A-s): 0.020 Background Pk Height (A) 0.014
Blank Corrected Pk Area (A-s) 0.004
Concentration (ug/L): 0

Peak Area (A-s): -0.003 Peak Height (A) 0.006
Background Pk Area (A-s): 0.011 Background Pk Height (A) 0.016
Blank Corrected Pk Area (A-s) 0.003
Concentration (ug/L) 0

Mean Conc (ug/L) 0 SD 0.1 RSD(%) 46.1

Auto-zero performed

Sample ID: 5 Sequence No 00005 Sampler Position 5

Peak Area (A-s): 0.310 Peak Height (A) 0.037
Background Pk Area (A-s): 0.013 Background Pk Height (A) 0.015
Blank Corrected Pk Area (A-s) 0.313
Concentration (ug/L): 40

Peak Area (A-s): 0.306 Peak Height (A) 0.010
Background Pk Area (A-s) 0.010 Background Pk Height (A) 0.011
Blank Corrected Pk Area (A-s) 0.307
Concentration (ug/L) 40

Mean Conc (ug/L): 40 SD 0.5 RSD(%) 0.9

Sample ID: 6 Sequence No 00006 Sampler Position: 6

Peak Area (A-s): -0.005 Peak Height (A) 0.004
Background Pk Area (A-s) 0.153 Background Pk Height (A) 0.160
Blank Corrected Pk Area (A-s) -0.002
Concentration (ug/L): -0.

Peak Area (A-s): 0.002 Peak Height (A) 0.005
Background Pk Area (A-s): 0.162 Background Pk Height (A) 0.155
Blank Corrected Pk Area (A-s) 0.005
Concentration (ug/L): 1

Mean Conc (ug/L): 0 SD 0.7 RSD(%) 200.3

Sample ID: 7 Sequence No 00007 Sampler Position: 7

E06-030

Peak Area (A-s) 0.132 Peak Height (A) 0.[illegible]
Background Pk Area (A-s) 0.162 Background Pk Height (A) 0.[illegible]
Blank Corrected Pk Area (A-s) [illegible]
Concentration (ug/L) [illegible]

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Peak Area (A-s) 0.122 Peak Height (A) 0.260
Background Pk Area (A-s): 0.173 Background Pk Height (A) 0.172
Blank Corrected Pk Area (A-s) 0.25
Concentration (ug/L): 19

Mean Conc (ug/L) 19 SD . RSD(%): 5.6

Sample ID 8 Sequence No 00008 Sampler Position: 8

Peak Area (A-s) -0.003 Peak Height (A): 0.039
Background Pk Area (A-s) 0.131 Background Pk Height (A) 0.104
Blank Corrected Pk Area (A-s) 0.000
Concentration (ug/L) 0

Peak Area (A-s) -0.010 Peak Height (A) 0.034
Background Pk Area (A-s) 0.127 Background Pk Height (A) 0.109
Blank Corrected Pk Area (A-s) -0.007
Concentration (ug/L) -1

Mean Conc (ug/L) -0 SD 0.7 RSD(%) 142.0

Sample ID 9 Sequence No 00009 Sampler Position 9

Peak Area (A-s) 0.119 Peak Height (A) 0.207
Background Pk Area (A-s) 0.115 Background Pk Height (A) 0.102
Blank Corrected Pk Area (A-s) 0.23
Concentration (ug/L) 18

Peak Area (A-s) 0.126 Peak Height (A) 0.288
Background Pk Area (A-s) 0.112 Background Pk Height (A) 0.101
Blank Corrected Pk Area (A-s) 0.30
Concentration (ug/L) 9

Mean Conc (ug/L) 17 SD 0.7 RSD(%) 3.9

Sample ID 10 Sequence No 00010 Sampler Position 10

Peak Area (A-s) 0.007 Peak Height (A) 0.052
Background Pk Area (A-s): 0.160 Background Pk Height (A): 0.175
Blank Corrected Pk Area (A-s) 0.010
Concentration (ug/L) 2

Peak Area (A-s) 0.005 Peak Height (A): 0.048
Background Pk Area (A-s) 0.168 Background Pk Height (A) 0.166
Blank Corrected Pk Area (A-s) 0.008
Concentration (ug/L) 1

Mean Conc (ug/L) 1 SD 0.2 RSD(%) -6.4

Sample ID 11 Sequence No 00011 Sampler Position 11

E06-031

Peak Area (A-s) 0.135 Peak Height (A) 0.302
Background Pk Area (A-s) 0.17[illegible] Background Pk Height (A) 0.205
Blank Corrected Pk Area (A-s) 0.[illegible]

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'eak Area (A-s): 0 137 Peak Height (A): 0 [illegible]
Background Pk Area (A-s): 0 176 Background Pk Height (A): 0 [illegible]
Blank Corrected Pk Area (A-s): 0 140
Concentration (ug/L): 21

Mean Conc (ug/L) 21 SD 0 2 RSD(%): [illegible] 0

Sample ID: 12 Sequence No 00012 Sampler Position: 12

'eak Area (A-s): -0 001 Peak Height (A): 0 04
Background Pk Area (A-s): 0 224 Background Pk Height (A): 0 240
Blank Corrected Pk Area (A-s): 0 003
Concentration (ug/L): 0

'eak Area (A-s): 0 001 Peak Height (A): 0 035
Background Pk Area (A-s): 0 222 Background Pk Height (A): 0 245
Blank Corrected Pk Area (A-s): 0 003
Concentration (ug/L): 1

Mean Conc (ug/L): 1 SD 0 7 RSD(%): 33 3

---

ple ID: 17 Sequence No 000 7 Sampler Position 7

eak Area (A-s): 0 110 Peak Height (A): 0 270
ackground Pk Area (A-s): 0 222 Background Pk Height (A): 0 246
lank Corrected Pk Area (A-s): 0 111
oncentration (ug/L): 17

eak Area (A-s): 0 111 Peak Height (A): 0 262
ackground Pk Area (A-s): 0 227 Background Pk Height (A): 0 248
lank Corrected Pk Area (A-s): 0 113
oncentration (ug/L): 17

ean Conc (ug/L) 17 SD 0 1 RSD(%): 0 7

---

ample ID: 14 Sequence No 00014 Sampler Position 14

eak Area (A-s): 0.161 Peak Height (A): 0 475
ackground Pk Area (A-s): 0 033 Background Pk Height (A): 0 020
lank Corrected Pk Area (A-s): 0 164
oncentration (ug/L): 25

eak Area (A-s): 0.158 Peak Height (A): 0 470
ackground Pk Area (A-s): 0 024 Background Pk Height (A): 0 020
lank Corrected Pk Area (A-s): 0 162
oncentration (ug/L): 24

n Conc (ug/L): 24 SD 0 3 E06-032 RSD(%): [illegible] 1

---

ample ID: 15 Sequence No 00015 Sampler Position 7

he sample absorbance is greater than that of the highest standard
eak Area (A-s): 0 581 Peak Height [illegible]

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Blank Corrected Pk Area (A-s): 0.584
Concentration (ug/L): 97.

Sample ID: 15

Peak Area (A-s): 0.159
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible] 24 Plan

Peak Height (A): 0.450
Background Pk Height (A): [illegible]
Corrected Conc (ug/L): [illegible] 97

Peak Area (A-s): [illegible]
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Peak Height (A): 0.445
Background Pk Height (A): 0.010

Corrected Conc (ug/L): [illegible]

Mean Conc (ug/L): 24 97
Corrected Conc (ug/L): 97.
SD: [illegible] RSD(%): [illegible]

Sample ID: [illegible] Sequence No: [illegible] Sampler Position: [illegible]

Peak Area (A-s): 0.301
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 17

Peak Height (A): 0.[illegible]
Background Pk Height (A): [illegible]

Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Peak Height (A): 0.047
Background Pk Height (A): 0.012

Mean Conc (ug/L): [illegible] 47 Plan
SD: [illegible]
RSD(%): [illegible]

Element File: Se-plm Se
Date: 10/01/90
Data Storage File: A016011310
Technique: HGA
Remark 1: pyro-coated tubular platform
Remark 2: modifier [illegible] of 1000ppm Se
Remark 3: peak area
Remark 4:
Remark 5:

Element: [illegible]
Time: [illegible]
Wavelength: [illegible]
Calibration Type: Weighted

Sample ID: Blank Sequence No: [illegible] Sampler Position: [illegible]

Peak Area (A-s): [illegible]
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area (A-s): [illegible]

Peak Height (A): [illegible]
Background Pk Height (A): [illegible]

Peak Area (A-s): [illegible]
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area (A-s): [illegible]

Peak Height (A): [illegible]
Background Pk Height (A): [illegible]

Mean Pk Area (A-s): [illegible] SD: [illegible]

E06-033

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Sample ID: Standard 1 [illegible]

Peak Area (A-s): [illegible]
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area (A-s): [illegible]

Peak Area (A-s): 0.117 Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): [illegible]

Mean Peak Area (A-s): [illegible] SD: 0.0011 RSD(%): 0.9

Standard number 1 applied [illegible] 25.1

Sample ID: Standard 2 Sequence No.: 00020 Sampler Position: 3

Peak Area (A-s): 0.233 Peak Height (A): 0.400
Background Pk Area (A-s): 0.011 Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0.238
Concentration (ug/L): 50.

Peak Area (A-s): 0.242 Peak Height (A): 0.490
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.011
Blank Corrected Pk Area (A-s): 0.249
Concentration (ug/L): 52

Mean Conc. (ug/L): 51 SD: 1.4 RSD(%): 2.7

Standard number 2 applied [illegible] 50.1

Sample ID: Blank Sequence No.: 00021 Sampler Position: [illegible]

Peak Area (A-s): 0.005 Peak Height (A): 0.014
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 2

Peak Area (A-s): -0.002 Peak Height (A): 0.013
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1

Mean Conc. (ug/L): 1 SD: 1.1 RSD(%): 75.0

E06-034

Duplicate performed

Sample ID: [illegible] Sequence No.: 00022 Sampler Position: 5

Peak Area (A-s): 0.247 Peak Height (A): 0.506
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.011
Blank Corrected Pk Area (A-s): 0.245
Concentration (ug/L): 50.

Sample ID: 5 Sequence No.: 00023 Sampler Position: 5

Peak Area (A-s): 0.068 Peak Height (A): 0.132
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.011
Blank Corrected Pk Area (A-s): 0.066
Concentration (ug/L): 14. Corrected Conc (ug/L): 56.

Peak Area (A-s): 0.058 Peak Height (A): 0.120
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.056
Concentration (ug/L): 12. Corrected Conc (ug/L): 48.

Mean Conc (ug/L): 13. SD: 1.5 RSD(%): 11.3
Corrected Conc (ug/L): 52.

Sample ID: 6 Sequence No.: 00024 Sampler Position: 6

Peak Area (A-s): -0.114 Peak Height (A): 0.004
Background Pk Area (A-s): 0.397 Background Pk Height (A): 0.151
Blank Corrected Pk Area (A-s): -0.115
Concentration (ug/L): -25.

Peak Area (A-s): -0.120 Peak Height (A): 0.006
Background Pk Area (A-s): 0.424 Background Pk Height (A): 0.158
Blank Corrected Pk Area (A-s): -0.130
Concentration (ug/L): -28.

Mean Conc (ug/L): -27. SD: 2.2 RSD(%): 8.4

Sample ID: 7 Sequence No.: 00025 Sampler Position: 7

Peak Area (A-s): -0.046 Peak Height (A): 0.129
Background Pk Area (A-s): 0.439 Background Pk Height (A): 0.164
Blank Corrected Pk Area (A-s): -0.047
Concentration (ug/L): -10.

Peak Area (A-s): -0.041 Peak Height (A): 0.131
Background Pk Area (A-s): 0.430 Background Pk Height (A): 0.150
Blank Corrected Pk Area (A-s): -0.042
Concentration (ug/L): -9.

Mean Conc (ug/L): -10. SD: 0.8 RSD(%): 7.9

Sample ID: 8 Sequence No.: 00026 Sampler Position: 8

Peak Area (A-s): -0.124 Peak Height (A): 0.004
Background Pk Area (A-s): 0.412 Background Pk Height (A): 0.173
Blank Corrected Pk Area (A-s): -0.125
Concentration (ug/L): -27.

Peak Area (A-s): -0.130 Peak Height (A): 0.003
Background Pk Area (A-s): 0.399 Background Pk Height (A): 0.163
Blank Corrected Pk Area (A-s): -0.131
Concentration (ug/L): -29.

E06-035

Sample Ib: 9 Sequence No.: 00027 Sampler Position: 9

Peak Area (A-s): -0.035 Peak Height (A): 0.154
Background Pk Area (A-s): 0.404 Background Pk Height (A): 0.167
Blank Corrected Pk Area (A-s): -0.036
Concentration (ug/L): -8.

Peak Area (A-s): -0.028 Peak Height (A): 0.149
Background Pk Area (A-s): 0.403 Background Pk Height (A): 0.171
Blank Corrected Pk Area (A-s): -0.029
Concentration (ug/L): -6.

Mean Conc (ug/L): -7. SD: 1.0 RSD(%): 14.4

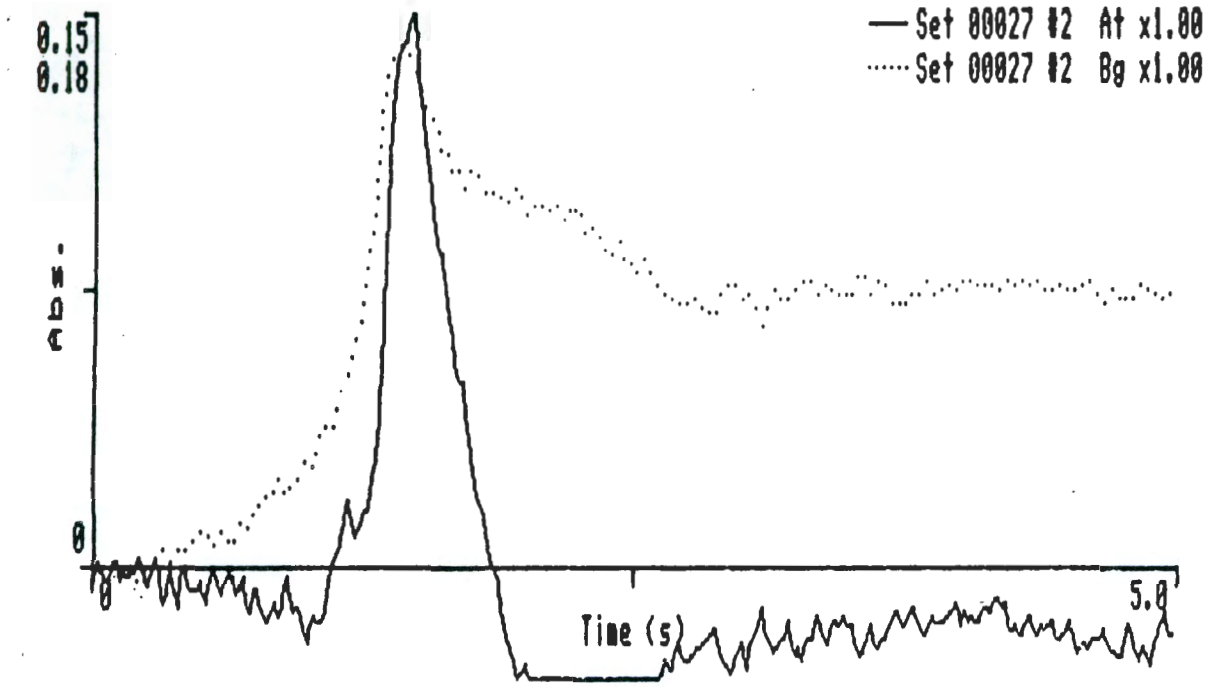
E06-036

HGA Run Samples Function 03:57

Element File : Se-pkm Se 10/01/90

Repl 2 of 2 A-sec: -0.029 Conc: -6. ug/L

SD: 1.0 RSD(%): 14.4 Mean A-s: -0.033 Mean Conc: -7. ug/L



Energy: 59 Wavelength: 196.0 Slit: 0.7 Lamp Current: 0

Hot Temperature: 20 A/Samp Position: 10

Print Screen | Print Graphics | New Page | New Line | Print Message | Main Keys

E06-037

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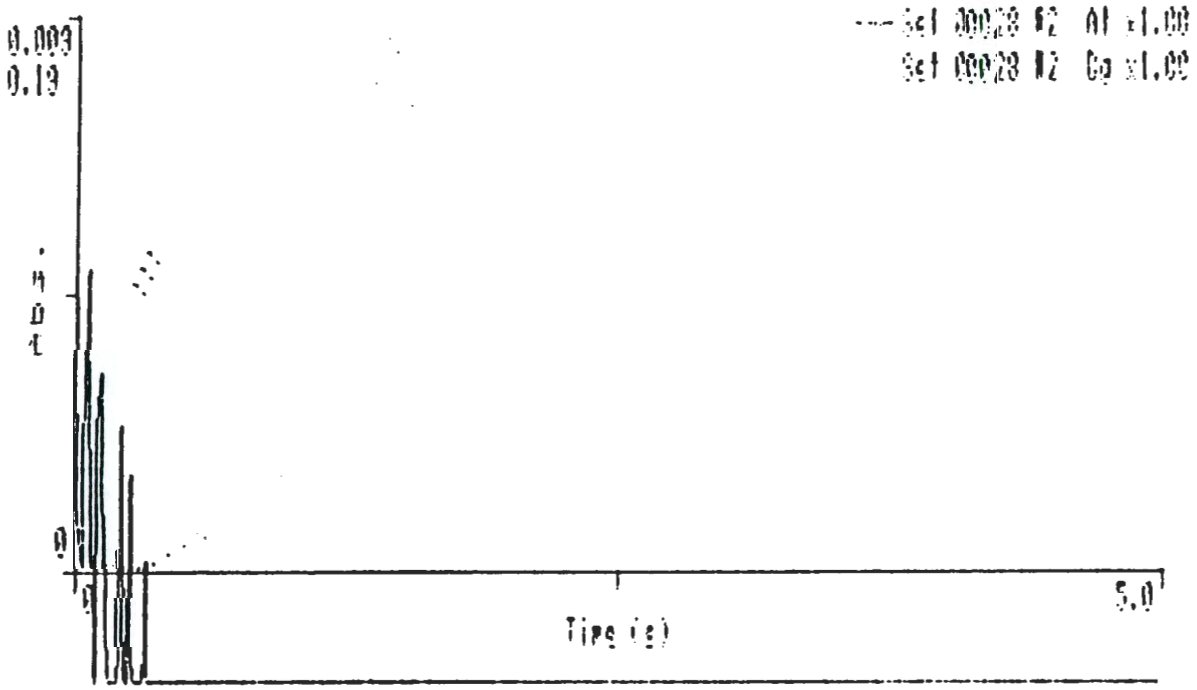
ample ID: 10 Sequence No: 00028 Sampler Position: 10

eak Area (A-s) -0.135 Peak Height (A) 0.001
ackground Pk Area (A-s) 0.131 Background Pk Height (A) 0.46
lank Corrected Pk Area (A-s) 0.134
oncentration (ug/L) 13

eak Area (A-s) -0.142 Peak Height (A) 0.002
ackground Pk Area (A-s) 0.141 Background Pk Height (A) 0.103
lank Corrected Pk Area (A-s) 0.142
oncentration (ug/L) 14

ean Conc (ug/L) -30 SD: 10 RSD(%) 33



E06-038

Sample ID: 11 Sequence No.: 00029 Sampler Position: 11

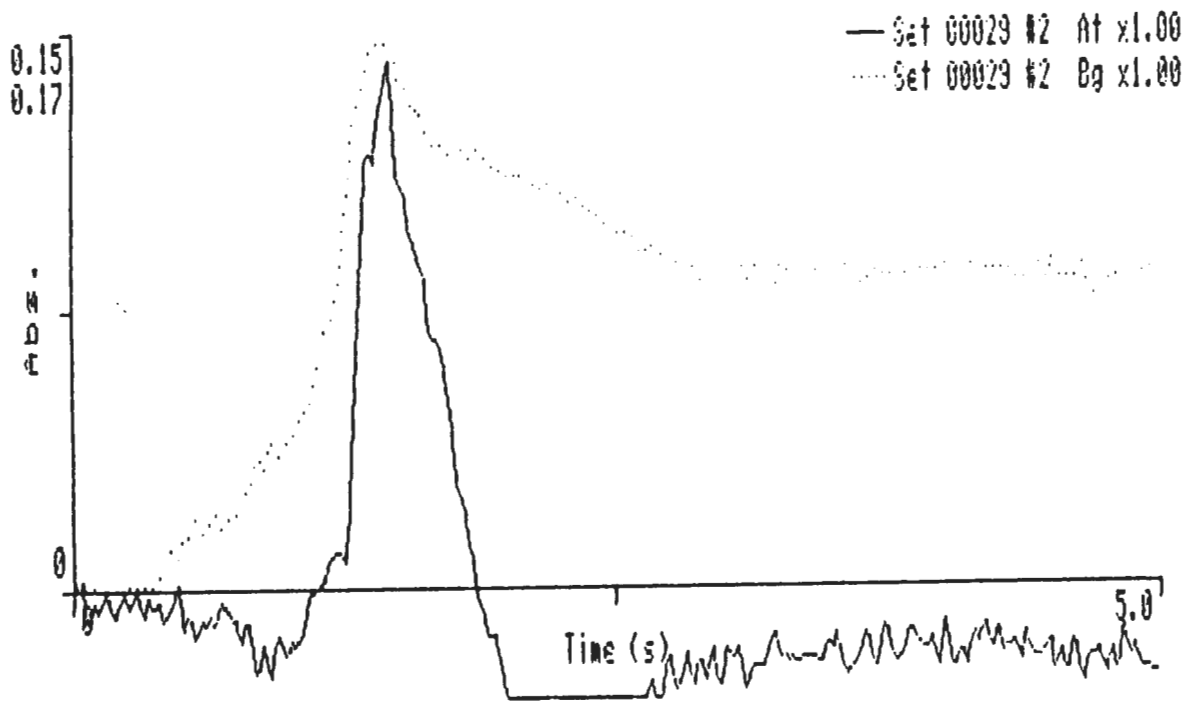
Peak Area (A-s): -0.038
Background Pk Area (A-s): 0.439
Blank Corrected Pk Area (A-s): -0.039
Concentration (ug/L): -8

Peak Height (A): 0.140
Background Pk Height (A): 0.170

Peak Area (A-s): -0.030
Background Pk Area (A-s): 0.436
Blank Corrected Pk Area (A-s): -0.032
Concentration (ug/L): -7

Peak Height (A): 0.141
Background Pk Height (A): 0.165

Mean Conc (ug/L): -8 SD: 1.2 RSD(%): 15.7



E06-039

Sample ID: 12 Sequence No 00030 Sampler Position: 12

Peak Area (A-s): -0.157 Peak Height (A) 0.003
Background Pk Area (A-s): 0.492 Background Pk Height (A): 0.240
Blank Corrected Pk Area (A-s): -0.158
Concentration (ug/L): -34

Peak Area (A-s): -0.167 Peak Height (A): 0.003
Background Pk Area (A-s): 0.504 Background Pk Height (A): 0.243
Blank Corrected Pk Area (A-s) -0.167
Concentration (ug/L): -37

Mean Conc (ug/L): -36 SD: 1.6 RSD(%): 4.6

Sample ID: 13 Sequence No 00031 Sampler Position: 13

Peak Area (A-s): -0.066 Peak Height (A): 0.151
Background Pk Area (A-s): 0.532 Background Pk Height (A): 0.245
Blank Corrected Pk Area (A-s): -0.067
Concentration (ug/L): -14

Peak Area (A-s): -0.063 Peak Height (A): 0.150
Background Pk Area (A-s): 0.510 Background Pk Height (A) 0.246
Blank Corrected Pk Area (A-s) -0.065
Concentration (ug/L): -14

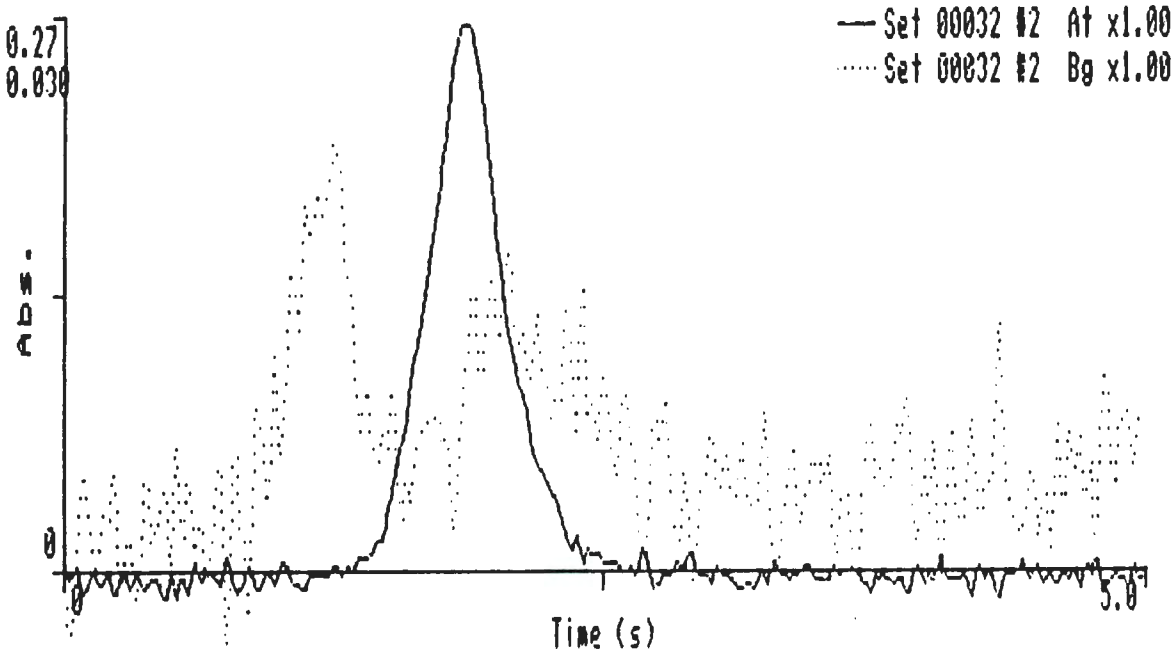
Mean Conc (ug/L): -14 SD: 0.3 RSD(%): 2.3

Sample ID: 14 Sequence No 00032 Sampler Position: 14

Peak Area (A-s): 0.087 Peak Height (A): 0.251
Background Pk Area (A-s): 0.063 Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s) 0.086
Concentration (ug/L): 18

Peak Area (A-s): 0.106 Peak Height (A): 0.265
Background Pk Area (A-s): 0.033 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s) 0.104
Concentration (ug/L): 22

Mean Conc (ug/L): 20 SD: 2.7 RSD(%): 13.7



E06-041

Sample ID: 15 Sequence No : 00033 Sampler Position: 15

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.464 Peak Height (A): 0.990
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.462
Concentration (ug/L): 92

Sample ID: 15 Sequence No : 00034 Sampler Position: 15

Peak Area (A-s): 0.134 Peak Height (A): 0.263
Background Pk_Area (A-s): 0.024 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s) 0.132
Concentration (ug/L): 28 Corrected Conc (ug/L): 110

Peak Area (A-s): 0.129 Peak Height (A): 0.253
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.128
Concentration (ug/L): 27 Corrected Conc (ug/L): 107

Mean Conc (ug/L): 27 SD 0.6 RSD(%): 2.4
Corrected Conc (ug/L): 109

Sample ID: 16 Sequence No : 00035 Sampler Position: 16

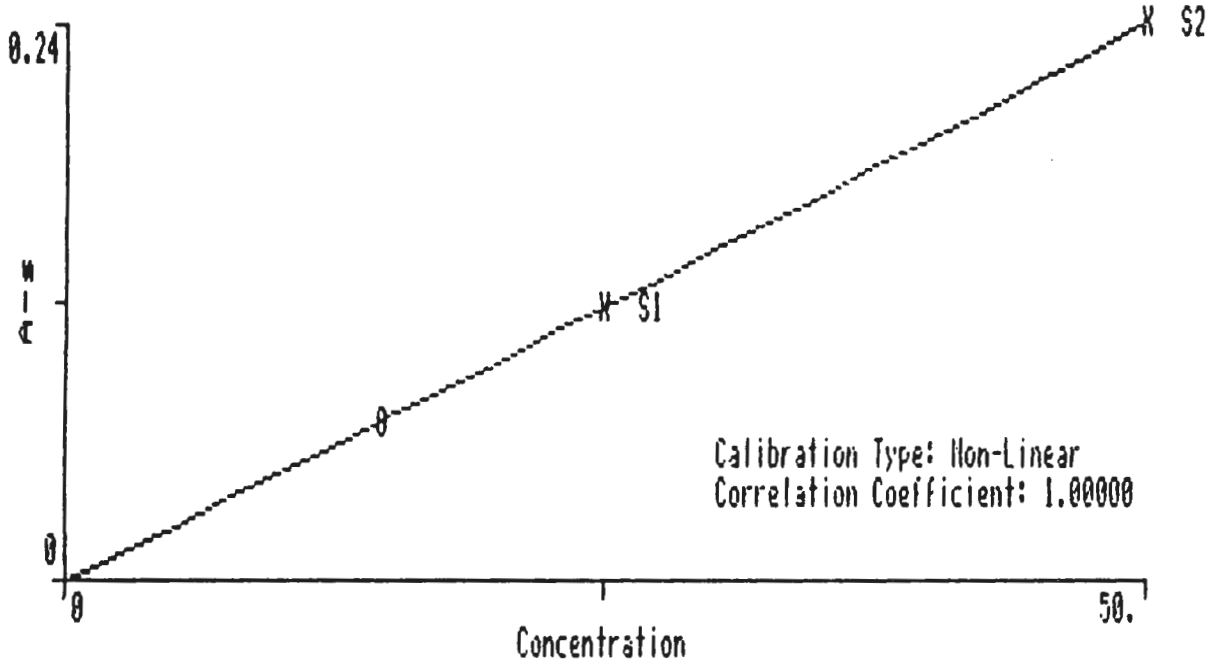
Peak Area (A-s): 0.251 Peak Height (A): 0.532
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.011
Blank Corrected Pk Area (A-s): 0.250
Concentration (ug/L): 51

Sample ID: 16 Sequence No : 00036 Sampler Position: 16

Peak Area (A-s): 0.076 Peak Height (A): 0.140
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.075
Concentration (ug/L): 16 Corrected Conc (ug/L): 63

Peak Area (A-s): 0.068 Peak Height (A) 0.129
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.066
Concentration (ug/L): 14 Corrected Conc (ug/L): 56

Mean Conc (ug/L): 15 SD: 1.3 RSD(%): 8.5
Corrected Conc (ug/L): 59


0.24
0
0
50.
Concentration
S1
S2
Calibration Type: Non-Linear
Correlation Coefficient: 1.00000

E06-043

Sample ID: 13 Sequence No.: 00037 Sampler Position: 13

Peak Area (A-s): -0.027 Peak Height (A): 0.161
Background Pk Area (A-s): 0.496 Background Pk Height (A): 0.175
Blank Corrected Pk Area (A-s): -0.029
Concentration (ug/L): -6

sample 13 injected with 10 uL of modifier instead of 5 uL; no change

Sample ID: 13 Sequence No.: 00038 Sampler Position: 13

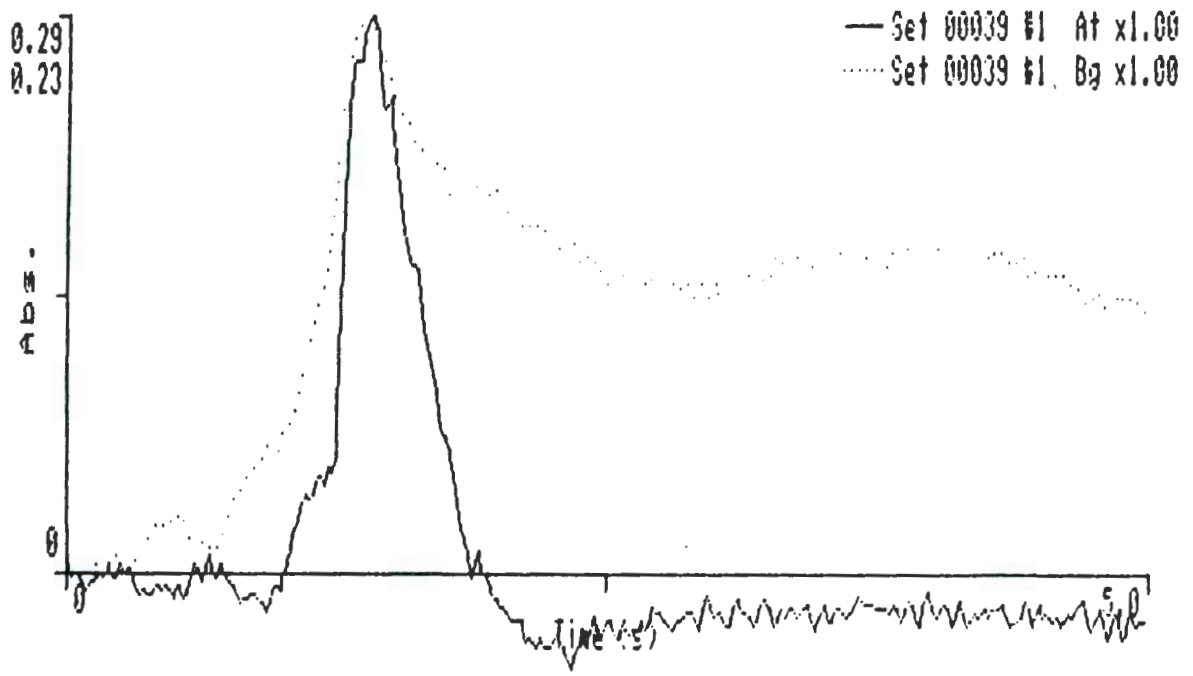
Peak Area (A-s): 0.145 Peak Height (A): 0.490
Background Pk Area (A-s): 0.504 Background Pk Height (A): 0.200
Blank Corrected Pk Area (A-s): 0.144
Concentration (ug/L): 30

a 50 ppb spike was added to sample 13 for this injection

Sample ID: 13 Sequence No.: 00039 Sampler Position: 13

Peak Area (A-s): 0.039 Peak Height (A): 0.287
Background Pk Area (A-s): 0.563 Background Pk Height (A): 0.228
Blank Corrected Pk Area (A-s): 0.038
Concentration (ug/L): 8

25 ppb spike was added to sample 13



9 1 1 2 1 2 5 1 5 3 9

TK110B : CORES 4,9,10,16 (COMPOSITE)

ANALYSIS LEAD ANALYST PK MELETHIL DATE 9/26/90

SAMPLE ID	SAMPLE WT. (gm)	SPIKE/ VOLUME	PPB FOUND	MULTIPLY BY	PPM FOUND	COMMENTS
1. BLANK						STANDARD USED:
2. 25 PPB CAL. STD.						Pb, 1 PPM, LOT # 3128
3. 50 PPB CAL. STD.						2% HNO_3, 2/13/90, TJW
4. ~1000 PPM Pd						
5. ICV-4 (0389, x20 DIL.)			46 (94%)			EXPECTED VALUE = 48.75 PPB PREPD. 6/14/90, 2% HNO_3, PKM
6. 90-0716/B1	1.0061		207	2485	514.4	DL = DIL. FACTOR (=10) x 5 PPB x 250 mL ÷ 1 gm = 12.5 µg/gm
7. 90-0716/B2	0.9619		199	2599	517.2	
8. 90-0716/B3	1.0695	AAGF-2/ 5.0546 mL	277	2338	647.6	RECOVERY = 280% EXPECTED VALUE = 47.3 PPM
9. 90-0716/B4		5.0546 mL	23	10	11.4 µg/mL	RECOVERY = 113% EXPECTED VALUE = 10.1 µg/mL
10. 90-0716/B5	avg. = 1.013		7		1.7	
11. 90-1257/B1	1.0390		105	2406	253	
12. 90-1257/B2	1.0486		111	2384	265	
13. 90-1257/B3	1.0148	AAGF-2/ 5.0546 mL	125	2464	308	RECOVERY = 98% EXPECTED VALUE = 49.8 PPM
14. 90-1257/B4		5.0546 mL	21	10	10.4	RECOVERY = 103% EXPECTED VALUE = 10.1 µg/mL
15. 90-1257/B5	avg. = 1.034		3		<1.25	
16. ICV-4 (0389, x20 DIL)			45 (92%)			
17. 90-1279/B1	0.9989		169	2503	423	
18. 90-1279/B2	1.1022		172	2268	390	
19. 90-1279/B3	1.1042	AAGF-2/ 5.0546	187	2264	423	RECOVERY = 36% EXPECTED VALUE = 45.8 PPM
20. 90-1279/B4		AAGF-2/ 5.0546 mL	20	10	9.9	RECOVERY = 98% EXPECTED VALUE = 10.1 µg/mL

E06-045

10/8/90

TK110B: CORES 4, 9, 10, 16 (COMPOSITE)

ANALYSIS LEAD ANALYST P K MELETHIL DATE 9/26/90

SAMPLE ID	SAMPLE WT. (gm)	SPIKE/ VOLUME	PPB FOUND	MULTIPLY BY	PPM FOUND	COMMENTS
21. 90-1279/B5	avg = 1.068		6		1.4	
22. 90-4180/B1	1.2598		95	1984	188	
23. 90-4180/B2	1.1135		81	2245	182	
24. 90-4180/B3	1.1517	AAGF-2/ 5.0854mL	106	2171	230	RECOVERY = 101% EXPECTED VALUE: 44.2 PPM
25. 90-4180/B4		5.0854mL	19	10	9.3	RECOVERY = 92% EXPECTED VALUE = 10.2 µg/mL
26. 90-4180/B5	avg = 1.175		17		3.6	
27. ICV			42 (86%)			98% RECOVERY ON 2nd RUN
28. 100 PPB (SOURCE) CAL.STD			111 (111%)			
25 PPB POST-DIGEST SPIKE RECOVERIES (RUN 9/26/90)						
6. 90-0716/B1 + 25 PPB			50 (96%)			EFF. DILUTION = 80 SAMPLE VALUE = 26 PPB
11. 90-1257/B1 + 25 PPB			46 (80%)			EFF. DILUTION = 40 SAMPLE VALUE = 26 PPB
17. 90-1279/B1 + 25 PPB			46 (100%)			EFF. DILUTION = 80 SAMPLE VALUE = 21 PPB
22. 90-4180/B1 + 25 PPB			49 (100%)			EFF. DILUTION = 40 SAMPLE VALUE = 24 PPB
27. ICV-4 (0389, x20 DIL.)			49 (100%)			

NOTE: RESULTS EXCEEDING 50 PPB WERE COMPUTED USING A X4 AUTO-DILUTE FUNCTION. DIGESTATES B1-B4 WERE RUN AT 10-FOLD DILUTED LEVELS IN THE AUTOSAMPLER DUE TO HIGH LEVELS OF LEAD.

10/2/90

E06-046

25 PPB SPIKE
RECOVERY RUNS
AT END
pkm

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Element File Pb.pkm
Date: 9/26/90
Data Storage File A0032261743
Technique: HGA
Remark 1: 5 uL of Pd modifier
Remark 2 peak area

Element Pb
Time 12:52
ID/Weight File
Calibration Type Nonlinear

Sample ID: Blank Sequence No: 00001 Sampler Position: 1

Peak Area (A-s) 0.012 Peak Height (A): 0.020
Background Pk Area (A-s) -0.010 Background Pk Height (A) 0.005
Blank Corrected Pk Area (A-s) 0.012

Peak Area (A-s): 0.012 Peak Height (A): 0.020
Background Pk Area (A-s) -0.011 Background Pk Height (A) 0.002
Blank Corrected Pk Area (A-s) 0.012

Mean Pk Area (A-s) 0.012 SD 0.0000 RSD(%) 21.6

Auto-zero performed

Sample ID: Standard 1 Sequence No: 00002 Sampler Position: 2

Peak Area (A-s): 0.182 Peak Height (A): 0.250
Background Pk Area (A-s) -0.011 Background Pk Height (A) 0.002
Blank Corrected Pk Area (A-s) 0.172

Peak Area (A-s): 0.182 Peak Height (A): 0.257
Background Pk Area (A-s) -0.017 Background Pk Height (A): 0.001
Blank Corrected Pk Area (A-s) 0.174

Mean Pk Area (A-s) 0.172 SD 0.0002 RSD(%): 0.5

Standard number 1 applied [illegible]

Sample ID: Standard 2 Sequence No: 00003 Sampler Position: 3

Peak Area (A-s): 0.387 Peak Height (A): 0.527
Background Pk Area (A-s): -0.007 Background Pk Height (A) 0.006
Blank Corrected Pk Area (A-s) 0.371
Concentration (ug/L): 54

Peak Area (A-s): 0.389 Peak Height (A): 0.537
Background Pk Area (A-s) -0.007 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s) 0.371
Concentration (ug/L): 54

Mean Conc (ug/L): 54 SD 0.0 RSD(%) 0.5

Standard number 2 applied [illegible]

E06-047

Sample ID: [illegible] Sequence No: 00004 Sampler Position: [illegible]

Peak Area (A-s): 0.336 Peak Height (A): 0.433
Background Pk Area (A-s): -0.008 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.321
Concentration (ug/L): 44

Peak Area (A-s): 0.335 Peak Height (A): 0.431
Background Pk Area (A-s): -0.007 Background Pk Height (A): 0.005
Blank Corrected Pk Area (A-s): 0.320
Concentration (ug/L): 44

Mean Conc (ug/L): 44 SD: 0.1 RSD(%): 0.2

Sample ID: 6 Sequence No: 00005 Sampler Position: 6

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 2.740 Peak Height (A): 2.275
Background Pk Area (A-s): 0.263 Background Pk Height (A): 0.106
Blank Corrected Pk Area (A-s): 2.725
Concentration (ug/L): 201

Sample ID: 6 Sequence No: 00006 Sampler Position: 6

e sample absorbance is greater than that of the highest standard
ak Area (A-s): 1.802 Peak Height (A): 2.071
Background Pk Area (A-s): 0.025 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 1.787
Concentration (ug/L): 160 Corrected Conc (ug/L): 642

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 1.846 Peak Height (A): 1.973
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 1.830
Concentration (ug/L): 163 Corrected Conc (ug/L): 651

The sample absorbance is greater than that of the highest standard
Mean Conc (ug/L): 162 SD: 1.4 RSD(%): 1.0
Corrected Conc (ug/L): 646

Sample ID: 7 Sequence No: 00007 Sampler Position: 7

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 3.125 Peak Height (A): 2.143
Background Pk Area (A-s): 0.220 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 3.110
Concentration (ug/L): 213

---

mple ID: 7 Sequence No: 00008 Sampler Position: 7

e sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 1.995 Peak Height (A): 2.007
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): 1.980
Concentration (ug/L): 170 Corrected Conc (ug/L): 680

E06-048

Peak Area (A-s): 1.966 Peak Height (A): 1.939
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): 1.951
Concentration (ug/L): 169 Corrected Conc (ug/L): 675.

The sample absorbance is greater than that of the highest standard
Mean Conc (ug/L): 169 SD: 1.0 RSD(%): 0.6
Corrected Conc (ug/L): 677.

Sample ID: 8 Sequence No 00009 Sampler Position: 8

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 3.370 Peak Height (A): 2.190
Background Pk Area (A-s): 0.280 Background Pk Height (A): 0.108
Blank Corrected Pk Area (A-s): 3.355
Concentration (ug/L): 220.

Sample ID: 8 Sequence No 00010 Sampler Position: 8

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 2.242 Peak Height (A): 2.130
Background Pk Area (A-s): 0.036 Background Pk Height (A): 0.020
ank Corrected Pk Area (A-s): 2.228
ncentration (ug/L): 181 Corrected Conc (ug/L): 725

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 2.113 Peak Height (A): 2.076
Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): 2.098
Concentration (ug/L): 176 Corrected Conc (ug/L): 702

The sample absorbance is greater than that of the highest standard
Mean Conc (ug/L): 178 SD: 4.0 RSD(%): 2.2
Corrected Conc (ug/L): 714

Sample ID: 9 Sequence No 00011 Sampler Position: 9

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 1.228 Peak Height (A): 1.143
Background Pk Area (A-s): -0.009 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 1.213
Concentration (ug/L): 126

Sample ID: 9 Sequence No 00012 Sampler Position: 9

Peak Area (A-s): 0.361 Peak Height (A): 0.467
ckground Pk Area (A-s): -0.016 Background Pk Height (A): 0.003
ank Corrected Pk Area (A-s): 0.346
ncentration (ug/L): 47 Corrected Conc (ug/L): 187

Peak Area (A-s): 0.344 Peak Height (A): 0.455
Background Pk Area (A-s): -0.012 Background Pk Height (A): 0.003
Blank Corrected Pk Area (A-s): 0.329
Concentration (ug/L): 45 Corrected Conc (ug/L): 179

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Mean Conc (ug/L): 46 SD 1 5 RSD(%) 3 2
Corrected Conc (ug/L). 183

Sample ID: 10 Sequence No 00013 Sampler Position 10

Peak Area (A-s): 0.057 Peak Height (A): 0 065
Background Pk Area (A-s): -0.023 Background Pk Height (A) 0 000
Blank Corrected Pk Area (A-s): 0 041
Concentration (ug/L): 6

Peak Area (A-s): 0.055 Peak Height (A) 0 065
Background Pk Area (A-s): -0 020 Background Pk Height (A) 0 000
Blank Corrected Pk Area (A-s) 0 039
Concentration (ug/L): 6

Mean Conc (ug/L): 6 SD 0 2 RSD(%) 3 5

Sample ID: 11 Sequence No 00014 Sampler Position: 11

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 2 241 Peak Height (A) 2 181
ckground Pk Area (A-s): 0 226 Background Pk Height (A): 0 097
ank Corrected Pk Area (A-s) 2 226
ncentration (ug/L): 181

Sample ID: 1 Sequence No 00015 Sampler Position 1

Peak Area (A-s): 0.122 Peak Height (A) 0 170
Background Pk Area (A-s): -0 013 Background Pk Height (A): 0 001
Blank Corrected Pk Area (A-s) 0 106
Concentration (ug/L): 16

Peak Area (A-s): 0.030 Peak Height (A): 0 031
Background Pk Area (A-s): -0 009 Background Pk Height (A): 0 003
Blank Corrected Pk Area (A-s): 0 015
Concentration (ug/L): 2

Mean Conc (ug/L): 9 SD 9 5 RSD(%): 105 4

Sample ID: 1 Sequence No 00016 Sampler Position 1

Peak Area (A-s): 0 017 Peak Height (A): 0 022
Background Pk Area (A-s): -0 009 Background Pk Height (A): 0 002
Blank Corrected Pk Area (A-s): 0 002
Concentration (ug/L): 0

ak Area (A-s): 0 014 Peak Height (A): 0 020
ckground Pk Area (A-s): -0 008 Background Pk Height (A) 0 002
Blank Corrected Pk Area (A-s): -0 001
Concentration (ug/L): -0

Mean Conc (ug/L): 0 SD 0 3 RSD(%) 558 5

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[illegible]

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Flem

NOTE THAT SAMPLES 6-9, 11-14, 17-20, 22-25 ARE NOW AT A 10-FOLD DILUTION. LET THE RUNS BEGIN!!!!!!!!!!!!!!!!!!!!

****

****

Sample ID: 5 Sequence No: 00017 Sampler Position: 5

Peak Area (A-s): 0.335 Peak Height (A): 0.420
Background Pk Area (A-s): -0.003 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.320
Concentration (ug/L): 44

Peak Area (A-s): 0.340 Peak Height (A): 0.426
Background Pk Area (A-s): -0.005 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.324
Concentration (ug/L): 44

Mean Conc (ug/L): 44 SD: 0.4 RSD(%): 0.9

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Sample ID: 6 Sequence No: 00018 Sampler Position: 6

Peak Area (A-s): 0.004 Peak Height (A): 0.007
Background Pk Area (A-s): -0.011 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): -0.011
Concentration (ug/L): -2

Sample ID: 5 Sequence No: 00019 Sampler Position: 5

Peak Area (A-s): 0.356 Peak Height (A): 0.417
Background Pk Area (A-s): -0.005 Background Pk Height (A): 0.005
Blank Corrected Pk Area (A-s): 0.341
Concentration (ug/L): 46

Peak Area (A-s): 0.351 Peak Height (A): 0.389
Background Pk Area (A-s): -0.004 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.335
Concentration (ug/L): 46

Mean Conc (ug/L): 46 SD: 0.4 RSD(%): 1.0

Sample ID: 6 Sequence No: 00020 Sampler Position: 6

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 1.147 Peak Height (A): 1.528
Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 1.132
Concentration (ug/L): 120

Sample ID: 6 Sequence No: [illegible] Sampler Position: [illegible]

Peak Area (A-s): 0.402 Peak Height (A): 0.483
Background Pk Area (A-s): -0.001 Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

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Peak Area (A-s): 0.406 Peak Height (A): 0.459
Background Pk Area (A-s): -0.012 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.391
Concentration (ug/L): 52. Corrected Conc (ug/L): 208.

Mean Conc (ug/L): 52 SD: 0.4 RSD(%): 0.7
Corrected Conc (ug/L): 207 ← 207 plus

Sample ID: 7 Sequence No.: 00022 Sampler Position: 7

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 1.107 Peak Height (A): 1.466
Background Pk Area (A-s): 0.005 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 1.002
Concentration (ug/L): 117

Sample ID: 7 Sequence No.: 00023 Sampler Position: 7

Peak Area (A-s): 0.382 Peak Height (A): 0.396
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.374
Concentration (ug/L): 50 Corrected Conc (ug/L): 201.

Peak Area (A-s): 0.384 Peak Height (A): 0.410
Background Pk Area (A-s): -0.002 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.369
Concentration (ug/L): 50. Corrected Conc (ug/L): 198.

Mean Conc (ug/L): 50. SD: 0.4 RSD(%): 0.9
Corrected Conc (ug/L): 199.

Sample ID: 8 Sequence No.: 00024 Sampler Position: 8

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 1.377 Peak Height (A): 1.808
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 1.362
Concentration (ug/L): 136.

Sample ID: 8 Sequence No.: 00025 Sampler Position: 8

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 0.581 Peak Height (A): 0.581
Background Pk Area (A-s): -0.007 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.566
Concentration (ug/L): 71. Corrected Conc (ug/L): 284.

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.547 Peak Height (A): 0.690
Background Pk Area (A-s): -0.011 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.532
Concentration (ug/L): 68 Corrected Conc (ug/L): [illegible]

E06-052

The sample absorbance is [illegible]

9 1 2 1 7 5 1 5 9 6

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Corrected Conc (ug/L): 277.

Sample ID: 9 Sequence No.: 00027 Sampler Position: 9

Peak Area (A-s): 0.177 Peak Height (A): 0.194
Background Pk Area (A-s): -0.014 Background Pk Height (A): 0.001
Blank Corrected Pk Area (A-s): 0.161
Concentration (ug/L): 23.

Peak Area (A-s): 0.168 Peak Height (A): 0.188
Background Pk Area (A-s): -0.015 Background Pk Height (A): 0.001
Blank Corrected Pk Area (A-s): 0.153
Concentration (ug/L): 22.

Mean Conc (ug/L): 23. SD: 0.8 RSD(%): 3.6

Sample ID: 10 Sequence No.: 00027 Sampler Position: 10

Peak Area (A-s): 0.059 Peak Height (A): 0.062
Background Pk Area (A-s): -0.018 Background Pk Height (A): 0.000
Blank Corrected Pk Area (A-s): 0.044
Concentration (ug/L): 7.

Peak Area (A-s): 0.062 Peak Height (A): 0.064
Background Pk Area (A-s): -0.018 Background Pk Height (A): 0.001
Blank Corrected Pk Area (A-s): 0.046
Concentration (ug/L): 7.

Mean Conc (ug/L): 7. SD: 0.3 RSD(%): 3.9

Sample ID: 11 Sequence No.: 00028 Sampler Position: 11

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.665 Peak Height (A): 0.915
Background Pk Area (A-s): -0.005 Background Pk Height (A): 0.000
Blank Corrected Pk Area (A-s): 0.649
Concentration (ug/L): 79.

Sample ID: 11 Sequence No.: 00029 Sampler Position: 11

Peak Area (A-s): 0.203 Peak Height (A): 0.216
Background Pk Area (A-s): -0.016 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): 0.188
Concentration (ug/L): 27. Corrected Conc (ug/L): [illegible]

Peak Area (A-s): 0.192 Peak Height (A): 0.207
Background Pk Area (A-s): -0.016 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): 0.177
Concentration (ug/L): 26 Corrected Conc (ug/L): 102.

Mean Conc (ug/L): 26 SD: 0 RSD(%): 3.8
Corrected Conc (ug/L): 0

195 ppm

E06-053

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The sample absorbance is gre[illegible] of the highest stand[illegible]
Peak Area (A-s) [illegible]
Backgr[illegible]und Pk Area (A-s [illegible] [illegible]ground Pk Height (A): 0.005
Blank Corrected Pk Area ([illegible]
Concentration (ug/L [illegible]):

83

Sample ID: [illegible] Sequence No : 00031 Sampler [illegible]

Peak Area (A-s): 0.216 [illegible]
Background Pk Area (A-s): -0.018 Bac[illegible] Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): 29 Corrected Conc (ug/L): 115

Peak Area (A-s): 0.[illegible]2 Peak Height (A): 0.200
Background Pk Area ([illegible] Background Pk Height (A): 0.002
Blank Corrected [illegible]
Concentration (ug/L): 27 Corrected Conc (ug/L): 107

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): 4.7
Corrected Conc (ug/L): 11[illegible]

Sample ID: 13 Sequence No 00032 Sampler Position: 13

The sample absorbance is greater than that of the highest standard.
Peak Area (A-s): 0.753 Peak Height (A): 1.017
Background Pk Area (A-s): -0.003 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): 0.737
Concentration (ug/L): 88

Sample ID: 13 Sequence No 00033 Sampler Position: 13

Peak Area (A-s): 0.241 Peak Height (A): 0.247
Background Pk Area (A-s): -0.016 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): 0.226
Concentration (ug/L): 32 Corrected Conc (ug/L): 128.[illegible]

Peak Area (A-s): 0.229 Peak Height (A): 0.284
Background Pk Area (A-s): -0.[illegible]7 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.214
Concentration (ug/L): 30 Corrected Conc (ug/L): 121.[illegible]

Mean Conc (ug/L): 31 SD: 1.1 RSD(%): 3.5
Corrected Conc (ug/L): 125.

Sample ID: 14 Sequence No.: 00034 Sampler Position: 14

Peak Area (A-s): 0.159 Peak Height (A): 0.182
Background Pk Area (A-s): -0.016 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): 0.144
Concentration (ug/L): 21.

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Peak Area (A-s): 0.160 Peak Height (A): 0.180
Background Pk Area (A-s): -0.014 Background Pk Height (A): 0.[illegible]

Concentration (ug/L): 21

Mean Conc (ug/L): 21 SD: 0.1 RSD(%): 0.4

Sample ID: 15 Sequence No.: 00035 Sampler Position: 15

Peak Area (A-s): 0.039 Peak Height (A): 0.042
Background Pk Area (A-s): -0.019 Background Pk Height (A): 0.002
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 4.

alignment problems here

autosampler problems; system shutdown for a while
****
****

Sample ID: 15 Sequence No.: 00036 Sampler Position: 15

Peak Area (A-s): 0.049 Peak Height (A): 0.055
Background Pk Area (A-s): -0.019 Background Pk Height (A): 0.001
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 5.

Sample ID: 15 Sequence No.: 00037 Sampler Position: 15

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.433 Peak Height (A): 0.611
Background Pk Area (A-s): -0.015 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.4[illegible]
Concentration (ug/L): 55.

NOT USED what is going on here

Sample ID: 15 Sequence No.: 00038 Sampler Position: 15

Peak Area (A-s): 0.024 Peak Height (A): 0.052
Background Pk Area (A-s): -0.021 Background Pk Height (A): 0.000
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 1 Corrected Conc (ug/L): 5

Peak Area (A-s): 0.017 Peak Height (A): 0.040
Background Pk Area (A-s): -0.022 Background Pk Height (A): 0.001
Blank Corrected Pk Area (A-s): 0.00[illegible]
Concentration (ug/L): 0 Corrected Conc (ug/L): 1.

USED

Mean Conc (ug/L): 1 SD: 0.8 RSD(%): 100.4
Corrected Conc (ug/L): 3.

Sample ID: 16 Sequence No.: 00039 Sampler Position: 16

Peak Area (A-s): 0.335 Peak Height (A): 0.544
Background Pk Area (A-s): -0.017 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.319
Concentration (ug/L): 44.

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Peak Area (A-s): 0.349 Peak Height (A): 0.592
Background Pk Area (A-s): -0.015 Background Pk Height (A): 0.005

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Concentration (ug/L): 45

Mean Conc (ug/L): 45 SD 1.3 RSD(%) 2.8

Sample ID: 17 Sequence No 00040 Sampler Position 17

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 1.024 Peak Height (A) 1.649
Background Pk Area (A-s): 0.005 Background Pk Height (A) 0.010
Blank Corrected Pk Area (A-s) 1.009
Concentration (ug/L): 111

Sample ID: 17 Sequence No 00041 Sampler Position 17

Peak Area (A-s): 0.310 Peak Height (A) 0.732
Background Pk Area (A-s) -0.010 Background Pk Height (A) 0.005
Blank Corrected Pk Area (A-s) 0.302
Concentration (ug/L): 42 Corrected Conc (ug/L) 156

Peak Area (A-s) 0.327 Peak Height (A) 0.821
Background Pk Area (A-s): -0.017 Background Pk Height (A) 0.004
Blank Corrected Pk Area (A-s): 0.311
Concentration (ug/L): 43 Corrected Conc (ug/L) 171

Mean Conc (ug/L): 42 SD 0.9 RSD(%) 1.8
Corrected Conc (ug/L): 163

Sample ID: 18 Sequence No 00042 Sampler Position 18

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.918 Peak Height (A): 1.757
Background Pk Area (A-s) 0.007 Background Pk Height (A) 0.011
Blank Corrected Pk Area (A-s) 0.903
Concentration (ug/L): 102

Sample ID: 18 Sequence No 00043 Sampler Position 18

Peak Area (A-s): 0.333 Peak Height (A) 0.819
Background Pk Area (A-s) -0.016 Background Pk Height (A) 0.005
Blank Corrected Pk Area (A-s) 0.317
Concentration (ug/L): 43 Corrected Conc (ug/L) 174

Peak Area (A-s): 0.324 Peak Height (A) 0.732
Background Pk Area (A-s) -0.017 Background Pk Height (A) 0.005
Blank Corrected Pk Area (A-s): 0.309
Concentration (ug/L): 42 Corrected Conc (ug/L) 170

Mean Conc (ug/L): 43 SD 0.7 RSD(%) 1.7
Corrected Conc (ug/L): 172

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Sample ID 19 Sequence No 00044 Sampler Position 19

The sample absorbance is greater than that of the highest standard

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Background Pk Area (A-s) -0 007 Background Pk Height (A) 0 011
Blank Corrected Pk Area (A-s) 0 899
Concentration (ug/L) 102

Sample ID 19 Sequence No 00045 Sampler Position 19

Peak Area (A-s) 0 368 Peak Height (A) 0 894
Background Pk Area (A-s) -0 018 Background Pk Height (A) 0 006
Blank Corrected Pk Area (A-s) 0 353
Concentration (ug/L) 48 Corrected Conc (ug/L) 191

Peak Area (A-s) 0 351 Peak Height (A) 0 850
Background Pk Area (A-s) -0 017 Background Pk Height (A) 0 006
Blank Corrected Pk Area (A-s) 0 335
Concentration (ug/L) 46 Corrected Conc (ug/L) 182

Mean Conc (ug/L) 47 SD 1 5 RSD(%) 3 2
Corrected Conc (ug/L) 187

Sample ID 20 Sequence No 00046 Sampler Position 20

Peak Area (A-s) 0 153 Peak Height (A) 0 390
ckground Pk Area (A-s) -0 017 Background Pk Height (A) 0 000
ank Corrected Pk Area (A-s) 0 137
Concentration (ug/L) 20

Peak Area (A-s) 0 151 Peak Height (A) 0 385
Background Pk Area (A-s) -0 021 Background Pk Height (A) 0 001
Blank Corrected Pk Area (A-s) 0 130
Concentration (ug/L) 20

Mean Conc (ug/L) 20 SD 0 2 RSD(%) 0 8

Sample ID 21 Sequence No 00047 Sampler Position 21

Peak Area (A-s) 0 056 Peak Height (A) 0 134
Background Pk Area (A-s) -0 020 Background Pk Height (A) 0 001
Blank Corrected Pk Area (A-s) 0 041
Concentration (ug/L) 6

Peak Area (A-s) 0 056 Peak Height (A) 0 141
Background Pk Area (A-s) -0 021 Background Pk Height (A) 0 001
Blank Corrected Pk Area (A-s) 0 041
Concentration (ug/L) 6

Mean Conc (ug/L) 6 SD 0 0 RSD(%) 0 .

Sample ID 22 Sequence No 00048 Sampler Position 22

The sample absorbance is greater than that of the highest standard
Peak Area (A-s) 0 601 Peak Height (A) 1 345
Background Pk Area (A-s) -0 010 Background Pk Height (A) 0 009
Blank Corrected Pk Area (A-s) 0 586
Concentration (ug/L) 73

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Sample ID: 22 Sequence No 00013 Sampler Position 22

Peak Area (A-s) 0.180 Peak Height (A) 0.186
Background Pk Area (A-s) -0.018 Background Pk Height (A) 0.002
Blank Corrected Pk Area (A-s) 0.162
Concentration (ug/L) 23 Corrected Conc (ug/L) 23

Peak Area (A-s) 0.177 Peak Height (A) 0.186
Background Pk Area (A-s) -0.019 Background Pk Height (A) 0.001
Blank Corrected Pk Area (A-s) 0.162
Concentration (ug/L) 23 Corrected Conc (ug/L) 24

Mean Conc (ug/L) 24 SD 0.3 RSD(%) 1.1
Corrected Conc (ug/L) 23

Sample ID: 23 Sequence No 00030 Sampler Position 23

The sample absorbance is greater than that of the highest standard
Peak Area (A-s) 0.501 Peak Height (A) 1.751
Background Pk Area (A-s) -0.011 Background Pk Height (A) 0.008
Blank Corrected Pk Area (A-s) 0.486
Concentration (ug/L): 43

Sample ID: 23 Sequence No 00051 Sampler Position 23

Peak Area (A-s) 0.156 Peak Height (A) 0.425
Background Pk Area (A-s) -0.020 Background Pk Height (A) 0.001
Blank Corrected Pk Area (A-s) 0.140
Concentration (ug/L): 20 Corrected Conc (ug/L) 82

Peak Area (A-s) 0.152 Peak Height (A) 0.413
Background Pk Area (A-s) -0.020 Background Pk Height (A) 0.002
Blank Corrected Pk Area (A-s) 0.136
Concentration (ug/L) 20 Corrected Conc (ug/L) 80

Mean Conc (ug/L): 20 SD 0.4 RSD(%) 1.9
Corrected Conc (ug/L) 81

Sample ID: 24 Sequence No 00052 Sampler Position 24

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.622 Peak Height (A): 1.474
Background Pk Area (A-s) -0.011 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s) 0.607
Concentration (ug/L) 75

Sample ID: 24 Sequence No 00053 Sampler Position 24

Peak Area (A-s): 0.202 Peak Height (A): 0.559
Background Pk Area (A-s) -0.019 Background Pk Height (A) 0.002
Blank Corrected Pk Area (A-s) 0.183
Concentration (ug/L) Corrected Conc (ug/L) 18

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Peak Area (A-s): 0 196 Peak Height (A): 0 550
Background Pk Area (A-s): -0 018 Background Pk Height (A) 0 002
Blank Corrected Pk Area (A-s): 0 181
Concentration (ug/L): 26 Corrected Conc (ug/L): 104

Mean Conc (ug/L): 26 SD 0 6 RSD(%) 2.1
Corrected Conc (ug/L): 106

Sample ID: 25 Sequence No 00054 Sampler Position: 25

Peak Area (A-s): 0 146 Peak Height (A) 0 398
Background Pk Area (A-s): -0 019 Background Pk Height (A) 0 000
Blank Corrected Pk Area (A-s): 0 131
Concentration (ug/L): 19

Peak Area (A-s) 0 148 Peak Height (A) 0 404
Background Pk Area (A-s): -0 021 Background Pk Height (A) 0 000
Blank Corrected Pk Area (A-s): 0 133
Concentration (ug/L): 19

Mean Conc (ug/L): 19 SD: 0 2 RSD(%) 1 1

---

mple ID: 26 Sequence No 00055 Sampler Position 26

Peak Area (A-s) 0 132 Peak Height (A) 0 373
Background Pk Area (A-s): -0 020 Background Pk Height (A) 0 001
Blank Corrected Pk Area (A-s) 0 117
Concentration (ug/L): 17

Peak Area (A-s): 0 129 Peak Height (A) 0 369
Background Pk Area (A-s) -0 021 Background Pk Height (A) 0 002
Blank Corrected Pk Area (A-s) 0 114
Concentration (ug/L) 17

Mean Conc (ug/L) 17 SD 0 1 RSD(%) 2 0

Sample ID: 27 Sequence No 00056 Sampler Position 27

Peak Area (A-s): 0 317 Peak Height (A) 0 779
Background Pk Area (A-s) -0 017 Background Pk Height (A): 0 005
Blank Corrected Pk Area (A-s): 0 302
Concentration (ug/L) 41

Peak Area (A-s) 0 319 Peak Height (A): 0 782
Background Pk Area (A-s) -0 017 Background Pk Height (A) 0 005
Blank Corrected Pk Area (A-s) 0 303
Concentration (ug/L) 42

an Conc (ug/L) 42 SD 0 2 RSD(%) 0 4

Sample ID 28 Sequence No 00057 Sampler Position 28

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Peak Area (A s) -0 000 Peak Height (A) 0 011
Background Pk Area (A-s): -0 021 Background Pk Height (A) 0 001

Concentration (ug/L): 2

Peak Area (A-s): -0.002
Background Pk Area (A-s): -0.022
Blank Corrected Pk Area (A-s): -0.018
Concentration (ug/L): -3

Peak Height (A): 0.007
Background Pk Height (A): 0.001

Mean Conc (ug/L): -3 SD: 0.2 RSD(%): 7.0

LOW SAMPLE VOLUME; AUTOSAMPLER UNABLE TO PICK UP LIQUID; ROD ADJUSTED ARM

Sample ID: 28 Sequence No: 00058 Sampler Position: 28

Peak Area (A-s): -0.000
Background Pk Area (A-s): -0.022
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 2

Peak Height (A): 0.002
Background Pk Height (A): 0.002

Sample ID: 28 Sequence No: 00059 Sampler Position: 28

Peak Area (A-s): -0.004
Background Pk Area (A-s): -0.022
Blank Corrected Pk Area (A-s): -0.018
Concentration (ug/L): -3

Peak Height (A): 0.007
Background Pk Height (A): 0.002

Sample ID: 28 Sequence No: 00060 Sampler Position: 28

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0.805
Background Pk Area (A-s): -0.002
Blank Corrected Pk Area (A-s): 0.790
Concentration (ug/L): 92

Peak Height (A): 0.072
Background Pk Height (A): 0.011

Sample ID: 28 Sequence No: 00061 Sampler Position: 28

Peak Area (A-s): 0.220
Background Pk Area (A-s): -0.012
Blank Corrected Pk Area (A-s): 0.204
Concentration (ug/L): 29

Peak Height (A): 0.240
Background Pk Height (A): 0.004

Corrected Conc (ug/L): 117

Peak Area (A-s): 0.199
Background Pk Area (A-s): -0.012
Blank Corrected Pk Area (A-s): 0.184
Concentration (ug/L): 26

Peak Height (A): 0.200
Background Pk Height (A): 0.003

Corrected Conc (ug/L): 106

Mean Conc (ug/L): 28 SD: 1.2 RSD(%): 4.3
Corrected Conc (ug/L): 111

Repeat runs of sample 28 reflect trials to get AS-60 to pick up low level of liquid-0.5 mL
****

Sample ID: 27 Sequence No: 00062 Sampler Position: 27

Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]

E06-060

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Concentration (ug/L): 48

Peak Area (A-s): 0 371 — Peak Height (A): 0 420
Background Pk Area (A-s): -0 006 — Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0 356
Concentration (ug/L): 48

Mean Conc (ug/L): 48 — SD [illegible] — RSD(%): 0 3

Sample ID: 26 — Sequence No: 00063 — Sampler Position: 26

Peak Area (A-s): 0 [illegible] — Peak Height (A): 0 219
Background Pk Area (A-s): 0 0[illegible]5 — Background Pk Height (A): 0 002
Blank Corrected Pk Area (A-s): 0 [illegible]30
Concentration (ug/L): 19

Peak Area (A-s): 0 [illegible]55 — Peak Height (A): 0 179
Background Pk Area (A-s): -0 013 — Background Pk Height (A): 0 003
Blank Corrected Pk Area (A-s): 0 143
Concentration (ug/L): 21

Mean Conc (ug/L): 20 — SD [illegible] 3 — RSD(%): [illegible]

5 µL MODIFIER
15 µL DILUENT
10 µL 50 PPB STD
+ 5 µL SAMPLE
[illegible]

****
****
****
THE FOLLOWING INJECTIONS REFLECT THE RECOVERIES OF A25 ppb SPIKE
****
****
****

Sample ID: 6 — Sequence No: 00064 — Sampler Position: 6

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0 542 — Peak Height (A): 0 851
Background Pk Area (A-s): -0 004 — Background Pk Height (A): 0 011
Blank Corrected Pk Area (A-s): 0 527
Concentration (ug/L): 67

Sample ID: 6 — Sequence No: 00065 — Sampler Position: 6

The sample absorbance is greater than that of the highest standard
Peak Area (A-s): 0 528 — Peak Height (A): 0 819
Background Pk Area (A-s): -0 006 — Background Pk Height (A): 0 008
Blank Corrected Pk Area (A-s): 0 513
Concentration (ug/L): 66

Instead of using 5 uL of #6 (4-fold auto-dilution), 5 uL of a 2-fold dilution (2 x 10 x 4 = 80) (current dil. orig. dil. auto dil.)
#6 (effective 80 fold dilution) is being used
[illegible]

Sample ID: 6 — Sequence No: 00066 — Sampler Position: 6

Peak Area (A-s): 0 378 — Peak Height (A): 0 59[illegible]
Background Pk Area (A-s): -0 009 — Background Pk Height (A): 0 006
Blank Corrected Pk Area (A-s): 0 363
Concentration (ug/L): 49

E06-061

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---

ample ID: 6 Sequence No 00067 Sampler Position 6

eak Area (A-s) 0.388 Peak Height (A) 0.524
ackground Pk Area (A-s) -0.009 Background Pk Height (A) 0.000
lank Corrected Pk Area (A-s) 0.371
oncentration (ug/L): 50

52÷2 → 26=0.96 (96%)

6 was diluted 2-fold so that the addition of a 25 ppb spike would
ot put the value above the calibration range
similar treatment will be performed on #17
11, 22 are run as in the previous runs at effective 10-fold
ilution

---

ample ID: 11 Sequence No 00068 Sampler Position 11

eak Area (A-s) 0.358 Peak Height (A) 0.554
ackground Pk Area (A-s) -0.007 Background Pk Height (A) 0.006
lank Corrected Pk Area (A-s) 0.342
oncentration (ug/L) 46

USED pkm

---

ple ID: 11 Sequence No 00069 Sampler Position 11

k Area (A-s) 0.347 Peak Height (A) 0.572
ackground Pk Area (A-s) -0.009 Background Pk Height (A) 0.007
lank Corrected Pk Area (A-s) 0.331
oncentration (ug/L) 45

avg = 45.5

NOT USED pkm

---

ample ID: 17 Sequence No 00070 Sampler Position 17

eak Area (A-s) 0.346 Peak Height (A) 0.447
ackground Pk Area (A-s) -0.015 Background Pk Height (A) 0.003
lank Corrected Pk Area (A-s) 0.331
oncentration (ug/L): 45

USED 46 PPB

---

ample ID: 17 Sequence No 00071 Sampler Position 17

eak Area (A-s) 0.365 avg = 46
ackground Pk Area (A-s) -0.007 Background Pk Height (A) 0.008
lank Corrected Pk Area (A-s) 0.350
oncentration (ug/L) 47

---

ample ID: 22 Sequence No 00072 Sampler Position 22

k Area (A-s) 0.375 Peak Height (A) 0.432
kground Pk Area (A-s) -0.007 Background Pk Height (A) 0.007
nk Corrected Pk Area (A-s) 0.353
oncentration (ug/L) 48

E06-062

---

ample ID: 23 Sequence No 00073 Sampler Position 23

ackground Pk Area (A-s): -0.005 Background Pk Height (A): 0.006
lank Corrected Pk Area (A-s): 0.362
oncentration (ug/L): 49.

avg = 49
USED

---

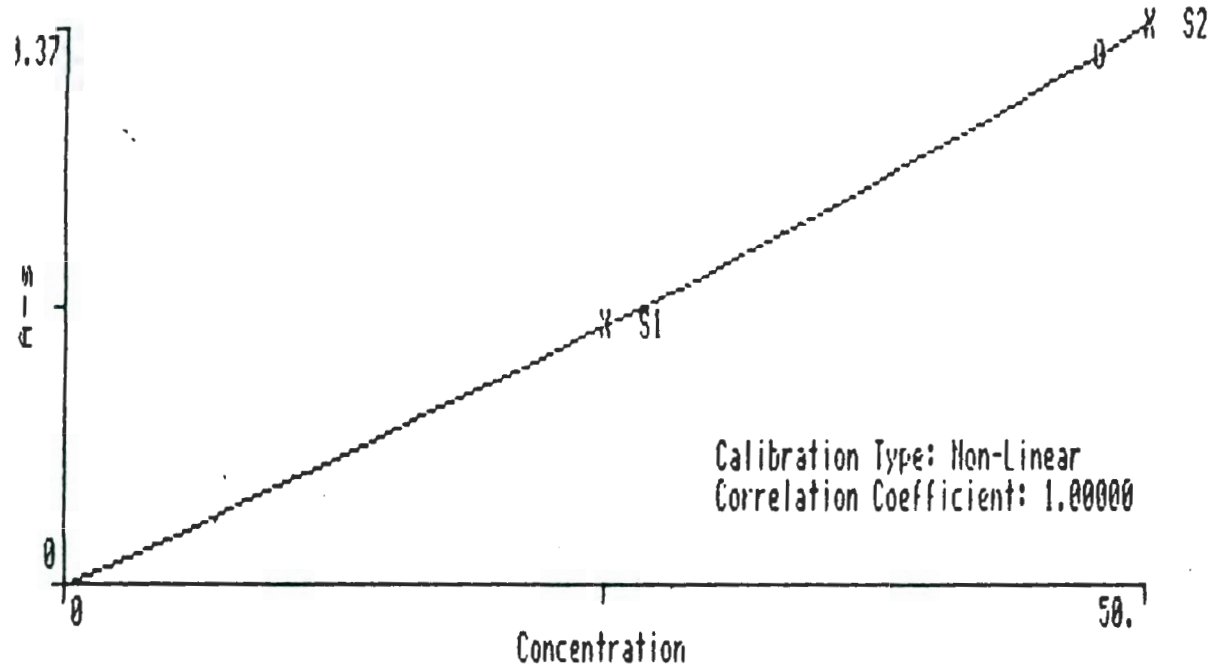
ample ID: 27 Sequence No.: 00074 Sampler Position: 27

eak Area (A-s): 0.378 Peak Height (A): 0.416
ackground Pk Area (A-s): -0.002 Background Pk Height (A): 0.006
lank Corrected Pk Area (A-s): 0.363
oncentration (ug/L): 49.

---

ample ID: 27 Sequence No.: 00075 Sampler Position: 27

eak Area (A-s): 0.369 Peak Height (A): 0.443
ackground Pk Area (A-s): -0.004 Background Pk Height (A): 0.006
lank Corrected Pk Area (A-s): 0.353
oncentration (ug/L): 48



E06-063

9 1 1 2 1 7 5 1 5 0 8

Date: 3/28/90

Analyst: [illegible] 6-3089 P7-22

Review: [illegible]

COC # 189

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B-CH

Segment(s): Com

☑ Composite

☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
110B-CH-AN	90-0716-01	HA (Acid)	1.0061				250				2% HNO3		
"	90-0716-02	"	0.9619										
"	90-0716-03	"	1.0693					AAGF.2	5.0546				
"	90-0716-04	"	—					AAGF.2	5.0546				
"	90-0716-05	"	—										

E06-064

9 1 1 2 1 7 5 1 5 0 9

Date: 3/28/90

Analyst: 6-3089 P7-22

Review: RTS

COC# 207

SAMPLE PREP DATA SHEET
325-B, Hot Cells)

Core ID: JK110B-C9

Segment(s): COM

☑ Composite

☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneou
110B-C9-AN	90-1257-B-1	AA (acid)	1.0390				250				2% HNO_3		
"	90-1257-B-2		1.0486										
"	90-1257-B-3		1.0148					AAGF-2	5.0546			5.0546	
"	90-1257-B-4		—					AAGF-2	5.0546			5.0546	
"	90-1257-B-5		—										

E06-065

9 1 1 2 1 7 5 1 5 1 0

Date: 3/28/90

Analyst: [illegible] 6-3089 P7-22

Review: RTS

COC #233

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B-C10

Segment(s): COM

☑ Composite

☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
110B-CM-AA	90-1274-B1	AA(acd)	.9989				250				2% HNO3		
"	90-1274-B2	"	1.1022										
"	90-1274-B3	"	1.1042					BAGF-2	5.0546				
"	90-1274-B4	"	—					BAGF-2	5.0546				
"	90-1274-B5	"	—										

E06-066

9 1 1 2 1 7 5 1 6 1 1

Date: Sept. 19 1990

Analyst: [signature] 6-3089 P7-22

Review: [signature]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK110B Core 16

Segment(s): COM

☑ Composite

☐ Prehomogenized ☐ Homogenized

COC# 281

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneous
NA	90-4180-B-1	AA(Acid)	1.2598				250						Sample
	90-4180-B-2	"	1.1135										dup. sample
	90-4180-B-3	"	1.1517	Pg 127				AAGF-2	5.0854			5.0854 spike diluent	spiked sample
	90-4180-B-4	"	—					AAGF-2	5.0854			5.0854 spike diluent	spiked blank
	90-4180-B-5	"	—										blank
									BNW	S2917			

E06-903

E7 - CHROMIUM (VI)

Date: Oct. 3, 1990
To: TF Jones
ML Urie *mull*

SST Chromium (+6) Results
Logbook BNW-52921
Pages 24-27

File: SST4CR6

Cr(+6) D.L. = 2 ug

Sample ID	Sample Weight (g)	Sample Volume (mL)	Aliquot Sample (mL)	Aliquot Spk/Smpl (mL)	Dilution Factor	Spike Conc (ug/mL)	Spike Vol (mL)	Absorbance Smpl	Absorbance Spk/Smpl	Cr(+6) Sample (ug)	Cr(+6) Sample w/spk (ug)	Cr(+6) Sample (mg/kg)	Spike %rec
90-4180-c1	2.0698	194.88	10.00		9.52			0.034		3.26		31.0	
90-4180-c2	2.1978	196.77	10.00		9.05			0.036		3.52		31.8	
90-4180-c5	2.1338	197.57	10.00		9.36			0.000		<2.0		<18	

cal slope = 130.30
intcpt = -1.17

Note: Insufficient sample to split for spiking

E07-002

BNW-52921
1—
5-13-88

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MAY 13 1988
BATTELLE TECH. INFO

THIS BOOK IS INTENDED TO BE USED FOR RECORDING RESEARCH PERFORMED FOR THE U.S. DEPARTMENT OF ENERGY UNDER BNW'S OPERATING CONTRACT EY-76-C-06-1830

M32950

LABORATORY RECORD BOOK NUMBER BNW- 52921	This document consists of ..... pages, copy no. .....
TITLE (INDICATE SUBJECT CONTENT) Chromium VI Determinations for Single Shell Tank Program (also DST program)	
AUTHOR - DIVISION AND DEPARTMENT M W. Urie Materials & Chemical Sciences Center Chemical Measurements Laboratory Section	
PERIOD COVERED FROM 11/1/89 TO	

Route To	P. R. No.	Location	Route Date	Signature & Date
~~AC Leaf~~	30969	325	~~MAY 13 1988~~	
MW Urie	33158	325	Oct 89	MWUrie

9112173514

E07-003

1/20/90 Chrome (VI) Determination

Standard stock solution see page 1

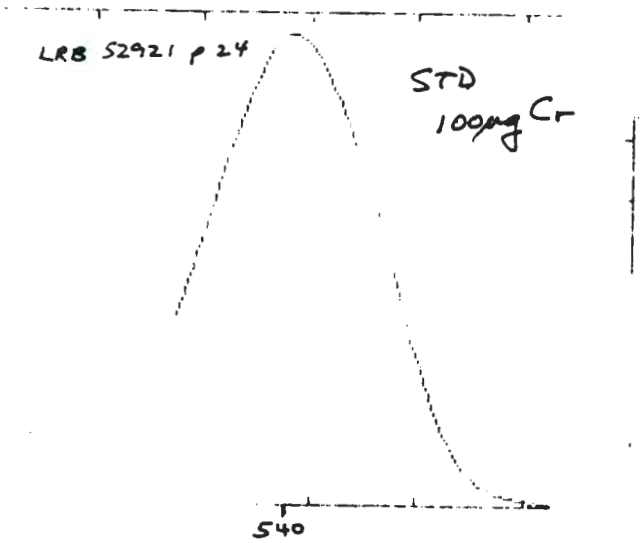
Diluted 10 ml to 100 ml to make 5 µg Cr/ml working standard. Used 100 ml vol flask + 10 ml Class A pipet.

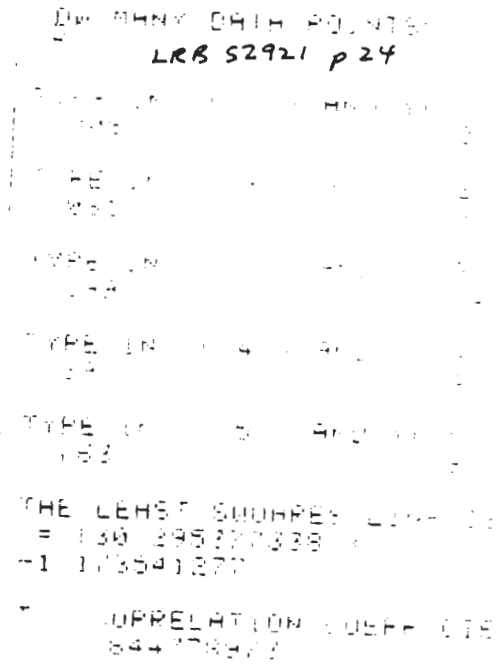
pH meter WA 82162 calibrated with buffer pH 4 + 7

Diode array spectrometer WA 72562 used for absorbance measurement

Calibration Curve

			ABS.
Reagent blank		= 0.	.008
Cal 1	2 ml (4.94)	= 9.88 µg Cr	.081
Cal 2	5 ml (4.94)	= 24.7	.199
Cal 3	10 ml (4.94)	= 49.4	.397
Cal 4	20 ml (4.94)	= 98.8	.763





Data from standards

µg Cr (from curve) = 130.295 (ABS) − 1.174

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E07-004

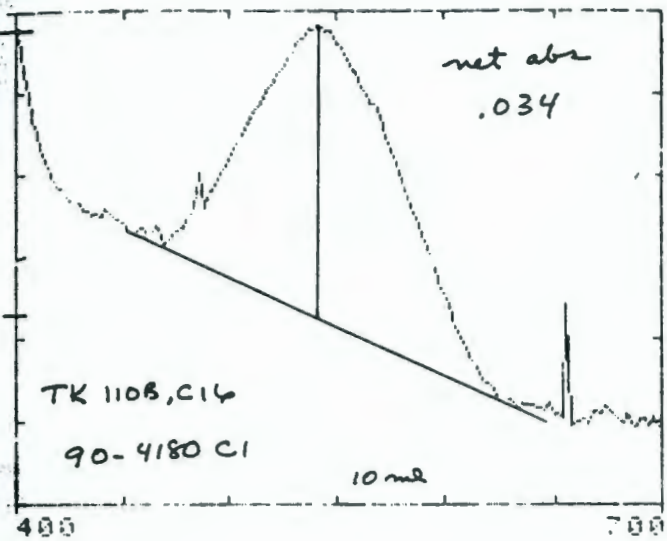
Project No. _____ Date of Work _____

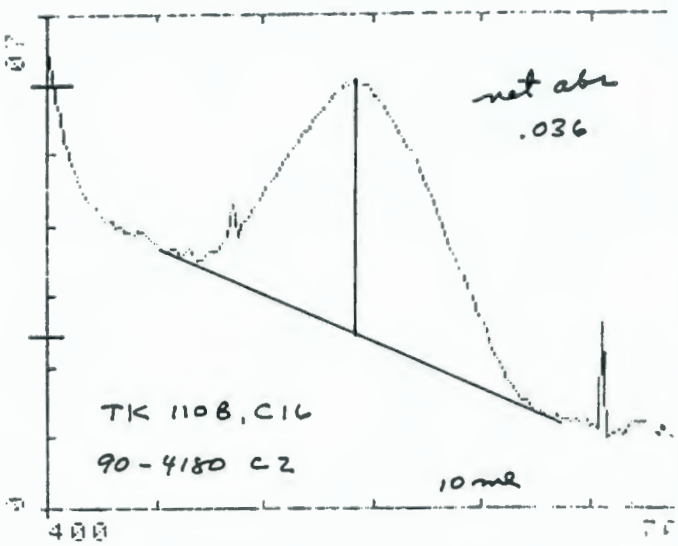
Entered By MCBurt Date 9/20/90

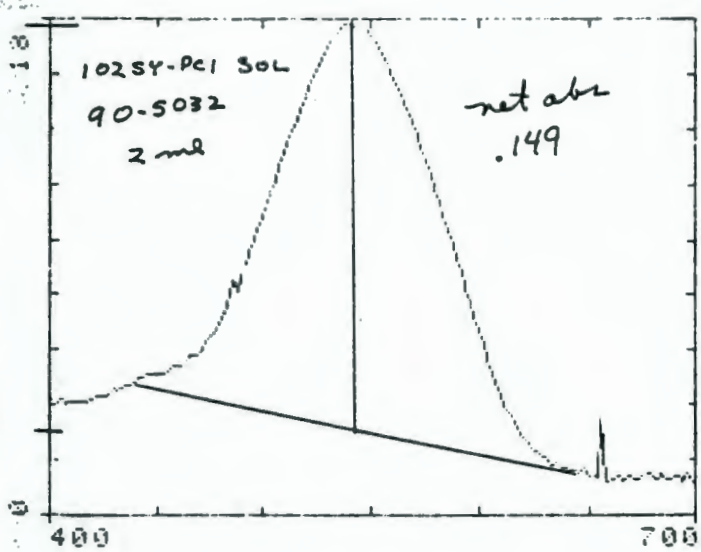
Disclosed To and Understood By

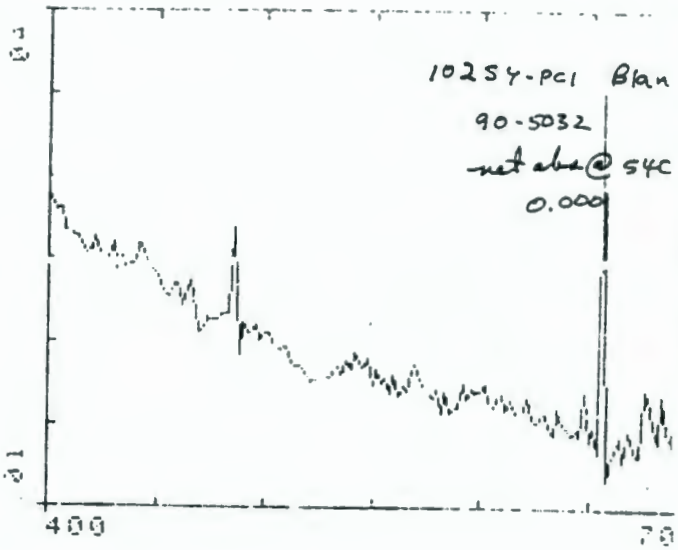
9/20/90 Cr(VI) Sample Data (cont)

ALO ID	SAMPLE ID	WT	VOL	ALIQ (mL)	DIL F	ABS	Cr VI CURVE
90-4180 C-1	TK 110B, C16	2.068	194.88	10	9.52	.034	3.26
90-4180 C-2	TK 110B, C16	2.1978	196.77	10	9.05	.036	3.52
90-4180 C-5	TK 110B, C16	—	197.57	10	19.75	000 ~~.020~~ mcB	0
90-5032	1028Y-PC1 SOL	.9796	92.77	2	47.85	.149	18.24
90-5032	REAG. BLANK	—	96.78	20	4.84	.000	0
90-5033	1028Y-PC1-SUP	.4984	50	2	50.66 mcB ~~101.32~~	.162	19.93
90-6269	IEC1-0917-1	*		22	1	.000	0
90-6351	IEC3-0917-1			20	1	.000	0









LRB 52921 p 25

Project No. _____ Date of Work _____

Entered By MCBurt Date 9/20/90

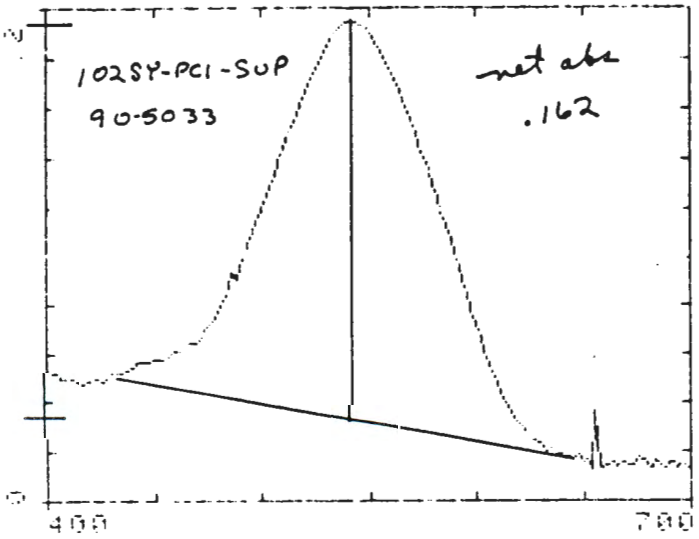
Disclosed To and Understood By E07-005

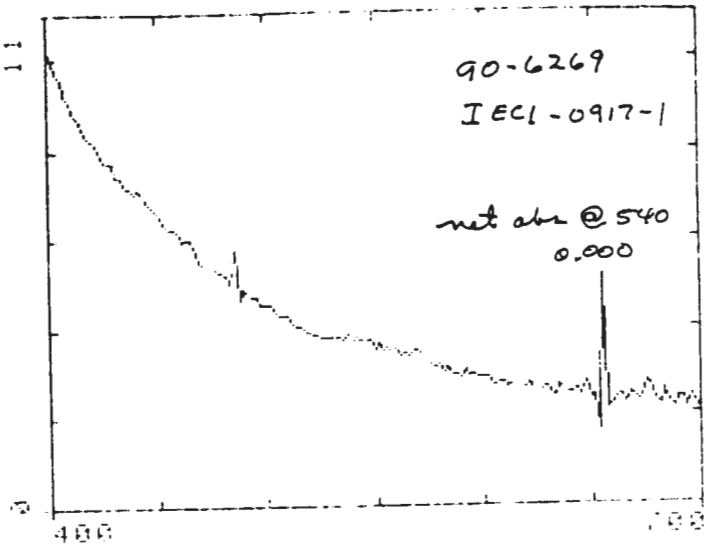
Signed 1. _____ Date _____

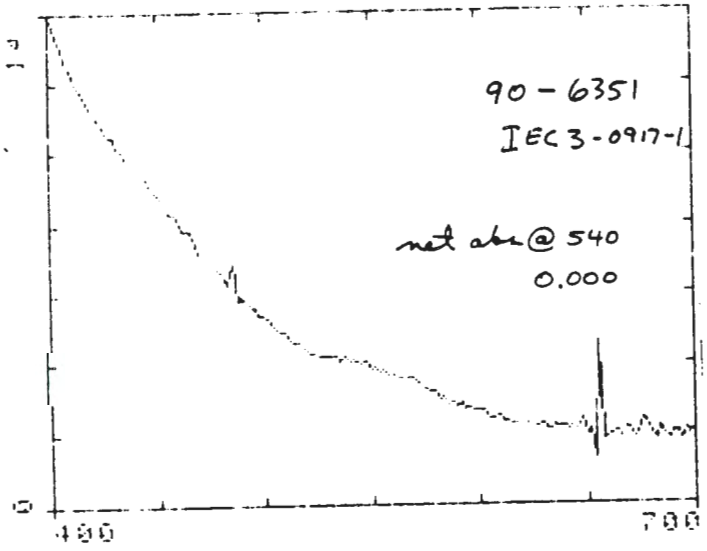
* See page 3

9112175616

9/20/90 Cr(VI) Cont







LRB 52921 p. 26

Date: Oct. 3, 1990
In: JF Jones
Smull

LRB 52921 pg 26

SST Chromium (+6) Results
Logbook BBW-52921
Pages 24-27

File: SST4CR6

Cr(+6) D.L. = 2 ug

Sample ID	Sample Weight (g)	Sample Volume (mL)	Aliquot Sample (mL)	Aliquot Spk/Smpl (mL)	Dilution Factor	Spike Conc (ug/mL)	Spike Vol (mL)	Absorbance Smpl	Absorbance Spk/Smpl	Cr(+6) Sample (ug)	Cr(+6) Sample w/spk (ug)	Cr(+6) Sample (mg/kg)	Spike %rec
90-4180-c1	2.0698	194.88	10.00		9.52			0.034		3.26		31.0	
90-4180-c2	2.1978	196.77	10.00		9.05			0.036		3.52		31.8	
90-4180-c5	2.1338	197.57	10.00		9.36			0.000		<2.0		<18	

Slope = 130.30
Intcpt = -1.17

Note: Insufficient sample to split for spiking

E07-006

Project No. _____ Date of Work _____

Entered By MCBurt Date 9/20/90

Disclosed To and Understood By

Sample information

LRB 52921 p

Date: Sept. 5 1990
Analyst: [illegible] 6-3089 P7-22
Review: [illegible]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK11CB, C16
Segment(s): COM

☑ Composite
☐ Prehomogenized ☐ Homogenized

CC # 284

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellan
NA	90-4132-1	Cr(VI)	2.0698			194.8843				95.16			Sample
	90-4132-2	"	2.1978			196.7726				90.53			dup. samp
↓	90-4132-3	"	—			~~199.5897~~ 197.5712				197.5712			[illegible] methods

Date: July 29 1990
Analyst: [illegible] 6-3089 P7-22
Review: [illegible]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID:
Segment(s):

☐ Composite
☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellan
10257-PCL-SOL	90-5032	Cr VI	0.9796			92.7656				95.70			
"	90-5032	Cr VI				96.7777				96.78			Reagent bl

Date: 7/19/90
Analyst: [illegible] 6-3089 P7-22
Review: [illegible]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID:
Segment(s):

☐ Composite
☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellan
10257 PCL-SUP	90-5033	Cr VI + [illegible]								101.32x	DIW	[illegible]/50.0	
										.4984 →	50 ml		

Date: Oct. 3, 1990
To: JR Tingey
From: MW Urie TKW

LRB 52921 pg 27

DST Chromium (+6) Results
Logbook BHW-52921
Pages 17-23

File: DST1C86

Cal Slope 130.30
Intcpt -1.17

Cr(+6) D.L. = 2 ug

Log #	Sample ID	Sample Weight (g)	Sample Volume (ml)	Aliquot Sample (ml)	Aliquot Spk/Smpl (ml)	Dilution Factor	Spike Conc (ug/ml)	Spike Vol (ml)	Absorbance Smpl	Absorbance Spk/Smpl	Cr(+6) Sample (ug)	Cr(+6) Sample w/spk (ug)	Cr(+6) Sample (ug/g)	Spike %rec
	** 10257 ***													
90-5032	PCL-SOL	0.9796	92.77	2.00	20.00	47.85			0.149		18.24		872.8	
90-5032	Reg Blank	0.9796	96.78	20.00	20.00	4.99			0.000		<2.0			

Log #	Sample ID	Sample Volume (ml)	Total Volume (ml)	Aliquot Sample (ml)	Aliquot Spk/Smpl (ml)	Dilution Factor	Spike Conc (ug/ml)	Spike Vol (ml)	Absorbance Smpl	Absorbance Spk/Smpl	Cr(+6) Sample (ug)	Cr(+6) Sample w/spk (ug)	Cr(+6) Sample (ug/ml)	Spike %rec
	** 10257 ***													
90-5033	PCL-SUP	0.4984	50.00	2.00		50.66			0.162		19.93		1009.9	

Project No. _____ Date of Work _____
Entered By [illegible] Date 9/20/90
Disclosed To and Understood By [illegible] 10/3/90
Signed 1. _____ Date _____

E07-007

E8 - AMMONIA (NH_3)

Date: Oct. 3, 1990

To: TE Jones
From: MW Urie

Subject: SST Ammonia Results
Method: EPA 350.3
Logbook: BNW52919 pg 24-26

NH3-N Det. Limit =0.05 mg/L

Sample ID	Wt (g)	Vol (mL)	Dil	Spike (mg/L)	Spike Vol (mL)	NH3-N Sample (mg/L)	NH3-N Sample w/Spk (mg/L)	NH3-N Sample (mg/kg)	Spk %rec	Std %rec
11.7 mg/L Check Std			1.0			14.00				120%
1.00 mg/L Cal Std			1.0	101.1	0.10	1.20	2.30		117%	120%
90-4180-c1	2.070	194.9	1.0	101.1	0.10	3.70	4.90	352.1	130%	
90-4180-c2	2.198	196.8	1.0	101.1	0.10	4.20	6.00	376.0	194%	
90-4180-c5	2.134	197.6	1.0	101.1	0.10	0.06	0.14	5.6	9%	
1.00 mg/L Cal Std			1.0			1.10				110%

Aliquot vol-mL	10.11
NaOH vol-mL	0.25
Total vol-mL	10.36

Note: Average sample weight of c1 and c2 is used to calculate blank in mg/kg.

E08-002

DNW-TOL 111
1—
5-13-88

PACIFIC NORTHWEST LABORATORY
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MAY 13 1988
BATTELLE TECH. INFO.

THIS BOOK IS INTENDED TO BE USED FOR RECORDING RESEARCH PERFORMED FOR THE U.S. DEPARTMENT OF ENERGY UNDER BNW'S OPERATING CONTRACT EY-76-C-06-1830

M32950

LABORATORY RECORD BOOK NUMBER BNW- 52919	This document consists of ..... pages, copy no. .....
TITLE (INDICATE SUBJECT CONTENT) Ammonia Determinations For Single Shell Tank Program	
AUTHOR - DIVISION AND DEPARTMENT M.W. Urie Materials & Chemical Sciences Center Chemical Measurements Laboratory Section	
PERIOD COVERED FROM 10/4/89 TO	

Route To	P. R. No.	Location	Route Date	Signature & Date
A. C. Ford	30969	325	MAY 13 1988	
M. W. Urie	33158	325	10/89	M W Urie

9112151621

E08-003

10/2/90 NH_3 by Ion Specific Electrode EPA 350.3

Primary Stock standard Baker lot# 0660 NH_4Cl
Dried @ 100°c for 2 hrs 0.9548 g → 250 ml
1 ml = 1.00 mg N = 1.22 mg NH_3
or 1000 mg/L

Check Std .1110 g → 250 ml
1 ml = .116 mg N = .142 mg NH_3
or 116 mg/L

Balance WA 82510 wt #361-86-02-003-H 2g actual 2.0003g

Pepet Check

10 ml		1 ml		0.1 ml	
10.133	10.133	.989	.989	.098	.098
20.251	10.118	1.979	.990	.197	.099
30.327	10.076	2.971	.992	.295	.098
$\bar{x}$ = 10.109		$\bar{x}$ = .990		$\bar{x}$ = .098	spike volume

Std 1 100 mg/L $\frac{1000 \times 10.11}{100}$ = 101.1 mg/L (used as spike)

Std 2A 10 mg/L $\frac{1000 \times .990}{100}$ = 9.90 mg/L

Std 2B 10 mg/L $\frac{1000 \times .990}{100}$ = 9.90 mg/L

Std 3 1 mg/L $\frac{9.90 \times 10.11}{100}$ = 1.00 mg/L

Std 4 0.1 mg/L $\frac{9.90 \times .990}{100}$ = .098

Check Std (~~1~~10%) $\frac{116 \text{ mg/L} \times 10.11}{100}$ = 11.7 mg/L

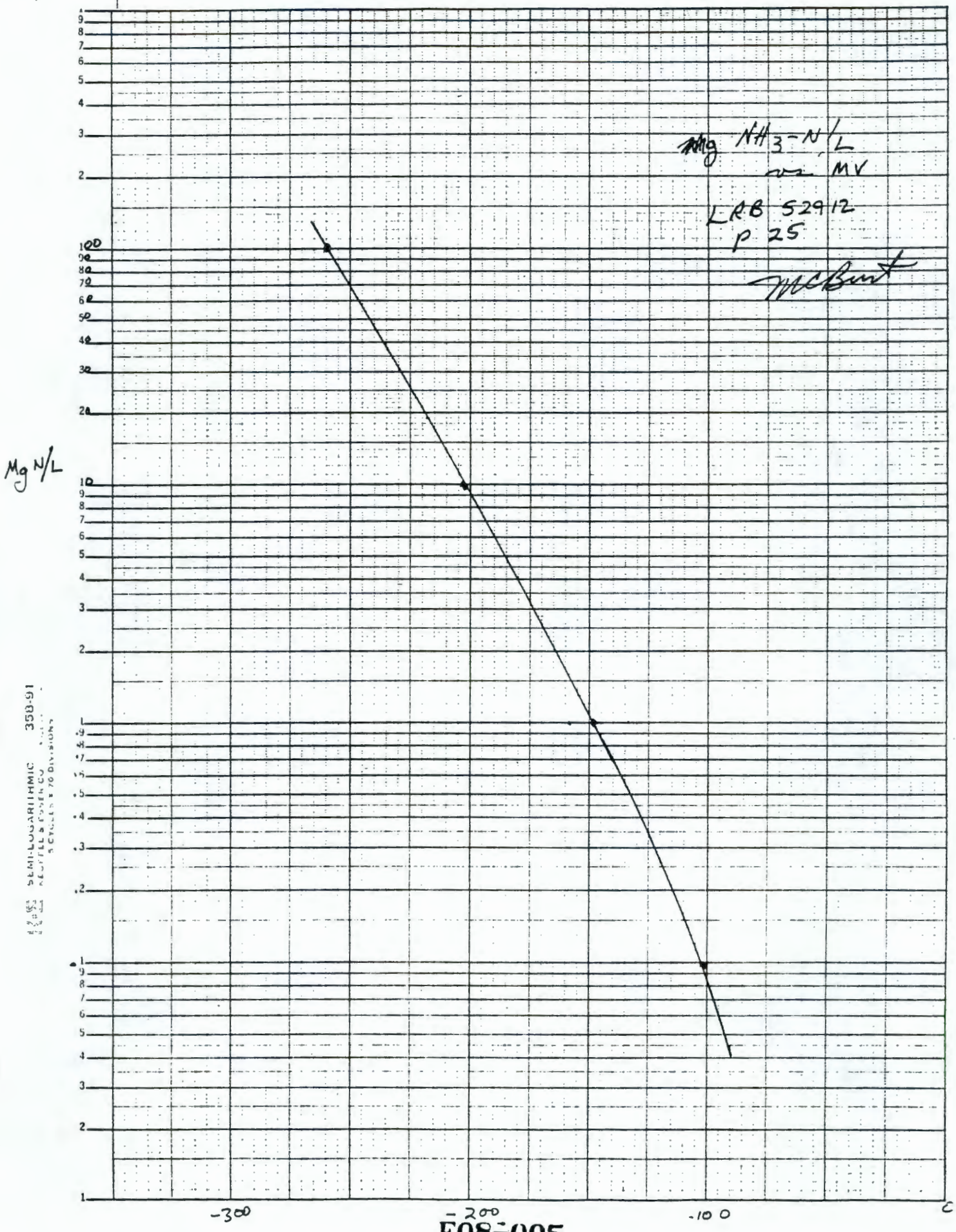
CALIBRATION CURVE

STD 1	101.1 mg/L	-260
STD 2A	9.90 mg/L	-203
STD 2B	9.90 mg/L	-203
STD 3	1.00 mg/L	-148
STD 4	.098 mg/L	-101

Project No. _____ Date of Work 10/2/90
Entered By MC Burt Date 10/2/90
Disclosed To and Understood By

E08-004

10/2/90



E08-005

20 10/2

Sample Data	mV	mg/L
1. Check Std (10x dil)	-211	14
2. Std 3 1.00 mg/L	-152	1.2
+0.098 ml of 100 mg/L	-167	2.3
3. 90-4180 C1 (10.11 ml)	-178	3.7
+0.098 ml of 100 mg/L	-186	4.9
4. 90-4180 C2 (10.11 ml)	-181	4.2
+0.098 ml of 100 mg/L	-190	6.0
5. 90-4180 C5 (10.11 ml)	-95	.06
+0.098 ml of 100 mg/L	-108	.14
6. 90-5033 (10.11 ml)	-161	1.7
+0.098 ml of 100 mg/L	-174	3.0
7. Std 3 1.00 mg/L	-150	1.1

Seepage 9 for Calculations examples

Date: Sept 5 1990
Analyst: [illegible] 6-3089 P7-22
Review: [illegible]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

LRB 52919
p 26

Core ID: TK11C13 C16
Segment(s): COM

☑ Composite
☐ Prehomogenized ☐ Homogenized

Coc# 285

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneo
NA	90-4180 1	NH3	2.0698			194.5843							Sample
↓	90-4180 2	"	2.1978			196.1726							dup. Sample
↓	90-4180 C5	"	—			199.5897							blank

Date: 7/17/90
Analyst: [illegible] 6-3089 P7-22
Review: [illegible]

SAMPLE PREP DATA SHEET
325-B Hot Cells)

LRB 52919
p 26

Core ID:
Segment(s):

☐ Composite
☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellane
1325A Pel-SJP	90-5033	Cr VI [illegible]								101.32x	DIW	[illegible]/50.00	

Project No. _____ Date of Work _____
Entered By MCBurt Date 10/2/90
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

E08-006

9112105324

LRB 52919
pg ~~26~~ 27

Date: Oct. 3, 1990

To: TE Jones
From: MW Urie

Subject: SST Ammonia Results
Method: EPA 350.3
Logbook: BNW52919 pg 24-26

NH3-N Det. Limit =0.05 mg/L

Sample ID	Wt (g)	Vol (mL)	Dil	Spike (mg/L)	Spike Vol (mL)	NH3-N Sample (mg/L)	NH3-N Sample w/Spk (mg/L)	NH3-N Sample (mg/kg)	Spk %rec	Std %rec
11.7 mg/L Check Std			1.0			14.00				120%
1.00 mg/L Cal Std			1.0	101.1	0.10	1.20	2.30		117%	120%
90-4180-c1	2.070	194.9	1.0	101.1	0.10	3.70	4.90	352.1	130%	
90-4180-c2	2.198	196.8	1.0	101.1	0.10	4.20	6.00	376.0	194%	
90-4180-c5	2.134	197.6	1.0	101.1	0.10	0.06	0.14	5.6	9%	
1.00 mg/L Cal Std			1.0			1.10				110%

Aliquot vol-mL 10.11
NaOH vol-mL 0.25
Total vol-mL 10.36

Note: Average sample weight of c1 and c2 is used to calculate blank in mg/kg.

SST REPORT Oct 3, 1990

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By E08-007
Signed 1. _____ Date _____
2. _____ Date _____

E9 - MERCURY (Hg)

Mercury CVAA Analytical Results

CORE 16 COMPOSITE

Analyst: John Ennen

Approved/Date: [illegible] 11/21/90

Analysis Date: 10/31/90

Sample ID	(a) Meas. µg Hg	(b) Sample Wt (g)	(c) Hg (mg/kg)	(d) RPD	(e) Spk Add (µg)	(f) Spk Add (mg/kg)	(g) Spike Rec (%)
90-4180-D1	0.13	0.2208	0.59				
-D2	0.13	0.2138	0.61	3%			
-D3	0.26	0.2408	1.08		0.20	0.83	58
-D4	0.20				0.20		90
-D5	0.02	0.225	0.09				

(a) µg Hg obtained from calibration curve [µg Hg vs. absorbance] and appropriate dilution factors applied
(b) Sample weight from data prep sheet [D5 average of D1 thru D3]
(c) mg/kg Hg = (a)/(b)
(d) Relative percent difference [(D1-D2)/((D1+D2)/2)]
(e) Spike (µg) added to D3 and D4 from data prep sheet
(f) Spike added to D3 calculated in mg/kg [(e)/(b)]
(g) Spike recovery corrected for blank [D5]; D3 recovery based on average results from D1 and D2.

NOTE: The 1.0 µg/mL spiking standard was analyzed during analysis with 90-4180 and the result was 0.91 µg/mL or 91% recovery.

Date: Sept. 25 1990

Analyst: [illegible] 6-3089 P7-22

Review: [illegible]

Coc# 288

SAMPLE PREP DATA SHEET
325-B Hot Cells)

Core ID: TK11D8, C16

Segment(s): COM

☑ Composite
☐ Prehomogenized ☐ Homogenized

325-A ID	ALO ID	Analyte or Analysis	Sample Wt Wet (g)	Sample Wt Dry (g)	Percent Solids	Water Wt (g)	Total* Vol (ml)	Spike ID	Spike Vol (ml)	Dilution Factor	Diluent Matrix	Pipet Calib (ml)	Miscellaneo
NA	90-4180-D-1	Hg	0.2498	pg 128		83							Sample
	90-4180-D-2	"	0.2772			77							Dup. sample
	90-4180-D-3	"	0.2559			80		H-3	0.0492				Spiked sm
	90-4180-D-4	"	—			75		H-3	0.0492				Spiked blk
	90-4180-D-5	"	—			79							blank

*unable to give final volume since a few ml. of DIW was needed to wash the sample from the erlenmeyer flask to the sample bottles

BNW 52917 M&TE 360-06-01-016

E09-003

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

Prepared By:	Date:	Project:
Title/Subject:		
10-31-90	Hg	Analysis

Reviewed MW 11/20/90 JC

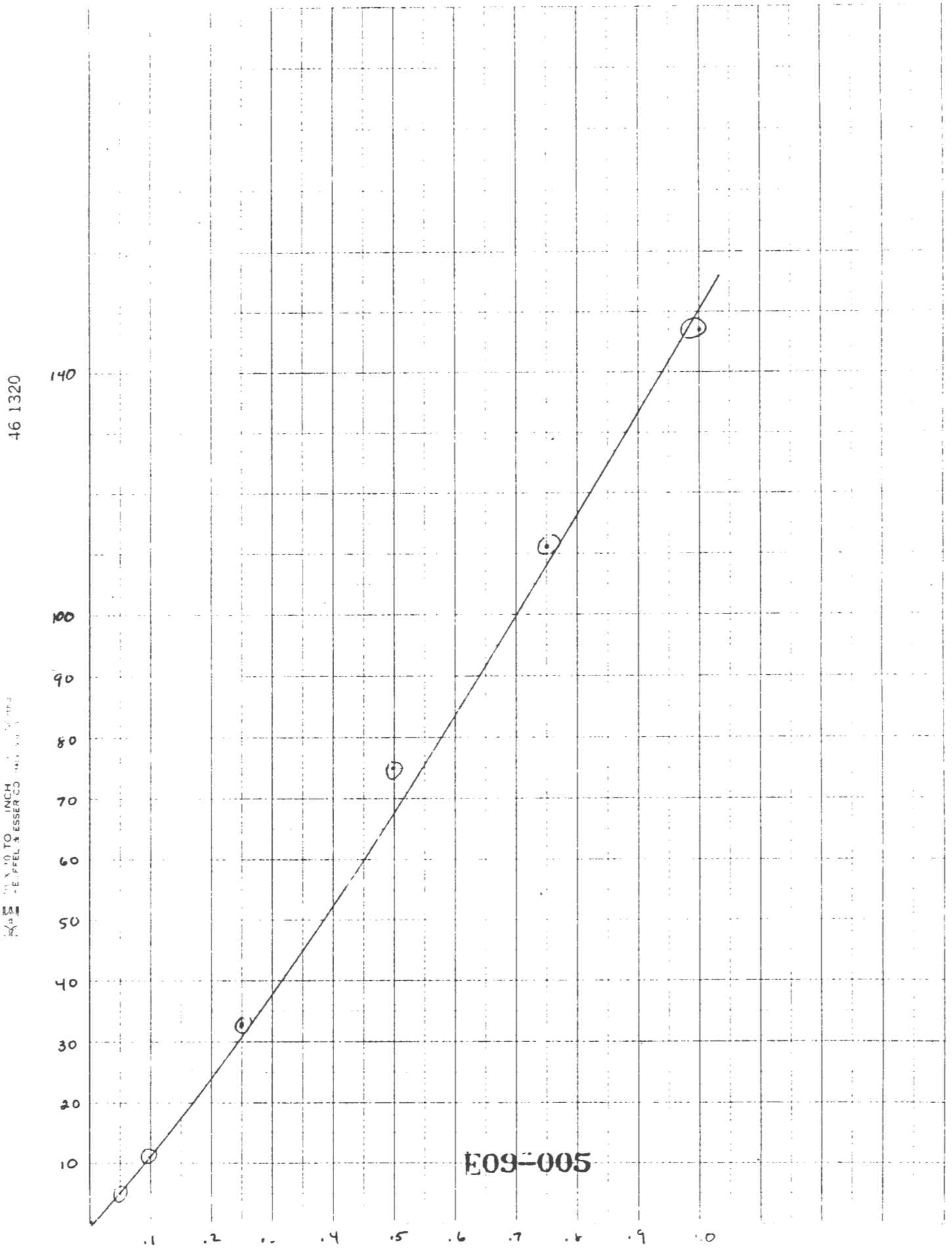
Standard Curve

	1.000 µg Hg —	147	µg Hg	µg/ml
	0.750	111		
	0.500	75		
	0.250	33		
	0.100	11		
	0.050	5		
50 ml	BLANK	0		
1 ml	Cross check 1 µg	142	0.95	
50 ml	90-6794 300 A. Trench	0	<0.01	—
50 ml	90-7085 "	0	<0.01	—
50 ml	90-6796 400 A. Trench	1	<0.01	—
1 ml	QC standard	73	0.53	µg/gm
75 ml	90-4180 D-1 (0.2268)	15	0.13	0.58 ~~0.0017~~
75 ml	" D-2 (0.2138)	15	0.13	0.61 ~~0.0017~~
72 ml	" D-3 (0.2408)	32	0.26	1.080 ~~0.0033~~
79 ml	" D-4	24	0.20	~~0.0027~~
75 ml	" D-5 (0.217)	2	0.02	0.09 ~~0.0003~~
SPIKING solution used by lab cell 1ml		134	0.91	(91%)
0.500 ml	Cross check standard	79	0.57	
0.0996 gms	90-7125 ES4-1	15	~~0.15~~ 0.015	
0.1101 gms	90-7125 ES4-1	2	~~0.20~~ 0.020	
50 ml	BLANK	0		
Cross check std. 1 ml		154	1.02	

E09-004

9112175629

10-31-90 Hg std. curve JE



JL
10-9-90

Cross check
Std. 1 ml, 1 µg Hg

BLANK

0.0496 gmo # ES4-1 90-7125
0.1701 gmo #ES4-1 "

JL
10-9-90

0.500 µg Cross Check 0.5 ppm

(D-5) 90-4180 75 ml
(D-4) 90-4180 79 ml
(D-3) 90-4180 72 ml
(D-2) 90-4180 75 ml
(D-1) 90-4180 75 ml

SPIKE solution for 90-4180

GC std 1 ml

90-6796 50 ml 400 "
90-7085 50 ml 300 "
90-6794 50 ml

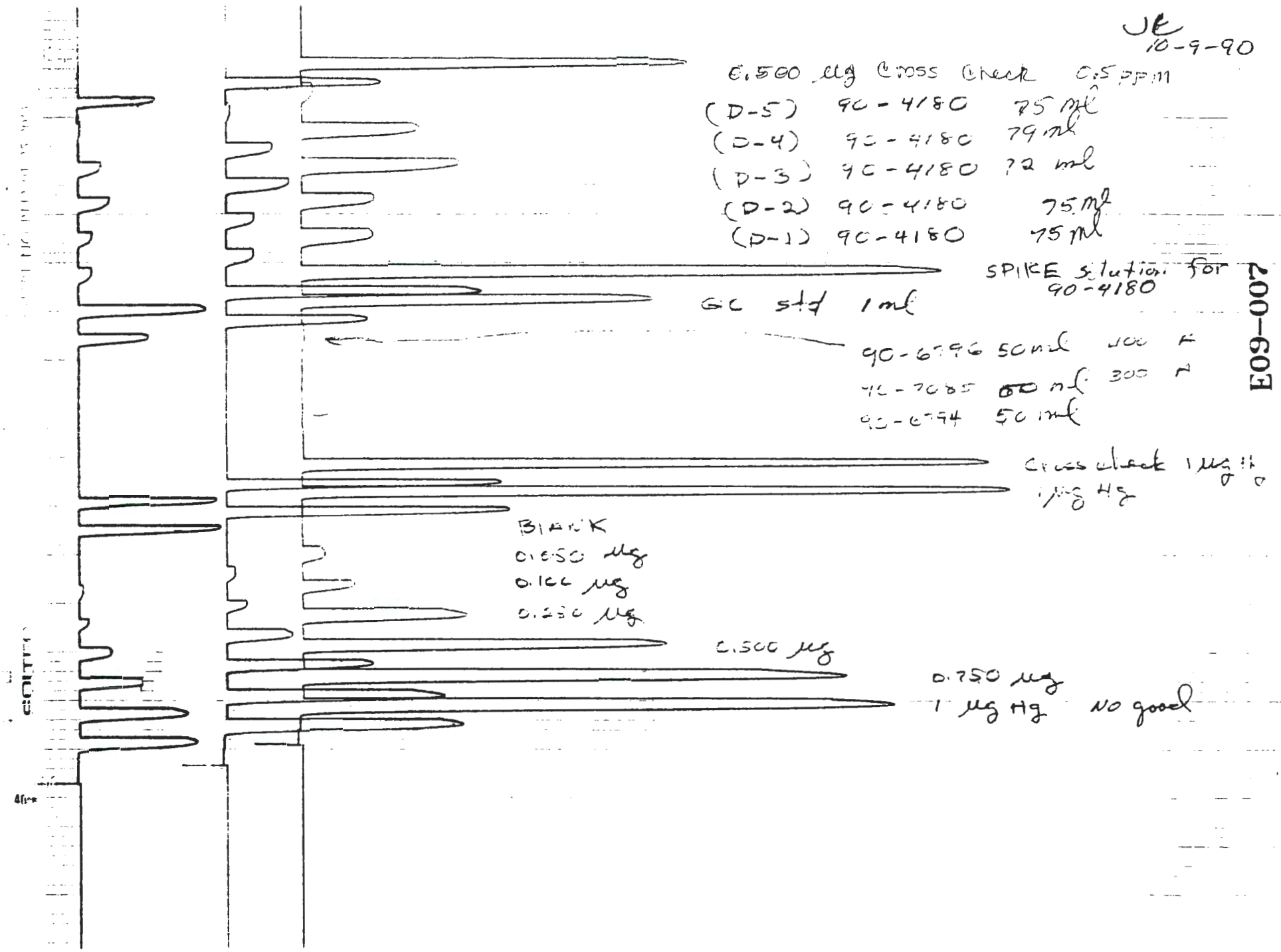
Cross check 1 µg Hg
1 µg Hg

BLANK
0.050 µg
0.100 µg
0.250 µg

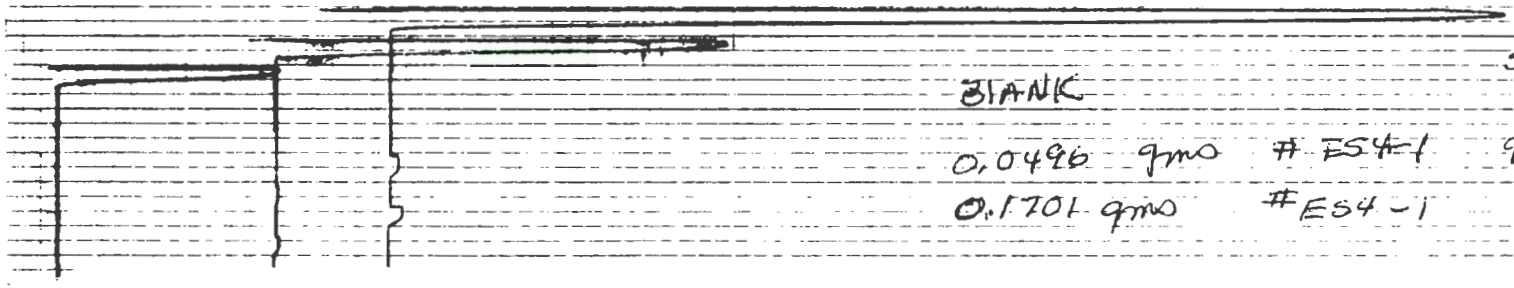
0.500 µg

0.750 µg
1 µg Hg No good

E09-006


JE
10-9-90
0.500 µg Cross Check 0.5 ppm
(D-5) 90-4180 75 ml
(D-4) 90-4180 79 ml
(D-3) 90-4180 72 ml
(D-2) 90-4180 75 ml
(D-1) 90-4180 75 ml
SPIKE solution for 90-4180
GC std 1 ml
90-6796 50 ml 100 ppm
90-7085 50 ml 300 ppm
90-6794 50 ml
Cross check 1 µg Hg
1 µg Hg
BLANK
0.050 µg
0.100 µg
0.250 µg
0.500 µg
0.750 µg
1 µg Hg
No good

E09-007



JE
10-9-90

cross-check
std. Cal, 1 µg Hg

BLANK

0.0496 gms # ES4-1 90-7125

0.1701 gms # ES4-1 "