This document was too large to scan as a whole document, therefore it required breaking into smaller sections.

Document number: SD-WM-DP-170

Section 1 **of** 4

Title: Final Results for Tank 241BX112 Push Mode Cores 118 & 119 [Pgs. 1 Thru 600]

Date: 08/07/1996 **Revision:** R001

Originator: Conner, JM
Co: WHC

Recipient:
Co:

References: ECN-633319

COMPLETE

ENGINEERING CHANGE NOTICE

1. ECN 633319

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [] Direct Revision [X] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	John M. Conner, Data Assessment and Interpretation, R2-12, 373-2711	[] Yes [X] No	08/06/96
	6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
	Tank 241-BX-112	241-BX-112	Q
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	10. Related ECN No(s).	11. Related PO No.
	WHC-SD-WM-DP-170, Rev. 0	N/A	N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[] Yes (fill out Blk. 12b) [X] No (NA Blks. 12b, 12c, 12d)	N/A	N/A Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [] Yes [X] No

This ECN is being generated in order to update/add additional information to the existing document.

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

This ECN will assist in the completion of the documentation process for this document.

15. Distribution (include name, MSIN, and no. of copies)

See attached distribution.

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DATE: AUG 07 1996

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ID: 2

A-7900-013-2 (05/96) GEF095

ENGINEERING CHANGE NOTICE	Page 2 of 2	1. ECN (use no. from pg. 1) ECN-633319

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[X] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

21. Approvals

	Signature	Date		Signature	Date
Design Authority		8-8-96	Design Agent		
Cog. Eng.	J.M. Conner	8/6/96	PE		
Cog. Mgr.	J.G. Kristofzski		QA		
QA		8/6/96	Safety		
Safety			Design		
Environ.			Environ.		
Other	A.D. Rice	8-6-96	Other		
	W.D. Winkelman	8-6-96			
			DEPARTMENT OF ENERGY		
			Signature or a Control Number that tracks the Approval Signature		
			ADDITIONAL		

Final Results for Tank 241-BX-112, Push Mode Cores 118 and 119

John M. Conner
Westinghouse Hanford Company, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-87RL10930

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Final Results for Tank 241-BX-112, Push Mode Cores 118 and 119

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(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release (5) Cog. Engr.	(6) Cog. Mgr. Date
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		Wayne Weichelbaum for	John Kristofzski 8/6/96

A-7320-005 (08/91) WEF168

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-170, REV. 1

ANALYTICAL SERVICES

FINAL RESULTS FOR TANK 241-BX-112, PUSH MODE CORES 118 AND 119

Project Coordinator: JOHN M. CONNER

Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

by

Westinghouse Hanford Company
Box 1970
Richland, Washington

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This document consists of two sections:

Part I consists of pages 1 through 2413, 139.1 and 1477.1, and pages ii, 2, 9, 18, 91, 95, 106, 108, 117, 132, 161, 162, 178, 195, 220, 223, 303, 311, 314, 1265, 1730, 1738, 1739, 1741, 1744, 1896, 1972, 1996, 2020, 2042, 2050, 2055, 2060, 2068, 2073, 2080, 2087, 2095, 2109, 2124, 2131, 2138, 2147, 2149, 2154, 2161, 2285, 2291, 2366, 2385, 2394 were intentionally left blank.

Part II consists of pages 2-1 through 2-17, and pages 2-2 and 2-4 were intentionally left blank.

NARRATIVE

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FINAL LABORATORY REPORT FOR TANK 241-BX-112, PUSH MODE CORES 118 AND 119

ANALYTICAL SUMMARY

Two push mode core samples, 118 and 119, were taken from tank 241-BX-112 (BX-112). The samples were received at the 325 Laboratory and underwent analyses directed by the Safety Screening and Historical Model Data Quality Objectives (DQOs) [1, 2]. Safety screening analyses consisted of bulk density, differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and determination of total alpha activity. The results were compared to the safety screening limits at a confidence level of 95%. None of the adjusted results exceeded the limits stated in the Sampling and Analysis Plan (SAP) [3]. These results, along with the results from flammability screening of the tank dome space conducted earlier [4], indicate that the tank can be declared "safe" per the criteria in the safety screening DQO.

Analyses directed by the Historical DQO were conducted on solids subsamples and core composites. These consisted of DSC, TGA, total alpha, bulk density, anions by ion chromatography (IC), and metals by inductively coupled plasma (ICP) atomic emission spectroscopy. Upon examination of this data, it was determined that segment 2 of each core most closely matched the composition of first cycle (1C) waste, which the historical model predicted would be in the tank [2]. In accordance with the Historical DQO, additional analyses were conducted on subsamples from segment 2 and the core composites. These additional analyses consisted of total organic carbon (TOC), ICP metals on water-prepared samples, total uranium, total beta, Sr-90, and Cs-137 and other gamma-emitting isotopes by gamma energy analysis (GEA).

LiBr is added to the hydrostatic head fluid (HHF) as a tracer so that any HHF contamination of the core samples can be detected. Contamination above 10% was detected in the drainable liquid and upper half-segment of segment 1A from core 118 (15.7 and 20.8% intrusion, respectively, based on Br analyses). Corrected moisture results have been calculated for these subsamples, based on the target concentration of the LiBr tracer (no HHF sample was requested nor taken for this tank).

A field blank was taken and analyzed. Significant beta, Cs-137, and Sr-90 contamination was detected (approximately 10-15% of the concentrations in the samples). The samples were not corrected for the blank contamination. Very minor alpha contamination was found. Negligible contamination was found for U and for ICP and IC analytes. It is not possible to state conclusively whether the field blank contamination occurred in the field or in the laboratory. The fact that contamination was found only in some of the radiochemical analyses might suggest that the contamination occurred in the lab, yet no contamination was found in the lab and process blanks, suggesting a source outside the lab.

SCOPE

This document serves as the final report deliverable for the tank BX-112 push mode core samples collected on December 21, 22, and 27, 1995 [core 118 (core samples 95-0288 through 95-0290, including 95-0288A) and core 119 (core samples 95-0292 through 95-0294)]. Primary safety screening analyses were previously reported [4]. All analytical work was performed at the 325 Building Laboratory by Pacific Northwest National Laboratory (PNNL). The data were compiled, reviewed, and transmitted to Westinghouse (the report is attached). The PNNL 325 lab is responsible for all quality control aspects of the analytical results.

Part I of this report consists of this narrative, which describes changes, clarifications, exceptions, and additions to the PNNL transmittal; photographs of the extruded core segments (Attachment 1); and the PNNL transmittal letter, presentation and discussion of data, and raw data (Attachment 2). Part II of this report consists of the 45-day report in its entirety (originally released as Revision 0 of this report).

CHANGES, CLARIFICATIONS, EXCEPTIONS, AND ADDITIONS TO THE PNNL FINAL REPORT

Changes to the PNNL Data Transmittal. Core 118, Segment 1 was extruded and subsampled into half-segments at the 222-S laboratory. The chain-of-custody (COC) which accompanied this sample from the field to the 222-S lab has been inserted into Appendix A2 the PNNL data package, along with the other COC forms for the segments received at PNNL.

For the ICP analyses, samples from other projects were sometimes batched and analyzed along with BX-112 samples. Thus, raw data from projects unrelated to the BX-112 core sampling project were included in the transmittal from the PNNL 325 lab. These data sheets have been deleted from this report. The exclusion of these pages from this report in no way affects the results nor raw data for the BX-112 samples.

The title of Table 2.20 (p. 44) was changed to show that segment 3B in this table is from Core 119.

Table 2.21 (p. 45) was changed to show that the drainable liquid subsample was from Segment 1A of Core 118, not Segment 1.

To avoid confusion, the Table of Contents provided in the transmittal was deleted. The Table of Contents provided along with this narrative should be used.

Clarifications

Core 118, Segment 1 was extruded at 222-S. Thus, Section 1.1.8 of the PNNL transmittal does not report any information on this extrusion. However, the extrusion is discussed in the 45-Day report, attached as Part II of this document.

For the ICP samples, analytes below detection were listed as "DL" in the data tables. The detection limit values may be calculated by multiplying the dilution factor by the instrument detection limit (IDL) (both of which are provided in the data tables).

Exceptions

The 95% confidence intervals presented in the PNNL data transmittal were not calculated in the same manner used by WHC statisticians for other data packages. Thus, the 95% confidence intervals presented in the data transmittal should be ignored. The confidence intervals presented in the 45-day report (Part II) are appropriate and should be used.

Additions

Field Blank Evaluation. A field blank was taken and analyzed. Significant beta, Cs-137, and Sr-90 contamination was detected (approximately 10-15% of the concentrations in the samples). Very minor alpha contamination was found. Negligible contamination was found for U and for ICP and IC analytes. It is not possible to state conclusively whether the field blank contamination occurred in the field or in the laboratory. The fact that contamination was found only in some of the radiochemical analyses might suggest that the contamination occurred in the lab, yet no contamination was found in the lab and process blanks, suggesting a source outside the lab. The ratio of Sr-90 to Cs-137 is similar (approx. 0.1) in the field blank and in the tank samples, suggesting that the contamination might have come from the samples.

HHF Evaluation. Samples where HHF intrusion was detected (for which lithium and/or bromide were detected) were evaluated to determine the extent of contamination. Calculations were performed as directed in *Technical Basis and Spreadsheet Documentation for Correcting Waste Tank Core Samples for Water Intrusion Based on a LiBr Tracer* [6]. Contamination was detected in 6 samples (see Table 1). Of these, 4 were below 10% intrusion (based on Br results), and therefore, no corrections were necessary [6]. The two samples for which corrections are necessary are the drainable liquid and upper half subsample from Core 118, segment 1A. The corrected moisture results are also presented in Table 1. Other analytical results for these samples have not been corrected; however, they should be used only with caution.

As no HHF sample was taken for this tank, the corrections were calculated based on the target concentrations of 2080 μg/mL for lithium and 24000 μg/mL for bromide (0.3 mol/L solution). The concentrations of Li and Br in the combined liner liquid from these samples was analyzed and found to contain 1738 μg/mL Li and 20400 μg/mL Br (liner liquid should be essentially HHF). This is reasonably close to the target concentration.

Table 1. Evaluation of HHF Intrusion Into BX-112 Samples

Sample Description	PNNL Sample #	Percent Water (TGA)	Percent of H_2O from HHF, based on . . .		Corrected Moisture Content (based on Br)
			Li	Br	
C118 S1AA	96-0625	67.2	13.8	8.9	n/a
C118 S1AB	96-0626	65.85	20.8	**15.7**	**62.1**
C118 Comp	96-02617	61.6	9.2	6.2	n/a
C119 S3B	96-02616	65.6	8.1	8.5	n/a
C118 S1A DL	96-02848	64.4	23.9	**20.8**	**59.1**
C119 S3 DL	96-2850	70.8	2.0	1.5	n/a

REFERENCES

[1] G. T. Dukelow, et al., *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, Washington, August 31, 1995.

[2] B. C. Simpson and D. J. McCain, *Historical Model Data Evaluation Requirements*, WHC-SD-WM-DQO-018, Rev. 0A, Westinghouse Hanford Company, Richland, Washington, October 3, 1995.

[3] J. M. Conner, *Tank 241-BX-112 Push Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-063, Rev. 2, Westinghouse Hanford Company, Richland, Washington, January 22, 1996.

[4] J. M. Conner, *Final Report for Tank 241-BX-112, Auger Samples 95-AUG-047 and 95-AUG-048*, WHC-SD-WM-DP-157, Rev. 1, Westinghouse Hanford Company, Richland, Washington, February 29, 1996.

[5] J. M. Conner, *45-Day Safety Screening Results for Tank 241-BX-112, Push-Mode Core Samples 118 and 119*, WHC-SD-WM-DP-170, Rev. 0, Westinghouse Hanford Company, Richland, Washington, February 29, 1996.

[6] W. D. Winkelman, *Technical Basis and Spreadsheet Documentation for Correcting Waste Tank Core Samples for Water Intrusion Based on a LiBr Tracer*, WHC-SD-WM-CSWD-081, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 10, 1996.

ATTACHMENT 1

PHOTOGRAPHS

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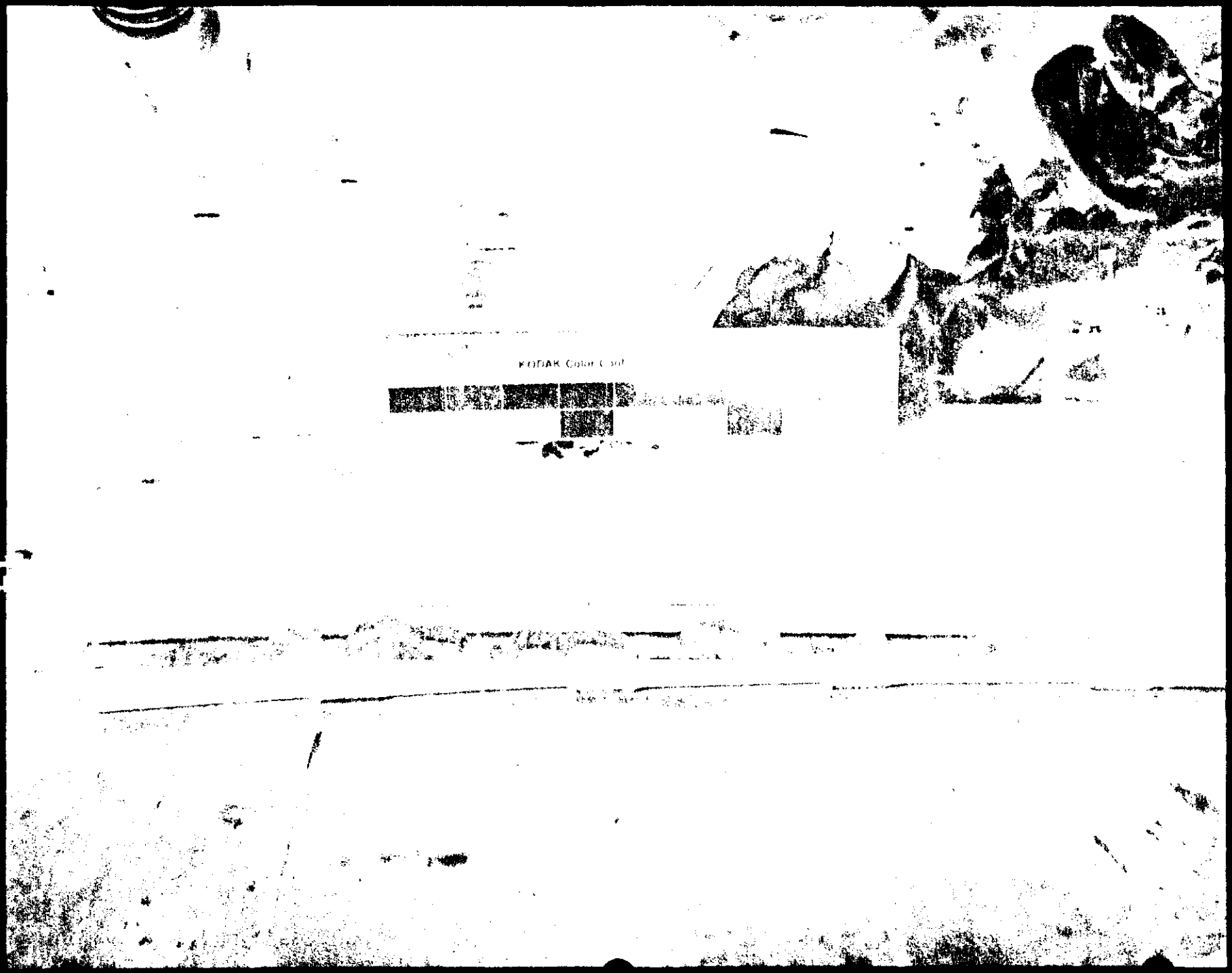
BX-112 Core 118 SEGMENT #1
12-19-95

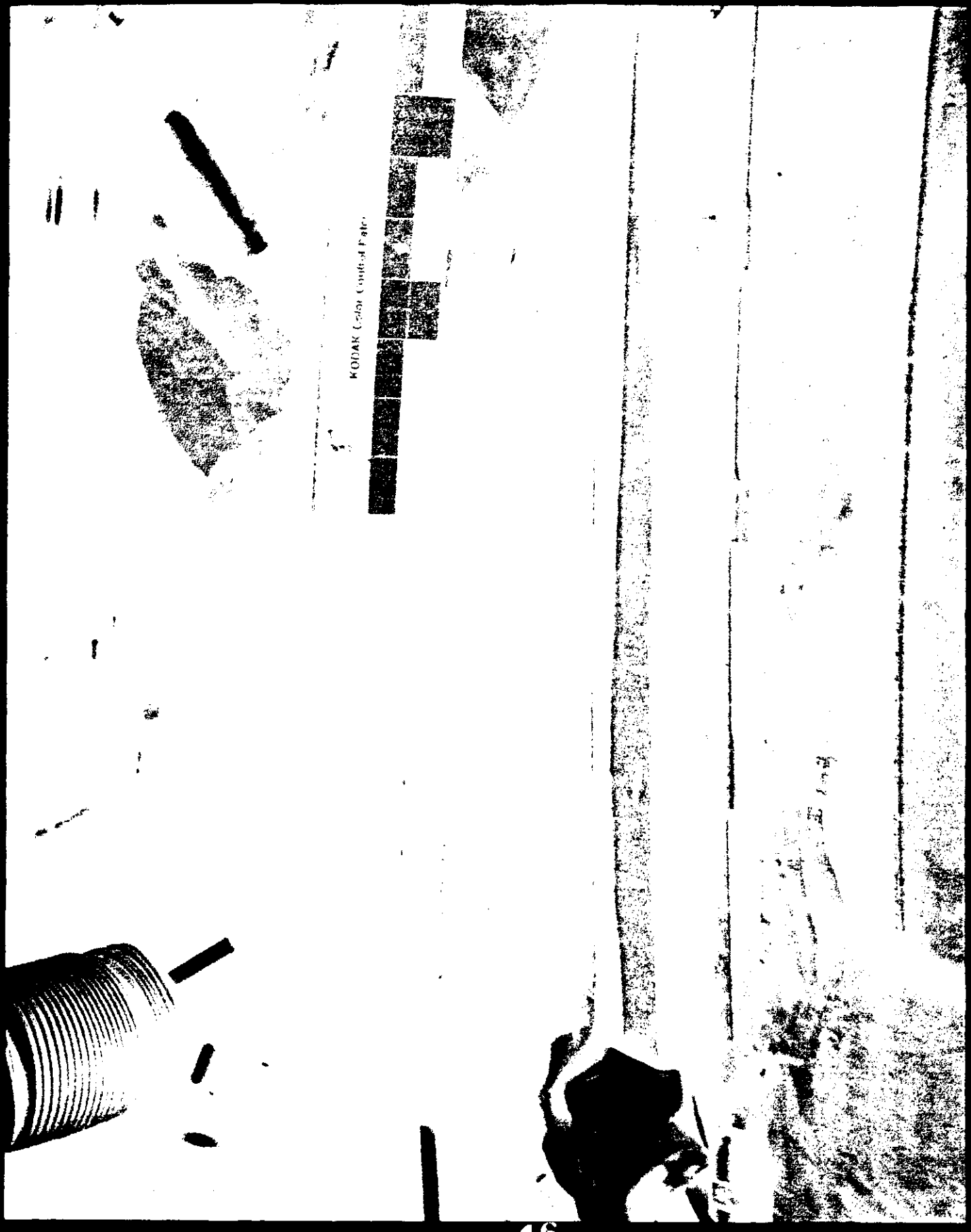
BX-112 CORE 119 SEG 1

BX-112 CORE 119 SEG 2

BX-112 CORE 117 2EGS



BX 12 CORE 118 SEG 2
KODAK Color Control Patches


KODAK Color Control Patches
BX-112 CORE 118 SEG 3

ATTACHMENT 2

FINAL BX-112 REPORT, REV. 1

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Battelle
Pacific Northwest Division
P.O. Box 999
Richland, Washington U.S.A. 99352
Telephone (509) 376-9454

June 3, 1996

L. R. Webb
Westinghouse Hanford Company
P. O. Box 1970
Richland, WA 99352

Dear Lola:

TRANSMITTAL OF THE BX-112 FINAL REPORT AND SUPPORTING DATA

Enclosed is one copy of the Tank BX-112, revision 1 final report and additional supporting data. This package includes the requested analyses to support the Safety Screening and Historical DQOs.

Please replace the first four pages of "BX-112 Appendices - Primary Analytical Data, March 1996" with the enclosed cover pages and table of contents. The enclosed Appendix E is to be added to the end of the appendices data package.

An additional copy of the report, without appendix E, has been sent to JM Conner. An electronic copy of the report and associated Lotus 123 and Excel spreadsheets are available upon request.

Please sign and return the enclosed Report Acknowledgment form, and call me at 376-9454 if you have any questions or concerns.

Sincerely,

MWUrie

M. W. Urie
Lead Scientist, Inorganic Analysis
Analytical Chemistry Laboratory

MWU/bn

Enclosures

bcc: JM Latkovich
Project File - 22762
lb

FINAL REPORT FOR TANK 241-BX-112, PUSH MODE CORES 118 AND 119

Revision 1

Reviewers:

PR Bredt
LR Greenwood
EW Hoppe
KJ Kuhl-Klinger
KL Silvers
MW Urie

Distribution:

WHC	**2 reports - 1 appendix**
File	**1 report - 1 appendix**

LR Greenwood
KL Silvers
RT Steele
JM Tingey
MW Urie

FINAL REPORT FOR TANK 241-BX-112, PUSH MODE CORES 118 AND 119

Revision 1

May 31, 1996

Prepared by: MW Urie

Pacific Northwest National Laboratory

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CONTRIBUTORS LIST

PROJECT MANAGEMENT OFFICE

KL Silvers, Project Manager
TL Almeida, Quality Engineer
BM Thornton, Project Administrator
EA Nelson, Project Assistant
TL Burruss, Senior Clerk
LE Tooker, Administrative Assistant

QUALITY ASSURANCE/CONTROL

KJ Kuhl-Klinger
OP Bredt
RG Swoboda
JD Matheson

HLRF
JM Tingey
SM Heinisch
PR Bredt
DL Alexander
GM Richardson
D Rinehart
SM Tingey

SAL
RT Steele
KJ Smith
FV Hoopes
LP Darnell
IC Henry
JK Rau

INORGANIC ANALYSIS
MW Urie
DL Baldwin
BJ Cook
PK Melethil
MM O'Neill
JJ Wagner
D Ortiz
DR Sanders

RADIOCHEMICAL ANALYSIS
LR Greenwood
SK Fadeff
RT Ratner
TL Trang-Le
KA Poeppel
KK Thomas

FINAL REPORT FOR TANK 241-BX-112, PUSH MODE CORES 118 AND 119

ANALYTICAL SUMMARY

Two push mode core samples, 118 and 119, were taken from tank 241-BX-112 (BX-112). The samples were received at the 325 Building and underwent safety screening analyses consisting of bulk density, differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and determination of total alpha activity. Ion chromatography (IC) and inductively coupled plasma spectrometry (ICP) analyses were performed for monitoring potential hydrostatic head fluid (HHF) contamination. Where notification limits were identified in the Sampling and Analysis Plan (SAP) [1], the analytical results were compared to the limits at a confidence level of 95%. None of the adjusted results exceeded the notification limits stated in the SAP [1]. However, there is evidence of some HHF contamination.

Besides those analyses required to support the safety screening, a full suite of analyses were performed to support the Historical Program. These analyses included ICP and IC for numerous analytes of interest (i.e., full range reporting per SAP [1]), total organic carbon (TOC), total beta activity, strontium-90, gamma energy analysis, and total uranium by laser fluorimetry.

SCOPE

This document serves as the final report deliverable for the tank BX-112 push mode core samples collected on December 21, 22, and 27, 1995 (WHC sample IDs 95-0288A through 95-0290, 95-0292 through 95-0294). The samples were received, extruded, and analyzed at the 325 Building in accordance with the SAP [1]. The 325 Laboratory also received a segment sample which was extruded at the 222-S Laboratory; this segment was also analyzed in accordance with the SAP [1]. Included in this report are the primary safety

screening results obtained from the analyses, as well as the additional analytical results obtained to support the Historical Data Quality Objective.

A sample identification matrix is provided in Table I. This table provides the sample identification, description, and corresponding Pacific Northwest National Laboratory (PNNL) sample numbers.

Table I. Tank BX-112 PNNL ACL Number Assignment

Sample Identification	Sample Description	PNNL ACL-Number
Core 118 Semi-Seg 1AA	Bottom of Segment 1A	96-02605
Core 118 Semi-Seg 1AB	Top of Segment 1A	96-02606
Core 118 Semi-Seg 2A	Bottom of Segment 2	96-02607
	Bottom of Segment 2 (Homogenization Test)	96-02849
Core 118 Semi-Seg 2B	Top of Segment 2	96-02608
Core 118 Seg 3A	Segment 3 (no 1/2 segs)	96-02609
Core 119 Semi-Seg 1A	Bottom of Segment 1	96-02611
Core 119 Semi-Seg 1B	Top of Segment 1	96-02612
Core 119 Semi-Seg 2A	Bottom of Segment 2	96-02613
Core 119 Semi-Seg 2B	Top of Segment 2	96-02614
Core 119 Semi-Seg 3A	Bottom of Segment 3	96-02615
	Segment 3 (Homogenization Test)	96-02851
Core 119 Semi-Seg 3B	Top of Segment 3	96-02616
Field Blank	--	96-02619
Liner Liquid	Composite of Core 118 Liner Liquids	96-02620
Core 118 Segment 1A Drainable Liquid	--	96-02848
Core 118 Segment 3 Drainable Liquid	--	96-02850
Core 118 Subsegment 1A (Extruded by WHC)	Bottom of Segment 1	96-03365
Core 118 Subsegment 1B (Extruded by WHC)	Top of Segment 1	96-03366

SECTION 1

PHYSICAL DATA

1.0 PHYSICAL MEASUREMENTS

1.1 SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

1.1.1 Core 118 Segment 1A, Sample 95-0288A

Push mode sample 95-288A was collected from riser 2 of tank BX-112 on December 21, 1995 and extruded on January 18, 1996. The first 4 inches contained no solids. Inches 4 to 6 were a light brown sludge that would not hold its shape in the pan. Inches 8 to 12 were a medium brown sludge that would not hold its shape in the pan. No crust was observed. Subsampling revealed a light brown material on the interior with dark brown smearing on the surface. A total of 329.1 g of solid material was collected, with 69.9 g collected from the first 8 inches and 224.2 g collected from the upper inches 8 to 19. A total of 28 mL of drainable liquid was collected. The estimated recovery was 93%, with 9% liquid based on volume and 84% solid based on mass (using a measured density of 1.26 g/mL for the lower subsegment). The segment material was divided into half-segments, and the half-segments were homogenized and subsampled for further laboratory analyses and archiving.

1.1.2 Core 118 Segment 2, Sample 95-0289

Push mode sample 95-289 was collected from riser 2 of tank BX-112 on December 21, 1995 and extruded on January 19, 1996. A total of 19 inches of material was extruded from the sampler. The material was dark gray/brown in color and lost shape in the pan. The first 9.5 inches contained a thick "liquid" that would not drain. The lower 9.5 inches contained less of this "liquid". A total of 380.6 g of solid material was collected, with 104.5 g collected from the first 9.5 inches and 211.8 g collected from 9.5 to 19 inches. No drainable liquid was present. The estimated recovery was 94% based on the mass (using a measured density of 1.31 g/mL for the lower subsegment). The segment material was

divided into half-segments, and the half-segments were homogenized and subsampled for further laboratory analyses and archiving.

1.1.3 Core 118 Segment 3, Sample 95-0290

Push mode sample 95-290 was collected from riser 2 of tank BX-112 on December 22, 1995 and extruded on January 19, 1996. The material poured from the sampler during extrusion. The material was a medium brown color. Two brown clay-like chunks were observed at approximately 6 inches. A total of 242.2 g of solid material was collected in the extrusion pan. A total of 45.3 mL of drainable liquid was collected. The estimated recovery was 75%, with 15% liquid based on volume and 60% solid based on mass (using a measured density of 1.31 g/mL). Due to the relatively low recovery, the sample was not divided into half-segments (per JM Conner, WHC). The sample was homogenized and subsampled for further laboratory analyses and archiving.

1.1.4 Core 119 Segment 1, Sample 95-0292

Push mode sample 95-292 was collected from riser 3 of tank BX-112 on December 27, 1995 and extruded on January 20, 1996. A total of 19 inches of material was extruded from the sampler. The first 12 inches were a light brown sludge that held its shape in the pan. Inches 12 to 19 were a medium brown sludge that held its shape in the pan. No crust was observed. A total of 387.4 g of solid material was collected, with 164.9 g collected from the first 9.5 inches and 197.4 g collected from 9.5 to 19 inches. No drainable liquid was present. The estimated recovery was 93% based on mass (using a measured density of 1.34 g/mL for the lower subsegment). The segment material was divided into half-segments, and the half-segments were homogenized and subsampled for further laboratory analyses and archiving.

1.1.5 Core 119 Segment 2, Sample 95-0293

Push mode sample 95-293 was collected from riser 3 of tank BX-112 on December 27, 1995 and extruded on January 22, 1996. A total of approximately 17 inches of material was extruded from the sampler. The material was a light brown sludge with a smooth texture that held its shape in the pan. A total of 393.7 g of solid material was collected, with 131.2 g collected from the first 9.5 inches and 232.5 g collected from 9.5 to 19 inches. No drainable liquid was present. The estimated recovery was 99% solids, based on mass (using a measured density of 1.29 g/mL for the lower subsegment). The segment material was divided into half-segments, and the half-segments were homogenized and subsampled for further laboratory analyses and archiving.

1.1.6 Core 119 Segment 3, Sample 95-0294

Push mode sample 95-294 was collected from riser 3 of tank BX-112 on December 27, 1995 and extruded on January 22, 1996. A total of approximately 17 inches of material was extruded from the sampler. The first extrusion stroke contained approximately 2 inches of solids. The material was a light brown sludge with a smooth texture that held its shape in the pan. A total of 327.6 g of solid material was collected, with 122.4 g collected from the first 9.5 inches and 164.9 g collected from 9.5 to 19 inches. No drainable liquid was present. The estimated recovery was 83% solids based on mass (using a measured density of 1.28 g/mL for the lower subsegment). The segment material was divided into half-segments, and the half-segments were homogenized and subsampled for further laboratory analyses and archiving.

1.1.7 Core 119 Field Blank

In accordance with the SAP [1], a field blank was provided along with Core 119. The field blank was generated December 27, 1995, and extruded on January 20, 1996. A total of 313.1 g of liquid was collected. The field blank was a clear, colorless liquid. Subsamples were taken for analyes and archiving.

1.1.8 Core 118 Segment 1A and 1B

The material was extruded by Westinghouse Hanford Company. No data on extrusion was provided.

1.2 DENSITY MEASUREMENTS

The density of the lower half-segment solids (plus whole-segment 3A and upper half-segment 1B of Core 118), core composites, drainable liquids, and field blank were measured in duplicate. The density was measured according to technical procedure PNL-ALO-501, Rev. 0. The volume of the drainable liquids and field blank were measured in a graduated cylinder. The volume of the solids subsamples were measured in graduated centrifuge cones after the samples were centrifuged for 30 minutes at 1500x g forces. All sample masses were measured with a calibrated electronic balance. The densities of these samples were calculated by dividing the mass of the sample by its volume.

The density data for the samples and duplicates is reported in Table 1.1. The average density of each sample and duplicate and the relative percent differences (RPDs) are also reported. All of the measurements meet the required precision (20% as measured by RPD).

The density of the field blank is consistent with the density of water. The drainable liquid densities are significantly higher than water indicating that the drainable liquids contain a significant quantity of dissolved salts. This is consistent with the wt% water data presented in the thermal analysis section. The density of the solid subsamples (half-segments and core composites) range from 1.24 to 1.34 g/mL. These densities are consistent with the fluid nature of these samples.

Table 1.1. Density Results from Tank BX-112

Sample #	Core	Segment	Density (g/mL)	Average	RPD (%)
96-03366	118	1B (Upper Half) 1B Dup	1.34 1.34	1.34	0.1
96-03365	118	1A (Lower Half) 1A Dup	1.31 1.27	1.29	3.0
96-02605	118	1AA (Lower Half) 1AA Dup	1.24 1.28	1.26	3.5
96-02607	118	2A (Lower Half) 2A Dup	1.31 1.30	1.31	0.7
96-02609	118	3A (Whole Seg) 3A Dup	1.27 1.34	1.31	5.2
96-2617	118	Core Composite Core Composite Dup	1.32 1.31	1.31	0.4
96-02611	119	1A (Lower Half) 1A Dup	1.34 1.34	1.34	0.4
96-02613	119	2A (Lower Half) 2A Dup	1.25 1.33	1.29	5.8
96-02615	119	3A (Lower Half) 3A Dup	1.28 1.28	1.28	0.2
96-02618	119	Core Composite Core Composite Dup	1.31 1.32	1.31	0.7
96-02848	118	1 Drainable Liq 1 Drainable Liq Dup	1.16 1.16	1.16	0.3
96-02850	119	3 Drainable Liq 3 Drainable Liq Dup	1.19 1.22	1.20	2.8
96-02619		Field Blank Field Blank Dup	0.97 1.03	1.00	6.4

1.3 THERMOGRAVIMETRIC ANALYSIS (TGA)

TGA measurements were made on homogenized subsamples from Core 118 Segments 1 (and 1A), 2, and 3 and Core 119 Segments 1, 2, and 3. Composite samples from Core 118 and Core 119 were also analyzed. Samples were analyzed using a SEIKO 5200 instrument. Balance calibration of the instrument was checked against a known 20 mg standard laboratory weight. The instrument temperature was calibrated using indium and lead standards; instrument temperature was checked using the indium standard. Temperature readings for the instrument were within 2 °C of the reported literature value. Balance calibration of the TGA was within 0.01 mg of its expected value. The temperature program for the TGA was from ambient (~20 °C) to 550 °C, using a scan rate of 10 °C per minute to permit good thermal conductivity in the sample. Analyses were conducted using platinum sample pans under nitrogen cover gas. In this report the initial endothermic transition and its associated mass loss are used to calculate the percent water in the sample. This accounts for the free water associated with the sample, and loosely bound waters of hydration, but may not include more tightly bound wastes of hydration. Data for percent water are provided in Table 1.2 and the TGA scans are included in Appendix B. All of the TGA results fell well within the established 20% RPD precision limit.

1.4 DIFFERENTIAL SCANNING CALORIMETRY (DSC)

Energetics of Core 118 and Core 119 samples were determined by DSC. DSC analyses were conducted using a SEIKO 5200 instrument. Temperature and enthalpy calibrations of the DSC instrument were made using indium and lead standards. Calibration was checked periodically using an indium standard. A melting temperature of 155.5 °C was measured for the indium standard. This melting temperature was within 2 °C of reported literature value (156.6 °C).

The temperature program for the DSC analysis was from ambient (~20 °C) to 550°C, using a scan rate of 10 °C per minute to permit good thermal conductivity in the sample. Analyses were conducted using platinum sample pans under nitrogen cover gas.

Table 1.2. TGA Results for Homogenized Samples from Tank BX-112

DESCRIPTION	SAMPLE #	TRANSITION 1		
		Delta Wt% H2O	Avg Wt% H2O	RPD
C118,S1AA,LH	96-02605	67.5	67.2	1
Duplicate	96-02605D	66.9		
C118,S1AB,UH	96-02606	66.1	65.85	1
Duplicate	96-02606D	65.6		
C118,S2A,LH	96-02607	63.3	62	4
Duplicate	96-02607D	60.7		
C118,S2B,UH	96-02608	67.1	67.45	1
Duplicate	96-02608D	67.8		
C118,S3A	96-02609	63.9	65.2	4
Duplicate	96-02609D	66.5		
C119,S1A,LH	96-02611	66.1	64.9	4
Duplicate	96-02611D	63.7		
C119,S1B,UH	96-02612	63.7	61.2	8
Duplicate	96-02612D	58.7		
C119,S2A,LH	96-02613	65.7	65.05	2
Duplicate	96-02613D	64.4		
C119,S2B,UH	96-02614	61.5	62.5	3
Duplicate	96-02614D	63.5		
C119,S3A,LH	96-02615	64	64.9	3
Duplicate	96-02615D	65.8		
C119,S3B,UH	96-02616	65.1	65.55	1
Duplicate	96-02616D	66		
C118 Comp	96-02617	61.3	61.55	1
Duplicate	96-02617D	61.8		
C119 Comp	96-02618	66.5	65.55	3
Duplicate	96-02618D	64.6		
Field Blank	96-02619	97.6	98.2	1
Duplicate	96-02619D	98.8		
C118,S1A,DL	96-02848	63.3	64.35	3
Duplicate	96-02848D	65.4		
C118,S3,DL	96-02850	70.4	70.75	1
Duplicate	96-02850D	71.1		
C118,S1A,LH	96-03365	53.7	54.15	2
Duplicate	96-03365D	54.6		
C118,S1B,UH	96-03366	57	56.55	2
Duplicate	96-03366D	56.1		

Enthalpy data are tabulated in Table 1.3 and the DSC scans are included in Appendix B. The data in this table is at the 95% confidence limit; thus representing the maximum potential values for samples exhibiting exothermic behavior (e.g., upper confidence limit), and minimum values for samples exhibiting endothermic behavior (lower confidence limit). Sample behavior is broken into first transition (typically assumed to be water loss) and second transition results. Note that exotherms are recorded as negative values. Thus, in the context of Table 1.3, the confidence limit would have to exceed -480 J/g to impact the notification limit.

Only one sample, 96-02848 (Core 118 Segment 3 drainable liquid) exhibited exothermic activity, based on initial enthalpy determinations. Mean enthalpy for this sample and its duplicate was -136 J/g (dry weight basis) at the upper 95% confidence level. An additional sample, 96-02612 (Core 119, subsegment 1B) showed an enthalpy of -19 J/g at the lower 95% confidence limit. Both samples were well below the -480 J/g notification limit. As a consequence, no safety screening limit notifications are required for either sample.

In Table 1.3, three samples [96-02605 (Core 118 subsegment 1AB), 96-02612 (Core 119 subsegment 1B), and 96-02617 (Core 118 composite)] exhibited RPD values in excess of the 20% precision limit for the initial water transition; RPD values for the first transition for these samples were 24%, 27%, and 36%, respectively. Three samples [96-02605 (Core 118 subsegment 1AB), 96-02612 (Core 119 subsegment 1B), and 96-02616 (Core 119 subsegment 3B)] exceeded the 20% RPD precision criterion for second transition enthalpies. Such results are expected for transitions which exhibit low overall enthalpies. In these samples, small enthalpy differences contribute to the larger calculated RPD values.

Table 1.3. DSC Results for Homogenized Samples from Tank BX-112

DESCRIPTION	SAMPLE #	TRANSITION 1				TRANSITION 2			
		DeltaH1 J/g	AvgH1 J/g	95% C.L.	RPD (%)	DeltaH2 J/g	AvgH2 J/g	95% C.L.	RPD (%)
C118,S1AA,LH	96-02605	898.1	1019.7	252	24	16.9	14.35	-2	36
Duplicate	96-02605D	1141.3				11.8			
C118,S1AB,UH	96-02606	1038.7	1006.6	804	6	17.2	15.65	6	20
Duplicate	96-02606D	974.5				14.1			
C118,S2A,LH	96-02607	855.4	839.85	742	4	13.1	11.95	5	19
Duplicate	96-02607D	824.3				10.8			
C118,S2B,UH	96-02608	1042.6	1058.3	959	3	18.5	17.35	10	13
Duplicate	96-02608D	1074				16.2			
C118,S3A	96-02609	949.5	1010.7	624	12	15.8	15.15	11	9
Duplicate	96-02609D	1071.9				14.5			
C119,S1A,LH	96-02611	1065.2	1023.1	757	8	11.3	10.3	4	19
Duplicate	96-02611D	981				9.3			
C119,S1B,UH	96-02612	1092.6	963.9	151	27	23.2	31.1	-19	51
Duplicate	96-02612D	835.2				39			
C119,S2A,LH	96-02613	1059.8	1109.1	798	9	9.7	9.65	9	1
Duplicate	96-02613D	1158.4				9.6			
C119,S2B,UH	96-02614	919.6	966.15	672	10	20	18.6	10	15
Duplicate	96-02614D	1012.7				17.2			
C119,S3A,LH	96-02615	1079.9	1051.05	869	5	6.7	6.15	3	18
Duplicate	96-02615D	1022.2				5.6			
C119,S3B,UH	96-02616	1154	1098.05	745	10	12.5	11.3	4	21
Duplicate	96-02616D	1042.1				10.1			
C118 Comp	96-02617	707.1	860.45	-108	36	15.1	14.75	13	5
Duplicate	96-02617D	1013.8				14.4			
C119 Comp	96-02618	1050.1	1025.95	873	5	14	14.2	13	3
Duplicate	96-02618D	1001.8				14.4			
Field Blank	96-02619	1542.7	1548.25	1513	1	n/a	n/a	n/a	n/a
Duplicate	96-02619D	1553.8				n/a			
C118,S1A,DL	96-02848	946.9	987.35	732	8	-127.6	-128.8	-136	-2
Duplicate	96-02848D	1027.8				-129.9			
C118,S3,DL	96-02850	1064.6	1075.3	1008	2	31.7	34.7	16	17
Duplicate	96-02850D	1086				37.7			
C118,S1A,LH	96-03365	899.8	900.5	896	0	10.7	10.55	10	3
Duplicate	96-03365D	901.2				10.4			
C118,S1B,UH	96-03366	932.9	939.85	896	1	6.6	6.6	7	0
Duplicate	96-03366D	946.8				6.6			

Notes:

(1) Exothermic values are preceeded by a "-".
(2) Adjustment factor divisor for exothermic dry weight-basis correction = 0.3566 [100-64.35%]/[100]; Sample 96-02848 data represent corrected exothermic values.

1.5 ANALYTICAL SAMPLE PREPARATION

Analytical samples were prepared from Core 118 and 119 material from tank BX-112. Segment, half-segment, drainable liquid, field blank and liner liquid samples comprised the entire work scope of tank BX-112. All samples, except for Core 118 Segment 1 (subsegments 1A and 1B), were transferred to the Shielded Analytical Laboratory (SAL). Core 118 Segment 1 samples were extruded at Westinghouse Hanford Company's 222-S Laboratory in the 200 West Area, homogenized and shipped to the SAL.

Table 1.4 lists the procedures that were used to prepare tank BX-112 samples for the requested suite of analyses. Also included in the listing is the carbon procedure for total organic carbon (TOC), since the TOC analysis was performed in the SAL.

Table 1.4. Tank 241-BX-112 Core 118/119 Procedure List

PNL Procedure Number	Procedure Title
PNL-ALO-103, Rev. 1	Water Leach of Sludges, Soils and Other Solid Samples
PNL-ALO-115, Rev. 1	Solubilization of Metals From Solids Using a KOH-KNO_3 Fusion
PNL-ALO-381, Rev. 1	Direct Determination of TC, TOC, and TIC in Radioactive Sludges and Liquids by Hot Persulfate Method

The sludge samples from Cores 118 and 119 were aliquoted from the SAL hot cell facility and taken to the centralized Sample Receiving and Preparation Laboratory (SRPL) for processing. These sludge samples were processed in fume hoods rather than remotely in the SAL hot cells. However, the liquid samples were processed through the SAL hot cells. Sludge aliquots from Core 118 Segment 1 were delivered to the Process Chemistry Group for DSC, TGA, and density analysis.

Segments 2A from Core 118 and 3A from Core 119 were selected for evaluating the effectiveness of the homogenization operation. For these half-segments, material was subsampled from the top and bottom of the homogenized sample. Each subsample was

prepared in duplicate by KOH-KNO_3 fusion and distributed for ICP and gamma energy analysis (GEA) analysis. The bottom sample and duplicate fusions were also analyzed for total alpha activity.

KOH-KNO_3 fusions were completed on all segment and subsegment samples. Core 118 Segment 1 (extruded by WHC) was batch processed with the core composite samples from both cores. All segment and subsegment fusion solutions were distributed for ICP analysis and aliquots from the bottom subsegments (which include those prepared for homogenization testing) were distributed for total alpha activity. In addition to total alpha activity, the core composite fusion solutions were distributed for total beta activity, GEA, Sr-90, and uranium (by laser fluorimetry). Also, material form the core composites was analyzed for TOC in the SAL.

Water leaching of segment, subsegment, and core composite samples was completed, and aliquots of the leachates distributed for Ion Chromatography (IC) analysis. Also, aliquots of leachates from the core composites and selected subsegments were distributed for ICP analysis.

The liquid samples from tank BX-112 were comprised of a field blank, liner liquid from the sampler, and two drainable liquids from Core 118. Aliquots from the field blank and each drainable liquid were acidified with nitric acid for ICP. Acidified aliquots of the drainable liquids were distributed for total alpha activity, whereas the acidified field blank was submitted for total alpha activity, total beta activity, GEA, Sr-90 and uranium. A portion of the liner liquid sample was acidified for ICP analysis and a second unacidified portion was distributed for IC analysis. Since no hydrostatic head fluid (HHF) was provided with these cores, no HHF was processed or analyzed.

During some sample preparations, the SAL made deliberate minor deviations to sample preparatory procedures for one or more of the following reasons:

1) Insufficient sample was available to conduct the analyses per procedure while maintaining the level of quality control requested.
2) Sample weights and/or final volumes were reduced to facilitate waste minimization.
3) Sample weights and/or final volumes were altered to increase the concentration of certain analytes of interest. This was done to meet the procedural concentration ranges needed to perform the analyses.

Sample sizes and final volumes for all sample preparations are documented in the Sample Preparation Sheets included in Appendix A and E. Table 1.5 lists the sample preparatory procedure deviations performed during the processing of tank BX-112.

Table 1.5. Tank BX-112 Core 118/119 Sample Preparation Procedural Deviations

ALO Number	Prep Method	Sample Size Deviation	Sample Volume Deviation	Reagent Deviation	Observed Effect
96-02605	ALO-103/Water	Yes	Yes	No	None
96-02606	ALO-103/Water	Yes	Yes	No	None
96-02607	ALO-103/Water	Yes	Yes	No	None
96-02608	ALO-103/Water	Yes	Yes	No	None
96-02609	ALO-103/Water	Yes	Yes	No	None
96-02611	ALO-103/Water	Yes	Yes	No	None
96-02612	ALO-103/Water	Yes	Yes	No	None
96-02613	ALO-103/Water	Yes	Yes	No	None
96-02614	ALO-103/Water	Yes	Yes	No	None
96-02615	ALO-103/Water	Yes	Yes	No	None
96-02616	ALO-103/Water	Yes	Yes	No	None
96-02617	ALO-103/Water	Yes	Yes	No	None
96-02618	ALO-103/Water	Yes	Yes	No	None
96-03365	ALO-103/Water	Yes	Yes	No	None
96-03366	ALO-103/Water	Yes	Yes	No	None

SECTION 2

INORGANIC CHEMISTRY

2.0 INORGANIC ANALYSIS

2.1 INDUCTIVELY COUPLED PLASMA (ICP) SPECTROMETRY ANALYSIS

2.1.1 ICP Sample Preparation and Analysis

ICP analyses were performed on fusions prepared from homogenized material from Core 118 subsegments 1A, 1B, 1AA, 1AB, 2A, 2B, and 3A; Core 119 subsegments 1A, 1B, 2A, 2B, 3A and 3B; and Core 118 and Core 119 composites. Also, ICP analyses were performed on acidified samples from Core 118 Segments 1 and 3 drainable liquids, field blank, and liner liquid, as well as on water leaches from composites and subsegment 2A and 2B from each core. It should be noted that no HHF sample was provided with tank BX-112. The core material fusions and water leaches were performed in the SRPL and drainable liquid acidifications were performed in the SAL with sample solution aliquots being transferred to the Inorganic Analysis Group for ICP analysis. All ICP metals analyses were performed on a Jarrell-Ash ICP 800A system following procedure PNL-ALO-211, Rev. 0.

2.1.2 ICP Analytical Results

The analytical results for Core 118 subsegment and drainable liquids are presented in Tables 2.1 through 2.6, and Core 119 subsegment results are presented in Tables 2.7 through 2.11. The core composite results for Core 118 and Core 119 are combined in Table 2.12 (fusions) and Table 2.13 (water leach). The field blank and liner liquid (primarily HHF) results are found in Table 2.14. An estimate of the sample detection limit can be obtained from the tables by multiplying the estimated instrument detection limit (IDL) for each analyte by the appropriate sample processing/dilution factor (Dil Fctr). It should be noted that the fusion or acidification processing blanks have <u>not</u> been subtracted from any of the reported sample results. Based on the fusion reagents and crucible material used for the fusion, nickel and potassium results can not be reported on any sludge sample; to obtain these analytes an alternate dissolution procedure is required (e.g., Na_2O_2 fusion or acid digestion). All tables

include full range reporting (i.e., all analytes for which instrument calibration has been established); with specific emphasis placed on Na, Bi, Al, and Li as per the SAP [1].

2.1.3 ICP Quality Control, Precision, and Accuracy

Duplicate sample results, along with the associated batch processing blanks, are reported for acidified liquids (i.e., drainable liquids, field blank, and liner liquid) and for all composite and subsegments prepared by KOH-KNO_3 fusion and water leach. Also, post matrix spike recovery results are included with each batch of the KOH-KNO_3 fusion, water leach, and acidified drainable liquid samples

To evaluate the precision of the analytical laboratory sampling, preparation, and analysis, the relative percent different (RPD) between duplicates is used. The RPD is shown for all samples analyzed in duplicate, and the RPD is flagged with a "*" whenever the RPD has exceeded the 20% criteria required by the SAP [1] <u>and</u> the sample and duplicate results exceed 10 times the instrument detection limit (IDL). As can be seen in the tables, the RPDs are very good; typically less than 10%. The only RPD failures are Bi on Core 118 Segment 3 drainable liquid and Al on both core composites and Core 119 subsegment 2A water leached samples. The inconsistency seen in the RPD for Al is attributed to the very low concentrations present in the water leaches; the reason for the Bi failure is unknown.

The accuracy of the ICP results for the analytes of interest is estimated by the post spike recovery. The SAP criteria of 80-120% post spike recovery was met for all reported fusion post spikes. Unexpectedly poor spike recoveries were exhibited on the drainable liquid. This has been attributed to spiking a highly concentrated, complex analytical sample (i.e., excessive dissolved solids bias the analysis results). Mo, Rh, Te, U and W failed to meet the 80%-120% recovery on the fusion samples. Cr, Li, Na and P spikes on the drainable liquids and Na and P spikes in the water leaches were not measurable due to the high concentration of these analytes in the samples; however, on serial dilution analyses, these analytes demonstrate good linearity (i.e., percent difference $<10\%$). Per the

governing QA Plan identified by the SAP [1], spikes are not required if the sample concentration exceeds 0.1%. The analytes that failed the spiking criteria were either not detected in the drainable liquid or at very low concentrations, making it possible that the acidification of this matrix is insufficient to maintain these analytes in solutions (particularly uranium). It should be noted that since Matrix Spikes were not added prior to the fusion or water leach processing, no Blank Spikes were processed or analyzed.

The processing blank provides information on contamination potentially introduced during the fusion, water leaching, or acidification processing. No contamination from the $KOH-KNO_3$ fusion reagents was above 10 times the IDL (i.e., above EQL) for any analyte. However, low concentrations of Al, Ca, Mn, and Na were measured in the fusion blanks; Si was also detected in one blank. In the case of Ca and Mn, the concentration measured in the sample is attributed primarily to low-level contamination from the fusion reagents and processing. Low-level contamination noted for Al and Na from the fusion processing does not significantly affect the reported sample concentrations for these analytes. No significant contamination levels were detected in the water leach or acidification blank.

The majority of analytes reported are supported by the required verification QC (e.g., verification standards and blanks analyzed every ten samples). However, some reported analytes (specifically, Ce, Dy, Eu, La, Nd, Rh, Ru, Te, U, W and Y) have only beginning and closing QC verification, and are presented for information only. In general the analytical results for these analytes are expected to be at the same precision and accuracy levels stated in the tables. A low level standard at two times the EQL, which covered the full range of analytes reported, was not analyzed with the fusion or water leach samples. Per the SAP [1], the primary analytes of interest are Na, Al, Bi (and Li for the HHF). For the water leachates, where the Al and Bi solubility is expected to be low, standard SRM-1643d was analyzed as the low level standard for the primary analytes. Except for one Bi result, which recovered at about 60%, all primary analyte results from the SRM demonstrated recoveries within the recommended 75%. The SRM 1643d result are included in Appendix E3.

Boron and Silicon periodically exhibited high analytical blank levels. High analytical blank levels were typically observed following analysis of standards containing high concentration of B and/or Si. The bias appears to be from carryover and memory effects in the spray chamber of the ICP. Since the B and Si concentrations were typically low in tank BX-112 samples, the carryover/memory effect may bias some B and/or Si results high. However, at the concentrations measured (typically $<0.2\%$), the slight high bias should not warrant concern.

Standard reference material SRM 2709 was used as a fusion laboratory control standard. The sodium recovery on this standard failed periodically. This failure is attributed to the Na in the fusion reagents, since the blank fusion results are not subtracted from the reported results. Once the blank is subtracted, all Na recoveries are within acceptable limits. The verification standard, control standards, and other QC sample data are included in Appendice C2 and E3.

2.1.4 Homogenization Test ICP Analyses

Besides the analyses required by the SAP, homogenization tests of Core 118 subsegment 2A (samples 118.2A & 118.2AH) and Core 119 subsegment 3A (samples 119.3A & 119.3AH) were performed. To test the effectiveness of the homogenization technique, a sample and duplicate were analyzed from the top and bottom of each homogenized half-segment material. Table 2.15 presents the top portion results with the corresponding bottom portion results being presented in Table 2.2 for 118.2A and Table 2.9 for 119.3A. Based on the ICP results, the homogenization processing appears to be very good for all major analytes in both cores. The ICP and GEA homogenization test results are summarized in Section 3.4, Table 3.8.

Table 2.1. ICP Results from Core 118 Fusion, Seg 1A & 1B, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m030896b
Analyzed: 03/08/96

BX-112 Core 118
Samples batched with 118.comp.F and 119.comp.F

	1/2 Segment 1A		1/2 Segment 1B	
Sam Log#:	96-03365	96-03365	96-03366	96-03366
Split#:	118.1A.F	118.1A.F	118.1B.F	118.1B.F
ICP Dil:	1.00	1.00	1.00	1.00
Dil Fctr:	2355.2	2174.9	1986.5	1973.2

Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND		ND	ND	
0.060	Al	15,313	14,646	4	14,584	15,788	8
0.080	As	ND	ND		ND	ND	
0.050	B	ND	ND		ND	ND	
0.010	Ba	ND	ND		ND	(26)	
0.005	Be	ND	ND		ND	ND	
0.100	Bi	17,448	16,877	3	17,575	18,858	7
0.250	Ca	(1,233)	(1,030)		(1,001)	(1,063)	
0.015	Cd	ND	ND		ND	ND	
0.100	Ce	ND	ND		ND	ND	
0.050	Co	ND	ND		ND	ND	
0.020	Cr	1,373	1,325	4	923	895	3
0.050	Cu	ND	ND		ND	ND	
0.050	Dy	ND	ND		ND	ND	
0.100	Eu	ND	ND		ND	ND	
0.050	Fe	8,628	8,406	3	11,543	11,838	3
2.000	K	n/a	n/a		n/a	n/a	
0.050	La	ND	ND		ND	ND	
0.030	Li	ND	ND		ND	ND	
0.100	Mg	(318)	(298)		(286)	(253)	
0.050	Mn	(206)	(187)		(185)	(207)	
0.030	Mo	ND	ND		ND	ND	
0.250	Na	83,721	81,175	3	77,653	77,892	0
0.100	Nd	ND	ND		ND	ND	
0.030	Ni	n/a	n/a		n/a	n/a	
0.250	P	21,948	21,208	3	16,096	17,115	6
0.100	Pb	ND	ND		ND	ND	
0.300	Rh	ND	ND		ND	ND	
0.100	Ru	ND	ND		ND	ND	
0.100	Se	ND	ND		ND	ND	
0.500	Si	(7,845)	(7,499)		(8,896)	(7,895)	
0.015	Sr	(129)	(123)		(110)	(251)	
0.500	Te	ND	ND		ND	ND	
0.025	Ti	ND	ND		ND	ND	
0.500	Tl	ND	ND		ND	ND	
2.000	U	ND	ND		ND	ND	
0.015	V	ND	ND		ND	ND	
0.500	W	ND	ND		ND	ND	
0.010	Y	ND	ND		ND	ND	
0.020	Zn	ND	ND		ND	ND	
0.025	Zr	ND	ND		(60)	(69)	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0085

Table 2.2. ICP Results from Core 118 Fusion, Seg 1AA & 2A, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m020796a
Analyzed: 02/07/96

BX-112 Core 118

		1/2 Segment 1AA			1/2 Segment 2A					
	Sam Log#:	96-02605	96-02605		96-02607	96-02607		96-02605		
	Split#:	118.1AA.F	118.1AA.F		118.2A.F	118.2A.F		Blank		
	ICP Dil:	1.00	1.00		1.00	1.00		1.00		
	Dil Fctr:	3962.0	2927.4		2962.1	3184.7		3211.3	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	96.9%	
0.060	Al	11,261	11,379	1	12,745	12,628	1	(273)	101.5%	
0.080	As	ND	ND		ND	ND		ND	106.5%	
0.050	B	ND	ND		ND	ND		ND	106.5%	
0.010	Ba	ND	ND		ND	ND		ND	100.8%	
0.005	Be	ND	ND		ND	ND		ND	100.6%	
0.100	Bi	14,085	13,993	1	16,220	15,386	5	ND	98.7%	
0.250	Ca	(2,026)	(2,934)		(1,378)	(6,763)		(1,194)	104.3%	
0.015	Cd	ND	ND		ND	ND		ND	104.3%	
0.100	Ce	ND	ND		ND	ND		ND		101.9%
0.050	Co	ND	ND		ND	ND		ND	107.5%	
0.020	Cr	1,216	1,186	2	1,361	1,326	3	ND	105.1%	
0.050	Cu	ND	ND		ND	ND		ND	102.3%	
0.050	Dy	ND	ND		ND	ND		ND		96.1%
0.100	Eu	ND	ND		ND	ND		ND		96.2%
0.050	Fe	7,411	7,044	5	7,351	7,538	3	ND	105.5%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		99.3%
0.030	Li	(202)	(188)		ND	ND		ND	97.6%	
0.100	Mg	ND	ND		ND	ND		ND	106.7%	
0.050	Mn	(331)	(294)		(259)	(379)		(209)	105.9%	
0.030	Mo	ND	ND		ND	ND		ND	107.7%	
0.250	Na	79,354	78,946	1	86,635	85,146	2	(3,689)	101.7%	
0.100	Nd	ND	ND		ND	ND		ND		100.0%
0.100	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	17,884	17,869	0	21,799	21,473	2	ND	103.5%	
0.100	Pb	ND	ND		ND	ND		ND	111.1%	
0.300	Rh	ND	ND		ND	ND		ND		104.9%
0.100	Ru	ND	ND		ND	ND		ND		101.2%
0.100	Se	ND	ND		ND	ND		ND	108.3%	
0.500	Si	(5,217)	(5,443)		(5,613)	(5,615)		ND	97.4%	
0.015	Sr	(110)	(111)		(110)	(120)		ND	101.7%	
0.500	Te	ND	ND		ND	ND		ND		105.5%
0.025	Ti	ND	ND		ND	ND		ND	102.9%	
0.500	Tl	ND	ND		ND	ND		ND	101.7%	
2.000	U	ND	ND		ND	ND		ND		100.2%
0.015	V	ND	ND		ND	ND		ND	99.8%	
0.500	W	ND	ND		ND	ND		ND		102.0%
0.010	Y	ND	ND		ND	ND		ND		96.0%
0.020	Zn	ND	ND		ND	ND		ND	106.9%	
0.025	Zr	ND	ND		ND	ND		ND	102.6%	

Note:
1) Method Detecion Limit (MDL) = 10x IDL; "( )" results <MDL but =>IDL.
2) Above 5 times MDL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the MDL, precision is estimated at +/-10% and accuracy at +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >MDL.
8) Spike recovery "n/a" = spike concentration <25% of sample concentration.
Data, including calibration/QC, archived File ICP-325-405-1/96A0068

Table 2.3. ICP Results from Core 118 Fusion, Seg 1AB & 2B, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m022096a
Analyzed: 02/20/96

BX-112 Core 118

	1/2 Segment 1AB			1/2 Segment 2B					
Sam Log#:	96-02606	96-02606		96-02608	96-02608		96-02606		
Split#:	118.1AB.F	118.1AB.F		118.2B.F	118.2B.F		Blank		
ICP Dil:	1.00	1.00		1.00	1.00		1.00		
Dil Fctr:	3571.4	2744.2		3028.5	2721.8		2980.6	Post Spike Recoveries	
Est. IDL ug/mL Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015 Ag	ND	ND		ND	ND		ND	102.7%	
0.060 Al	16,087	15,952	1	10,814	10,955	1	(813)	103.7%	
0.100 As	ND	ND		ND	ND		ND	113.8%	
0.050 B	ND	(544)		ND	ND		ND	104.2%	
0.010 Ba	ND	ND		ND	ND		ND	103.7%	
0.005 Be	ND	ND		ND	ND		ND	102.1%	
0.100 Bi	14,509	14,368	1	15,599	15,461	1	ND	100.7%	
0.250 Ca	(1,852)	(1,534)		(1,639)	(1,467)		(1,365)	103.4%	
0.030 Cd	ND	ND		ND	ND		ND	103.9%	
0.125 Ce	ND	ND		ND	ND		ND		102.0%
0.050 Co	ND	ND		ND	ND		ND	107.3%	
0.020 Cr	868	870	0	1,287	1,268	2	ND	106.3%	
0.050 Cu	ND	ND		ND	ND		ND	100.2%	
0.050 Dy	ND	ND		ND	ND		ND		98.7%
0.100 Eu	ND	ND		ND	ND		ND		98.1%
0.050 Fe	9,315	9,233	1	7,508	7,459	1	(155)	106.0%	
2.000 K	n/a	n/a		n/a	n/a		n/a		
0.050 La	ND	ND		ND	ND		ND		98.7%
0.030 Li	(292)	(284)		ND	ND		ND	100.2%	
0.100 Mg	(446)	(370)		(416)	(404)		(341)	106.3%	
0.050 Mn	(404)	(306)		(246)	(231)		(230)	106.4%	
0.030 Mo	ND	ND		ND	ND		ND	108.7%	
0.250 Na	83,988	82,081	2	80,930	80,424	1	(3,401)	106.3%	
0.100 Nd	ND	ND		ND	ND		ND		100.6%
0.030 Ni	n/a	n/a		n/a	n/a		n/a		
0.250 P	21,274	20,108	6	17,506	17,498	0	ND	107.8%	
0.125 Pb	ND	ND		ND	ND		ND	110.1%	
0.300 Rh	ND	ND		ND	ND		ND		104.5%
0.100 Ru	ND	ND		ND	ND		ND		108.0%
0.125 Se	ND	ND		ND	ND		ND	112.7%	
0.500 Si	(8,115)	23,355		(7,944)	(7,591)		(2,329)	98.8%	
0.015 Sr	(122)	(114)		(124)	(122)		ND	104.5%	
0.500 Te	ND	ND		ND	ND		ND		108.6%
0.025 Ti	ND	ND		ND	ND		ND	104.5%	
0.500 Tl	ND	ND		ND	ND		ND	106.7%	
2.000 U	ND	ND		ND	ND		ND		100.2%
0.015 V	ND	ND		ND	ND		ND	104.4%	
0.500 W	ND	ND		ND	ND		ND		102.9%
0.010 Y	ND	ND		ND	ND		ND		94.1%
0.020 Zn	ND	ND		ND	ND		ND	106.7%	
0.025 Zr	ND	ND		ND	ND		ND	104.1%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
8) Spike recovery "n/a" = spike concentration <25% of sample concentration.
Data, including calibration/QC, archived File ICP-325-405-1/96A0075

Table 2.4. ICP Results from Core 118 Fusion, Seg 3A, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m020796b
Analyzed: 02/07/96

BX-112 Core 118
118.3A.F Batched with 118.1AA.F and 118.2A.F

1/2 Segment 3A

Sam Log#:	96-02609	96-02609
Split#:	118.3A.F	118.3A.F
ICP Dil:	1.00	1.00
Dil Fctr:	4424.8	3101.7

Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND	
0.060	Al	12,540	12,479	0
0.080	As	ND	ND	
0.050	B	ND	ND	
0.010	Ba	ND	ND	
0.005	Be	ND	ND	
0.100	Bi	21,488	21,213	1
0.250	Ca	(1,345)	(1,745)	
0.015	Cd	ND	ND	
0.100	Ce	ND	ND	
0.050	Co	ND	ND	
0.020	Cr	1,762	1,750	1
0.050	Cu	ND	ND	
0.050	Dy	ND	ND	
0.100	Eu	ND	ND	
0.050	Fe	10,078	10,393	3
2.000	K	n/a	n/a	
0.050	La	ND	ND	
0.030	Li	ND	ND	
0.100	Mg	ND	ND	
0.050	Mn	(439)	(354)	
0.030	Mo	ND	ND	
0.250	Na	91,543	88,718	3
0.100	Nd	ND	ND	
0.100	Ni	n/a	n/a	
0.250	P	20,469	20,446	0
0.100	Pb	ND	ND	
0.300	Rh	ND	ND	
0.100	Ru	ND	ND	
0.100	Se	ND	ND	
0.500	Si	(6,814)	(6,904)	
0.015	Sr	(150)	(149)	
0.500	Te	ND	ND	
0.025	Ti	ND	ND	
0.500	Tl	ND	ND	
2.000	U	ND	ND	
0.015	V	ND	ND	
0.500	W	ND	ND	
0.010	Y	ND	ND	
0.020	Zn	(139)	(136)	
0.025	Zr	ND	ND	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0068

Table 2.5. ICP Results from Core 118, Drainable Liquid Seg 1A & 3, Tank BX-112

Project: TWRS
Procedure: PNL-AL0-211

File: m020896a
Analyzed: 02/08/96
03/14/96

BX-112 Core 118

		118 Seg 1A			118 Seg 3					
Sam Log#:		96-02848	96-02848		96-02850	96-02850		96-02848		
Split#:		118.1ADL.D	118.1ADL.D		118.3DL.D	118.3DL.D		Blank		
ICP Dil:		5.00	5.00		10.00	10.00		1.00		
Dil Fctr:		26.1	26.1		48.3	48.3		5.0	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/ml	Duplicate ug/ml	RPD	Sample ug/ml	Duplicate ug/ml	RPD	Batch Blk ug/ml	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	92.9%	
0.060	Al	51.8	51.6	0	43.5	44.2	2	ND	92.1%	
0.080	As	ND	(2.1)		ND	ND		ND	112.5%	
0.050	B	(11.8)	(11.6)		(14.2)	(14.5)		(2.4)	92.9%	
0.010	Ba	ND	ND		ND	ND		ND	92.2%	
0.005	Be	ND	ND		ND	ND		ND	96.1%	
0.100	Bi	126.2	125.2	1	255.6	75.8	109 *	ND	91.4%	
0.250	Ca	ND	ND		ND	ND		ND	97.2%	
0.015	Cd	ND	(0.4)		ND	ND		ND	100.7%	
0.100	Ce	ND	ND		ND	ND		ND		101.0%
0.050	Co	ND	ND		ND	ND		ND	97.1%	
0.020	Cr	291.0	286.5	2	420.9	421.5	0	ND	n/a	
0.050	Cu	ND	ND		ND	ND		ND	107.0%	
0.050	Dy	ND	ND		ND	ND		ND		86.4%
0.100	Eu	ND	ND		ND	ND		ND		88.7%
0.050	Fe	24.2	23.9	1	75.2	73.0	3	ND	94.2%	
2.000	K	628.9	641.6	2	(778.3)	(825.2)		ND		
0.050	La	ND	ND		ND	ND		ND		88.7%
0.030	Li	374.8	374.3	0	35.4	36.0	2	ND	n/a	
0.100	Mg	ND	ND		ND	ND		ND	94.9%	
0.050	Mn	ND	ND		ND	ND		ND	105.6%	
0.030	Mo	25.5	25.1	2	40.0	39.6	1	ND	73.3%	
0.250	Na	71,127.1	69,955.9	2	84,104.8	86,287.3	3	(4.2)	n/a	
0.100	Nd	ND	ND		ND	ND		ND		90.8%
0.030	Ni	(2.0)	(1.7)		(2.1)	ND		(0.2)		
0.250	P	5,552.5	5,457.4	2	5,068.6	5,307.8	5	ND	n/a	
0.100	Pb	(4.8)	(4.8)		ND	ND		ND	91.4%	
0.300	Rh	ND	ND		ND	ND		ND		146.4%
0.100	Ru	(3.4)	(3.6)		(6.1)	(6.8)		ND		80.7%
0.100	Se	ND	ND		ND	ND		ND	115.6%	
0.500	Si	(37.2)	(38.5)		(38.3)	(40.4)		ND	93.8%	
0.015	Sr	ND	ND		ND	ND		ND	101.5%	
0.500	Te	ND	ND		ND	ND		ND		120.6%
0.025	Ti	ND	ND		ND	ND		ND	93.4%	
0.500	Tl	ND	ND		ND	ND		ND	95.8%	
2.000	U	(457.3)	(448.2)		(640.8)	(636.7)		ND		37.0%
0.015	V	ND	ND		ND	ND		ND	96.8%	
0.500	W	ND	ND		ND	ND		ND		131.0%
0.010	Y	ND	ND		ND	ND		ND		87.2%
0.020	Zn	(0.9)	(0.7)		(1.3)	(1.3)		ND	97.8%	
0.025	Zr	(2.1)	(1.9)		(7.7)	(6.0)		ND	92.2%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
4) Above 5 times EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
5) "ND" = Not Detected; Estimated Sample Detection Limit (ug/mL) = (IDL in ug/mL) * (Dil Fctr)
6) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
7) Spike recovery "n/a" = spike concentration <25% of sample concentration.

Data, including calibration/QC, archived File ICP-325-405-1/96A0069

Table 2.6. ICP Results from Core 118 Water Leach, Seg 2A & 2B, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m050996a
Analyzed: 05/09/96

BX-112 Core 118 Water Leaches

		118 Segment 2A			118 Segment 2B					
Sam Log#:		96-02607	96-02607		96-02608	96-02608		96-02607		
Split#:		118.2A.W2	118.2A.W2		118.2B.W2	118.2B.W2		Blank		
ICP Dil:		1.00	1.00		1.00	1.00		1.00		
Dil Fctr:		91.6	88.2		94.6	93.6		91.9	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	77.3%	
0.060	Al	730	706	3	604	675	11	ND	93.8%	
0.080	As	ND	ND		ND	ND		ND	105.8%	
0.050	B	(6)	(7)		(6)	(7)		ND	105.0%	
0.010	Ba	ND	ND		ND	ND		ND	98.5%	
0.005	Be	ND	ND		ND	ND		ND	100.2%	
0.100	Bi	(60)	(24)		(29)	(49)		ND	96.2%	
0.250	Ca	(49)	(38)		(95)	(103)		(69)	101.2%	
0.015	Cd	ND	ND		ND	ND		ND	101.4%	
0.100	Ce	ND	ND		ND	ND		ND		99.4%
0.050	Co	ND	ND		ND	ND		ND	98.8%	
0.020	Cr	279	279	0	274	281	3	ND	87.8%	
0.050	Cu	ND	ND		ND	ND		ND	95.2%	
0.050	Dy	ND	ND		ND	ND		ND		96.6%
0.100	Eu	ND	ND		ND	ND		ND		97.7%
0.050	Fe	(18)	(7)		(9)	(15)		ND	99.5%	
2.000	K	(437)	(484)		(482)	(459)		ND	94.8%	
0.050	La	ND	ND		ND	ND		ND		95.8%
0.030	Li	(14)	(14)		37	36	2	ND	98.5%	
0.100	Mg	(25)	(22)		(40)	(41)		(21)	100.5%	
0.050	Mn	ND	ND		ND	ND		ND	104.0%	
0.030	Mo	(27)	27		(26)	(26)		ND	98.3%	
0.250	Na	65,262	65,052	0	65,826	67,068	2	(35)	n/a	
0.100	Nd	ND	ND		ND	ND		ND		93.7%
0.030	Ni	n/a	n/a		n/a	n/a		n/a	100.6%	
0.250	P	5,573	5,435	3	5,391	5,449	1	(24)	n/a	
0.100	Pb	ND	ND		ND	ND		ND	96.7%	
0.300	Pd	ND	ND		ND	ND		ND		103.0%
0.300	Rh	ND	ND		ND	ND		ND		97.8%
0.100	Ru	ND	ND		ND	ND		ND		99.2%
0.100	Sb	ND	ND		ND	ND		ND	101.1%	
0.100	Se	ND	ND		ND	ND		ND	107.6%	
0.500	Si	ND	(48)		ND	ND		ND	102.5%	
1.000	Sn	ND	ND		ND	ND		ND		
0.015	Sr	ND	ND		ND	ND		ND	100.5%	
0.500	Te	ND	ND		ND	ND		ND		100.9%
0.800	Th	ND	ND		ND	ND		ND		96.3%
0.025	Ti	ND	ND		ND	ND		ND	98.2%	
0.500	Tl	ND	ND		ND	ND		ND	100.5%	
2.000	U	ND	(202)		(195)	(216)		ND		104.3%
0.015	V	ND	ND		ND	ND		ND	98.9%	
0.500	W	ND	ND		ND	ND		ND		100.1%
0.010	Y	ND	ND		ND	ND		ND		98.5%
0.020	Zn	ND	ND		ND	ND		ND	100.1%	
0.025	Zr	ND	ND		ND	ND		ND	98.6%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
4) Above 5 times EQL, precision is estimated at better than +/-20% and accuracy +/-15%.
5) "ND" = Not Detected; Estimated Sample Detection Limit (ug/mL) = (IDL in ug/mL) * (Dil Fctr)
6) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
7) Spike recovery "n/a" = Spike concentration <25% of sample concentration.

Data, including calibration/QC, archived File ICP-325-405-1/96A0114

Table 2.7. ICP Results from Core 119 Fusion, Seg 1A & 2A, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m020796c
Analyzed: 02/07/96

BX-112 Core 119

		1/2 Segment 1A			1/2 Segment 2A					
	Sam Log#:	96-02611	96-02611		96-02613	96-02613		96-02611		
	Split#:	119.1A.F	119.1A.F		119.2A.F	119.2A.F		Blank		
	ICP Dil:	1.00	1.00		1.00	1.00		1.00		
	Dil Fctr:	2711.5	2881.8		3238.3	3551.1		3062.3	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	98.4%	
0.060	Al	15,376	14,573	5	11,599	11,627	0	(386)	106.6%	
0.080	As	ND	ND		ND	ND		ND	109.4%	
0.050	B	ND	ND		ND	ND		ND	110.0%	
0.010	Ba	ND	ND		ND	ND		ND	104.9%	
0.005	Be	ND	ND		ND	ND		ND	104.1%	
0.100	Bi	18,907	18,581	2	17,021	16,836	1	ND	102.1%	
0.250	Ca	(2,520)	(2,730)		9,724	(3,338)		(2,975)	107.7%	
0.015	Cd	ND	ND		ND	ND		ND	106.2%	
0.100	Ce	ND	(300)		(333)	ND		ND		102.7%
0.050	Co	ND	ND		ND	ND		ND	111.1%	
0.020	Cr	1,280	1,214	5	1,214	1,197	1	ND	109.8%	
0.050	Cu	ND	ND		ND	ND		ND	104.9%	
0.050	Dy	ND	ND		ND	ND		ND		94.4%
0.100	Eu	ND	ND		ND	ND		ND		94.4%
0.050	Fe	10,584	9,772	8	9,822	9,043	8	ND	109.6%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		96.4%
0.030	Li	ND	ND		ND	ND		ND	100.3%	
0.100	Mg	(293)	(335)		(418)	(381)		ND	109.8%	
0.050	Mn	(359)	(365)		(394)	(344)		(303)	109.9%	
0.030	Mo	ND	ND		ND	ND		ND	111.8%	
0.250	Na	81,835	76,981	6	79,390	78,868	1	(3,715)	108.3%	
0.100	Nd	ND	ND		ND	ND		ND		97.7%
0.100	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	20,043	18,731	7	17,259	17,060	1	ND	109.7%	
0.100	Pb	ND	ND		ND	ND		ND	113.5%	
0.300	Rh	ND	ND		ND	ND		ND		106.5%
0.100	Ru	ND	ND		ND	ND		ND		100.0%
0.100	Se	ND	ND		ND	ND		ND	113.0%	
0.500	Si	(6,988)	(7,076)		(6,785)	(6,381)		ND	100.6%	
0.015	Sr	(141)	(134)		(146)	(131)		ND	106.2%	
0.500	Te	ND	ND		ND	ND		ND		105.0%
0.025	Ti	ND	ND		ND	ND		ND	106.8%	
0.500	Tl	ND	ND		ND	ND		ND	106.9%	
2.000	U	ND	ND		ND	ND		ND		99.4%
0.015	V	ND	ND		ND	ND		ND	102.6%	
0.500	W	ND	ND		ND	ND		ND		101.0%
0.010	Y	ND	ND		ND	ND		ND		96.4%
0.020	Zn	ND	ND		ND	ND		ND	111.7%	
0.025	Zr	ND	ND		ND	ND		ND	107.1%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
8) Spike recovery "n/a" = spike concentration <25% of sample concentration.
Data, including calibration/QC, archived File ICP-325-405-1/96A0068

Table 2.8. ICP Results from Core 119 Fusion, Seg 1B & 2B, Tank BX-112

Project: TWRS
Procedure: PNL-AL0-211

File: m022096b
Analyzed: 02/20/96

BX-112 Core 119

	1/2 Segment 1B			1/2 Segment 2B					
Sam Log#:	96-02612	96-02612		96-02614	96-02614		96-02612		
Split#:	119.1B.F	119.1B.F		119.2B.F	119.2B.F		Blank		
ICP Dil:	1.00	1.00		1.00	1.00		1.00		
Dil Fctr:	2619.2	2612.3		3344.5	2820.1		2820.5	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	101.3%	
0.060	Al	21,424	22,497	5	14,157	14,908	5	(629)	102.2%	
0.100	As	ND	ND		ND	ND		ND	112.0%	
0.050	B	ND	(601)		ND	ND		ND	99.0%	
0.010	Ba	(31)	(27)		ND	ND		ND	99.2%	
0.005	Be	ND	ND		ND	ND		ND	99.3%	
0.100	Bi	19,292	19,538	1	16,760	17,691	5	ND	98.7%	
0.250	Ca	(1,573)	(1,614)		(1,691)	(1,481)		(1,581)	101.3%	
0.030	Cd	ND	(82)		ND	ND		ND	103.0%	
0.125	Ce	ND	ND		ND	ND		ND		102.9%
0.050	Co	ND	ND		ND	ND		ND	105.6%	
0.020	Cr	995	1,010	1	1,149	1,200	4	ND	104.6%	
0.050	Cu	ND	ND		ND	ND		ND	97.5%	
0.050	Dy	ND	ND		ND	ND		ND		98.5%
0.100	Eu	ND	ND		ND	ND		ND		97.8%
0.050	Fe	13,999	15,269	9	8,284	8,988	8	ND	103.6%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		99.3%
0.030	Li	ND	ND		ND	ND		ND	96.7%	
0.100	Mg	(442)	(478)		(540)	(408)		(339)	103.7%	
0.050	Mn	(293)	(265)		(303)	(318)		(170)	104.0%	
0.030	Mo	ND	ND		ND	ND		ND	106.6%	
0.250	Na	79,702	82,194	3	79,442	79,013	1	(3,438)	103.0%	
0.100	Nd	ND	ND		ND	ND		ND		101.2%
0.030	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	20,050	21,257	6	18,675	19,127	2	ND	104.1%	
0.125	Pb	ND	ND		ND	ND		ND	109.9%	
0.300	Rh	ND	ND		ND	ND		ND		105.6%
0.100	Ru	ND	ND		ND	ND		ND		108.9%
0.125	Se	ND	ND		ND	ND		ND	111.6%	
0.500	Si	(8,810)	20,364		(11,212)	(9,047)		ND	97.3%	
0.015	Sr	(122)	(123)		(130)	(133)		ND	101.9%	
0.500	Te	ND	ND		ND	ND		ND		109.9%
0.025	Ti	ND	ND		ND	ND		ND	102.5%	
0.500	Tl	ND	ND		ND	ND		ND	106.8%	
2.000	U	ND	ND		ND	ND		ND		102.0%
0.015	V	ND	ND		ND	ND		ND	102.2%	
0.500	W	ND	ND		ND	ND		ND		101.9%
0.010	Y	ND	ND		ND	ND		ND		93.8%
0.020	Zn	(397)	(69)		ND	ND		ND	103.5%	
0.025	Zr	ND	ND		ND	ND		ND	102.1%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
8) Spike recovery "n/a" = spike concentration <25% of sample concentration.
Data, including calibration/QC, archived File ICP-325-405-1/96A0075

Table 2.9. ICP Results from Core 119 Fusion, Seg 3A, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m020796d
Analyzed: 02/07/96

BX-112 Core 119
119.3A.F Batched with 119.1A.F and 119.2A.F

1/2 Segment 3A

Sam Log#:	96-02615	96-02615
Split#:	119.3A.F	119.3A.F
ICP Dil:	1.00	1.00
Dil Fctr:	3306.9	3111.4

Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND	
0.060	Al	11,150	10,569	5
0.080	As	ND	ND	
0.050	B	ND	ND	
0.010	Ba	ND	ND	
0.005	Be	ND	ND	
0.100	Bi	16,268	15,602	4
0.250	Ca	(4,103)	(5,979)	
0.015	Cd	ND	ND	
0.100	Ce	ND	ND	
0.050	Co	ND	ND	
0.020	Cr	1,320	1,265	4
0.050	Cu	ND	ND	
0.050	Dy	ND	ND	
0.100	Eu	ND	ND	
0.050	Fe	8,384	8,030	4
2.000	K	n/a	n/a	
0.050	La	ND	ND	
0.030	Li	ND	ND	
0.100	Mg	(351)	(343)	
0.050	Mn	(298)	(401)	
0.030	Mo	ND	ND	
0.250	Na	76,994	77,010	0
0.100	Nd	ND	ND	
0.100	Ni	n/a	n/a	
0.250	P	18,413	17,765	4
0.100	Pb	ND	ND	
0.300	Rh	ND	ND	
0.100	Ru	ND	ND	
0.100	Se	ND	ND	
0.500	Si	(6,094)	(6,115)	
0.015	Sr	(130)	(129)	
0.500	Te	ND	ND	
0.025	Ti	ND	ND	
0.500	Tl	ND	ND	
2.000	U	ND	ND	
0.015	V	ND	ND	
0.500	W	ND	ND	
0.010	Y	ND	ND	
0.020	Zn	(80)	(79)	
0.025	Zr	ND	ND	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0068

Table 2.10. ICP Results from Core 119 Fusion, Seg 3B, Tank BX-112

Project: TWRS
Procedure: PNL-AL0-211

File: m022096c
Analyzed: 02/20/96

BX-112 Core 119
119.3B.F Batched with 119.1B.F and 119.2B.F

1/2 Segment 3B

Sam Log#:	96-02616	96-02616
Split#:	119.3B.F	119.3B.F
ICP Dil:	1.00	1.00
Dil Fctr:	2853.9	3043.2

Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND	
0.060	Al	9,661	10,167	5
0.100	As	ND	ND	
0.050	B	ND	ND	
0.010	Ba	ND	ND	
0.005	Be	ND	ND	
0.100	Bi	16,800	17,440	4
0.250	Ca	(1,549)	(1,819)	
0.030	Cd	ND	ND	
0.125	Ce	ND	ND	
0.050	Co	ND	ND	
0.020	Cr	1,253	1,273	2
0.050	Cu	ND	ND	
0.050	Dy	ND	ND	
0.100	Eu	ND	ND	
0.050	Fe	10,447	10,411	0
2.000	K	n/a	n/a	
0.050	La	ND	ND	
0.030	Li	(115)	(109)	
0.100	Mg	(410)	(416)	
0.050	Mn	(308)	(378)	
0.030	Mo	ND	ND	
0.250	Na	77,706	77,857	0
0.100	Nd	ND	ND	
0.030	Ni	n/a	n/a	
0.250	P	15,621	16,083	3
0.125	Pb	ND	ND	
0.300	Rh	ND	ND	
0.100	Ru	ND	ND	
0.125	Se	ND	ND	
0.500	Si	(8,234)	(9,217)	
0.015	Sr	(134)	(138)	
0.500	Te	ND	ND	
0.025	Ti	ND	ND	
0.500	Tl	ND	ND	
2.000	U	ND	ND	
0.015	V	ND	ND	
0.500	W	ND	ND	
0.010	Y	ND	ND	
0.020	Zn	ND	ND	
0.025	Zr	ND	ND	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0075

Table 2.11. ICP Results from Core 119 Water Leach, Seg 2A & 2B, Tank BX-112

Project: TWRS
Procedure: PNL-AL0-211

File: m050996b
Analyzed: 05/09/96

BX-112 Core 119 Water Leaches

	119 Segment 2A			119 Segment 2B					
Sam Log#:	96-02613	96-02613		96-02614	96-02614				
Split#:	119.2A.W2	119.2A.W2		119.2B.W2	119.2B.W2				
ICP Dil:	1.00	1.00		1.00	1.00				
Dil Fctr:	91.2	92.7		97.4	93.1				
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Post Spike Recoveries Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND				
0.060	Al	58	81	33 *	292	239	20	Batch Blank and Post Spikes		
0.080	As	ND	ND		ND	ND		presented with Core 118		
0.050	B	(5)	(6)		(6)	(6)		Segment 2A/2B results		
0.010	Ba	ND	ND		ND	ND				
0.005	Be	ND	ND		ND	ND				
0.100	Bi	ND	ND		ND	ND				
0.250	Ca	(115)	(92)		(76)	(80)				
0.015	Cd	ND	ND		ND	ND				
0.100	Ce	ND	ND		ND	ND				
0.050	Co	ND	ND		ND	ND				
0.020	Cr	234	236	1	225	225	0			
0.050	Cu	ND	ND		ND	ND				
0.050	Dy	ND	ND		ND	ND				
0.100	Eu	ND	ND		ND	ND				
0.050	Fe	ND	ND		ND	ND				
2.000	K	n/a	n/a		n/a	n/a				
0.050	La	ND	ND		ND	ND				
0.030	Li	29	29	1	(11)	(11)				
0.100	Mg	(45)	(45)		(41)	(44)				
0.050	Mn	ND	ND		ND	ND				
0.030	Mo	(25)	(25)		(24)	(24)				
0.250	Na	65,708	66,180	1	64,384	64,845	1			
0.100	Nd	ND	ND		ND	ND				
0.030	Ni	n/a	n/a		n/a	n/a				
0.250	P	5,119	5,175	1	5,380	5,334	1			
0.100	Pb	ND	ND		ND	ND				
0.300	Pd	ND	ND		ND	ND				
0.300	Rh	ND	ND		ND	ND				
0.100	Ru	ND	ND		ND	ND				
0.100	Sb	ND	ND		ND	ND				
0.100	Se	ND	ND		ND	ND				
0.500	Si	(70)	(69)		(52)	(52)				
1.000	Sn	ND	ND		ND	ND				
0.015	Sr	ND	ND		ND	ND				
0.500	Te	ND	ND		ND	ND				
0.800	Th	ND	ND		ND	ND				
0.025	Ti	ND	ND		ND	ND				
0.500	Tl	ND	ND		ND	ND				
2.000	U	ND	ND		ND	ND				
0.015	V	ND	ND		ND	ND				
0.500	W	ND	ND		ND	ND				
0.010	Y	ND	ND		ND	ND				
0.020	Zn	ND	ND		ND	ND				
0.025	Zr	ND	ND		ND	ND				

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
4) Above 5 times EQL, precision is estimated at better than +/-20% and accuracy +/-15%.
5) "ND" = Not Detected; Estimated Sample Detection Limit (ug/mL) = (IDL in ug/mL) * (Dil Fctr)
6) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0114

Table 2.12. ICP Results from Core 118/119 Fusion, Composite, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m030896a
Analyzed: 03/08/96

BX-112 Core 118/119 Fusions

		118 Composite			119 Composite					
	Sam Log#:	96-02617	96-02617		96-02618	96-02618		96-02617		
	Split#:	118.com.F	118.com.F		119.com.F	119.com.F		Blank		
	ICP Dil:	1.00	1.00		1.00	1.00		1.00		
	Dil Fctr:	2360.7	2093.8		2351.8	1917.9		2164.7	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	87.3%	
0.060	Al	13,428	13,984	4	16,844	15,700	7	(343)	97.1%	
0.080	As	ND	ND		ND	ND		ND	104.9%	
0.050	B	ND	ND		ND	ND		ND	101.4%	
0.010	Ba	ND	ND		ND	(19)		ND	97.6%	
0.005	Be	ND	ND		ND	ND		ND	94.4%	
0.100	Bi	17,781	17,950	1	19,852	18,692	6	ND	95.3%	
0.250	Ca	(1,088)	(1,102)		(1,278)	(1,089)		(848)	98.6%	
0.015	Cd	ND	ND		ND	ND		ND	95.3%	
0.100	Ce	ND	ND		ND	ND		ND		100.9%
0.050	Co	ND	ND		ND	ND		ND	98.6%	
0.020	Cr	1,318	1,335	1	1,282	1,308	2	ND	97.0%	
0.050	Cu	ND	ND		ND	ND		ND	94.6%	
0.050	Dy	ND	ND		ND	ND		ND		98.7%
0.100	Eu	ND	ND		ND	ND		ND		99.4%
0.050	Fe	8,955	8,969	0	11,559	11,605	0	ND	99.1%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		99.5%
0.030	Li	(119)	(119)		ND	ND		ND	94.4%	
0.100	Mg	(289)	(345)		(337)	(273)		ND	99.4%	
0.050	Mn	(191)	(187)		(233)	(187)		(112)	99.7%	
0.030	Mo	ND	ND		ND	ND		ND	100.8%	
0.250	Na	83,287	84,326	1	82,427	82,590	0	(2,330)	99.6%	
0.100	Nd	ND	ND		ND	ND		ND		97.8%
0.030	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	20,238	20,521	1	20,220	20,590	2	ND	93.1%	
0.100	Pb	ND	ND		ND	ND		ND	98.5%	
0.300	Rh	ND	ND		ND	ND		ND		99.7%
0.100	Ru	ND	ND		ND	ND		ND		101.4%
0.100	Se	ND	ND		ND	ND		ND	103.2%	
0.500	Si	(6,784)	(7,526)		(9,063)	(8,286)		ND	92.5%	
0.015	Sr	(125)	(126)		(142)	(142)		ND	98.6%	
0.500	Te	ND	ND		ND	ND		ND		99.1%
0.025	Ti	ND	ND		ND	ND		ND	97.5%	
0.500	Tl	ND	ND		ND	ND		ND	97.9%	
2.000	U	ND	ND		ND	ND		ND		95.2%
0.015	V	ND	ND		ND	ND		ND	98.2%	
0.500	W	ND	ND		ND	ND		ND		101.3%
0.010	Y	ND	ND		ND	ND		ND		97.6%
0.020	Zn	ND	(47)		(54)	(48)		ND	100.6%	
0.025	Zr	ND	ND		ND	ND		ND	97.9%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
8) Spike recovery "n/a" = spike concentration <25% of sample concentration.
Data, including calibration/QC, archived File ICP-325-405-1/96A0085

Table 2.13. ICP Results from Core 118/119 Water Leach, Composite, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m031696a
Analyzed: 03/16/96

BX-112 Core 118/119 Water Leaches

		118 Composite			119 Composite					
	Sam Log#:	96-02617	96-02617		96-02618	96-02618		96-02617		
	Split#:	118.com.W	118.com.W		119.com.W	119.com.W		Blank		
	ICP Dil:	1.00	1.00		1.00	1.00		1.00		
	Dil Fctr:	87.1	85.8		89.8	87.0		87.4	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	86.4%	
0.060	Al	519	419	21 *	67	89	29 *	ND	107.2%	
0.080	As	ND	ND		ND	ND		ND	107.1%	
0.050	B	(8)	(11)		(10)	(7)		ND	107.1%	
0.010	Ba	ND	ND		ND	ND		ND	101.6%	
0.005	Be	ND	ND		ND	ND		ND	98.0%	
0.100	Bi	129	(56)		(37)	(61)		ND	100.6%	
0.250	Ca	(141)	(103)		(134)	(135)		(62)	104.6%	
0.015	Cd	ND	ND		ND	ND		ND	102.8%	
0.100	Ce	ND	ND		ND	ND		ND		102.3%
0.050	Co	ND	ND		ND	ND		ND	101.8%	
0.020	Cr	276	271	2	223	220	1	ND	97.2%	
0.050	Cu	ND	ND		ND	ND		ND	96.6%	
0.050	Dy	ND	ND		ND	ND		ND		102.2%
0.100	Eu	ND	ND		ND	ND		ND		103.2%
0.050	Fe	49	(21)		(17)	(30)		ND	104.6%	
2.000	K	(474)	(494)		(406)	(413)		ND	92.1%	
0.050	La	ND	ND		ND	ND		ND		102.6%
0.030	Li	106	106	0	30	29	1	ND	101.2%	
0.100	Mg	(47)	(43)		(48)	(46)		(22)	104.0%	
0.050	Mn	ND	ND		ND	ND		ND	104.0%	
0.030	Mo	(26)	(25)		(23)	(23)		ND	102.3%	
0.250	Na	68,453	68,108	1	66,607	65,574	2	(37)	n/a	
0.100	Nd	ND	ND		ND	ND		ND		100.4%
0.030	Ni	ND	ND		ND	ND		ND	104.4%	
0.250	P	6,016	5,834	3	5,691	5,673	0	ND	n/a	
0.100	Pb	ND	ND		ND	ND		ND	99.7%	
0.300	Rh	ND	ND		ND	ND		ND		100.2%
0.100	Ru	ND	ND		ND	ND		ND		106.5%
0.100	Se	ND	ND		ND	ND		ND	107.8%	
0.500	Si	(53)	(60)		(86)	(85)		ND	94.9%	
0.015	Sr	ND	ND		ND	ND		ND	106.4%	
0.500	Te	ND	ND		ND	ND		ND		99.3%
0.025	Ti	ND	ND		ND	ND		ND	101.2%	
0.500	Tl	ND	ND		ND	ND		ND	98.3%	
2.000	U	ND	ND		ND	ND		ND		96.6%
0.015	V	ND	ND		ND	ND		ND	102.4%	
0.500	W	ND	ND		ND	ND		ND		101.1%
0.010	Y	ND	ND		ND	ND		ND		100.2%
0.020	Zn	ND	ND		ND	ND		ND	102.0%	
0.025	Zr	(3)	ND		ND	ND		ND	102.3%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
4) Above 5 times EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
5) "ND" = Not Detected; Estimated Sample Detection Limit (ug/mL) = (IDL in ug/mL) * (Dil Fctr)
6) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
7) Spike recovery "n/a" = spike concentration <25% of sample concentration.

Data, including calibration/QC, archived File ICP-325-405-1/96A0087

Table 2.14. ICP Results from Core 118/119, Field Blank & Liner, Tank BX-112

Project: TWRS
Procedure: PNL-AL0-211

File: m021696b
Analyzed: 02/16/96
03/14/96

BX-112 Core 118/119

	118/119 Field Blk		118/119 "Liner"	
Sam Log#:	96-02619	96-02619	96-02620	96-02620
Split#:	Fld-Blk.F	Fld-Blk.F	Hyd-Fld.D	Hyd-Fld.D
ICP Dil:	1.00	1.00	5.00	5.00
Dil Fctr:	1.02	1.02	5.10	5.10

Est. IDL ug/mL	Analyte	Sample ug/ml	Duplicate ug/ml	RPD	Sample ug/ml	Duplicate ug/ml	RPD
0.015	Ag	ND	ND		ND	ND	
0.060	Al	(0.1)	(0.2)		(2.4)	(2.4)	
0.080	As	ND	ND		ND	ND	
0.050	B	1.8	1.7	2	2.9	2.7	6
0.010	Ba	ND	ND		ND	ND	
0.015	Be	ND	ND		ND	ND	
0.100	Bi	(0.3)	(0.3)		ND	ND	
0.100	Ca	(0.2)	(0.3)		(0.6)	ND	
0.025	Cd	ND	ND		ND	ND	
0.100	Ce	ND	ND		ND	ND	
0.050	Co	ND	ND		ND	ND	
0.020	Cr	(0.1)	(0.1)		12.4	11.9	4
0.075	Cu	ND	ND		ND	ND	
0.050	Dy	ND	ND		ND	ND	
0.100	Eu	ND	ND		ND	ND	
0.050	Fe	(0.2)	(0.2)		ND	ND	
2.000	K	ND	ND		(52.8)	(55.3)	
0.050	La	ND	ND		ND	ND	
0.025	Li	(0.1)	(0.1)		1,767.0	1,710.1	3
0.100	Mg	ND	ND		ND	ND	
0.050	Mn	ND	ND		ND	ND	
0.030	Mo	ND	ND		3.0	2.9	4
0.250	Na	41.6	40.8	2	6,261.7	5,975.7	5
0.100	Nd	ND	ND		ND	ND	
0.030	Ni	(0.0)	(0.0)		(0.2)	(0.2)	
0.250	P	4.1	4.0	2	169.3	164.7	3
0.500	Pb	ND	ND		ND	ND	
0.150	Rh	ND	ND		ND	ND	
0.100	Ru	ND	ND		ND	ND	
0.500	Se	ND	ND		ND	ND	
0.500	Si	(3.1)	(3.0)		(15.2)	(9.4)	
0.015	Sr	ND	ND		ND	ND	
0.500	Te	ND	ND		ND	ND	
0.025	Ti	ND	ND		ND	ND	
0.500	Tl	ND	ND		ND	ND	
2.000	U	ND	ND		(50.1)	(48.0)	
0.075	V	ND	ND		ND	ND	
1.000	W	ND	ND		ND	ND	
0.010	Y	ND	ND		ND	ND	
0.020	Zn	(0.1)	(0.2)		ND	ND	
0.050	Zr	ND	ND		ND	ND	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
4) Above 5 times EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
5) "ND" = Not Detected; Estimated Sample Detection Limit (ug/mL) = (IDL in ug/mL) * (Dil Fctr)
6) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0074

Table 2.15. ICP Results from Core 118/119, Homogenize Test, Tank BX-112

Project: TWRS
Procedure: PNL-ALO-211

File: m021696a
Analyzed: 02/16/96

BX-112 Core 118/119

		118 1/2 Seg 2AH			119 1/2 Seg 3AH					
	Sam Log#:	96-02849	96-02849		96-02851	96-02851		96-02849		
	Split#:	118.2AH.F	118.2AH.F		119.3AH.F	119.3AH.F		Blank		
	ICP Dil:	1.00	1.00		1.00	1.00		1.00		
	Dil Fctr:	3242.5	3080.7		2924.0	3103.7		3083.6	Post Spike Recoveries	
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	100.6%	
0.060	Al	13,170	13,608	3	10,975	11,675	6	(1,053)	103.0%	
0.080	As	ND	ND		ND	ND		ND	111.0%	
0.050	B	ND	(591)		(199)	(176)		ND	106.6%	
0.010	Ba	ND	ND		ND	ND		ND	100.4%	
0.005	Be	ND	ND		ND	ND		ND	103.1%	
0.100	Bi	15,506	15,525	0	15,257	15,388	1	ND	101.6%	
0.250	Ca	ND	ND		ND	ND		ND	104.2%	
0.015	Cd	ND	ND		ND	ND		ND	103.2%	
0.100	Ce	ND	ND		ND	ND		ND		99.5%
0.050	Co	ND	ND		ND	ND		ND	103.6%	
0.020	Cr	1,240	1,236	0	1,253	1,255	0	ND	103.8%	
0.050	Cu	ND	ND		ND	ND		ND	101.9%	
0.050	Dy	ND	ND		ND	ND		ND		99.0%
0.100	Eu	ND	ND		ND	ND		ND		99.2%
0.050	Fe	6,711	6,766	1	7,753	7,732	0	ND	103.2%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		99.1%
0.030	Li	ND	ND		ND	ND		ND	96.8%	
0.100	Mg	ND	ND		ND	ND		ND	103.9%	
0.050	Mn	(267)	(318)		(218)	(272)		(296)	106.2%	
0.030	Mo	ND	ND		ND	ND		ND	105.2%	
0.250	Na	80,847	81,786	1	78,157	78,764	1	(2,896)	103.1%	
0.100	Nd	ND	ND		ND	ND		ND		98.5%
0.100	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	20,728	20,887	1	18,330	18,505	1	ND	108.2%	
0.100	Pb	ND	ND		ND	ND		ND	105.7%	
0.300	Rh	ND	ND		ND	ND		ND		101.4%
0.100	Ru	ND	ND		ND	ND		ND		104.8%
0.100	Se	ND	ND		ND	ND		ND	108.1%	
0.500	Si	(7,185)	17,720		(7,334)	(8,523)		(3,229)	99.8%	
0.015	Sr	(100)	(100)		(115)	(117)		ND	101.2%	
0.500	Te	ND	ND		ND	ND		ND		107.3%
0.025	Ti	ND	ND		ND	ND		ND	101.1%	
0.500	Tl	ND	ND		ND	ND		ND	103.6%	
2.000	U	ND	ND		ND	ND		ND		101.0%
0.015	V	ND	ND		ND	ND		ND	102.1%	
0.500	W	ND	ND		ND	ND		ND		102.4%
0.010	Y	ND	ND		ND	ND		ND		94.9%
0.020	Zn	ND	ND		(76)	(84)		ND	105.3%	
0.025	Zr	ND	ND		ND	ND		ND	100.8%	

Note:
1) Estimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) Above 5 times EQL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
8) Spike recovery "n/a" = spike concentration <25% of sample concentration.
Data, including calibration/QC, archived File ICP-325-405-1/96A0074

2.2 ION CHROMATOGRAPHIC ANALYSIS

2.2.1 IC Sample Preparation and Analysis

The IC analyses were performed on the water leaches prepared from homogenized material from Core 118 subsegments 1A, 1B, 1AA, 1AB, 2A, 2B, and 3A; Core 119 subsegments 1A, 1B, 2A, 2B, 3A, and 3B; and Core 118 and 119 composites. IC analyses were also performed on dilutions of the drainable liquids from Core 118 Segments 1 and 3, the field blank, and liner liquid. The water leaches were performed in the SRPL with sample and QC solution aliquots being transferred to the Inorganic Analysis Group for IC analysis. Aliquots of the drainable liquids were provided by the SAL. All IC analyses for fluoride, chloride, nitrite, bromide, nitrate, phosphate, and sulfate were performed on a Dionex 4500i Ion Chromatograph system following procedure PNL-ALO-212, Rev. 1.

2.2.2 IC Analytical Results

The IC analytical results are presented in Tables 2.16 through 2.22. The IC analyses were performed on seven different days spanning 2/8/96 to 3/14/96. After applying the dilution and leaching processing factors, the typical detection limits are 30 μg/ml (or 30 μg/g) halides and 50 μg/ml (or 50 μg/g) oxy-anions. However, due to the necessity to dilute the samples to assure that all reported results fall within the calibration range, some reported detection limits are adjusted for additional analytical dilutions. All tables include full range reporting (i.e., all analytes for which instrument calibration has been established); with specific emphasis placed on PO_4 and Br, as per the SAP [1].

2.2.3 IC Quality Control, Precision, and Accuracy

Sample and duplicate results are reported for both drainable liquids and water leaches of the sludge subsegments and composites. Matrix spikes, blank spikes, and leach processing blanks are reported for the sludge subsegments, as well as a dilution blank for

drainable liquids. Significant difficulties were experienced with fluoride and bromide analyses. The fluoride is impacted by significant interferences (typically from organic anions which elute near the same retention time as fluoride), and the bromide is difficult to fully resolve from nitrate at the high nitrate concentration found in the drainable liquids and leachates.

The RPD between duplicates is used to evaluate the precision of the sample processing, analytical sampling, and IC analysis. The majority of RPD values meet the 20% criteria established by the SAP [1]. Only the fluoride RPDs for the liner liquid (at 26%), Core 119 subsegment 3B (at 27%), and Core 118 subsegment 1B (at 23%) exceed the 20% criteria. The fluoride in the liner liquid is near the EQL, and the poor precision on the subsegments is attributed to interferences from coeluting organic anions.

The accuracy of the IC results is estimated by the matrix spike recovery. Low recoveries on matrix spikes provide indications of matrix interferences which may adversely affect the reported analytical results. The matrix spiking solution was prepared based on the best available information on the anion concentrations suspected within tank BX-112 [2]. Unfortunately, many of the matrix spikes are unusable due to the fact that the tank concentrations are significantly higher than anticipated. The water leach matrix spikes for F, Cl, NO_2, and NO_3 could not be recovered due to the high concentration of these anions in the samples. Except for the Core 118 composite SO_4 spike which recovered at 79%, the SO_4 and PO_4 matrix spike recoveries meet the 80% to 120% accuracy requirement of the SAP [1]. Except for an unexplainable low recoveries for Cl (79%) and NO_2 (48%) on one of three Blank Spike samples, recoveries on blank spikes were good (ranging from 88% to 108%). Since many of the matrix spikes were unusable, post spikes were performed to evaluate matrix effects. The post spiking was performed on Core 118 subsegment 2A and Core 118 subsegment 1A and recovery results are included in Table 2.16 and Table 2.17.

The leach and dilution processing blanks provide information on the contamination potentially introduced during the dilution process. A very slight chloride concentration was

observed in the drainable liquid processing blank, whereas the sludge leaching blank exhibited low chloride, nitrate, and sulfate contamination. However, these blanks typically have no impact on the reported results, since the concentration in the samples is high compared to the blank concentration. The reported processing and dilution blank results have been adjusted for the typical 100 fold dilution factor applied to the samples.

Table 2.16. IC Core 118 Seg 1A, 1B, & 1AA, Tank BX-112

Segment 1A Sludge (118.1A) -- 96-3365

Analyte	Sample (μg/g)	Duplicate (μg/g)	RPD (%)	Blank (μg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	9100	8800	3.8	--	PS 88	--
Chloride	1100	1100	0	--	PS 82	--
Nitrite	23000	23000	0	--	PS 85	--
Bromide	<800	<800	n/a	--	PS 92	--
Nitrate	68000	69000	1.5	--	PS 90	--
Phosphate	13000	13000	0	--	PS 82	--
Sulfate	6000	6000	0	--	PS 84	--

Segment 1B Sludge (118.1B) -- 96-3366

Analyte	Sample (μg/g)	Duplicate (μg/g)	RPD (%)	Blank (μg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	8800	7000	22.8	--	--	--
Chloride	1100	1100	0	--	--	--
Nitrite	23000	24000	4.3	--	--	--
Bromide	<700	<700	n/a	--	--	--
Nitrate	67000	69000	2.9	--	--	--
Phosphate	15000	14000	6.9	--	--	--
Sulfate	5000	6000	18.2	--	--	--

Segment 1AA Sludge (118.1AA) -- 96-2605

Analyte	Sample (μg/g)	Duplicate (μg/g)	RPD (%)	Blank (μg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	8400	8900	5.8	<20	--	108
Chloride	1100	1100	0	30	--	93
Nitrite	26000	26000	0	<50	--	103
Bromide	1500	1400	6.9	<20	--	n/a
Nitrate	72000	72000	0	120	--	97
Phosphate	15000	15000	0	<50	--	96
Sulfate	6000	6000	0	60	--	105

Notes:

(a) "<" indicates not detected above reported value.
(b) RPD = "n/a" when either sample or duplicate are <EQL.
(c) Smp Spk = "n/a" when Sample result >4X spiking level. PS = post spike.
(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch.

Table 2.17. IC Core 118 Seg 1AB, 2A, & 2B Tank BX-112

Segment 1AB Sludge (118.1AB) -- 96-2606

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	8900	9200	3.3	--	--	--
Chloride	1000	1000	0	--	--	--
Nitrite	24000	24000	0	--	--	--
Bromide	2500	2500	0	--	--	--
Nitrate	68000	67000	1.5	--	--	--
Phosphate	23000	27000	16.0	--	--	--
Sulfate	6000	6000	0	--	--	--

Segment 2A Sludge (118.2A) -- 96-2607

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	7400	7200	2.7	--	PS 92	--
Chloride	1100	1100	0	--	PS 83	--
Nitrite	28000	29000	3.5	--	PS 91	--
Bromide	<800	<800	n/a	--	PS 91	--
Nitrate	78000	79000	1.3	--	PS 97	--
Phosphate	17000	17000	0	--	PS 85	--
Sulfate	6000	7000	15.4	--	PS 85	--

Segment 2B Sludge (118.2B) -- 96-2608

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	8300	7900	4.9	--	n/a	--
Chloride	1200	1200	0	--	n/a	--
Nitrite	28000	28000	0	--	n/a	--
Bromide	<800	<800	n/a	--	n/a	--
Nitrate	79000	79000	0	--	n/a	--
Phosphate	17000	17000	0	--	90	--
Sulfate	7000	7000	0	--	105	--

Notes:

(a) "<" indicates not detected above reported value.

(b) RPD = "n/a" when either sample or duplicate are <EQL.

(c) Smp Spk = "n/a" when Sample result >4X spiking level. PS = post spike.

(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch.

Table 2.18. IC Core 118 Seg 3A & IC Core 119 Seg 1A & 1B, Tank BX-112

Segment 3A Sludge (118.3A) -- 96-2609

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	13500	13900	2.9	--	--	--
Chloride	1100	1100	0	--	--	--
Nitrite	28000	27000	3.6	--	--	--
Bromide	<800	<800	n/a	--	--	--
Nitrate	76000	76000	0	--	--	--
Phosphate	15000	15000	0	--	--	--
Sulfate	7000	7000	0	--	--	--

Segment 1A Sludge (119.1A) -- 96-2611

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	10600	11500	8.1	<20	--	107
Chloride	1100	1100	0	30	--	91
Nitrite	25000	25000	0	<50	--	100
Bromide	<800	<800	n/a	<20	--	n/a
Nitrate	79000	79000	0	110	--	96
Phosphate	13000	13000	0	<50	--	96
Sulfate	6000	6000	0	60	--	99

Segment 1B Sludge (119.1B) -- 96-2612

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	10700	10500	1.9	--	--	--
Chloride	1000	1000	0	--	--	--
Nitrite	22000	22000	0	--	--	--
Bromide	<800	<800	n/a	--	--	--
Nitrate	71000	71000	0	--	--	--
Phosphate	32000	30000	6.5	--	--	--
Sulfate	6000	6000	0	--	--	--

Notes:

(a) "<" indicates not detected above reported value.

(b) RPD = "n/a" when either sample or duplicate are <EQL.

(c) Smp Spk = "n/a" when Sample result >4X spiking level.

(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch.

Table 2.19. IC Core 119 Seg 2A, 2B & 3A, Tank BX-112

Segment 2A Sludge (119.2A) -- 96-2613

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	12300	13600	10.0	--	--	--
Chloride	1100	1100	0	--	--	--
Nitrite	25000	26000	3.9	--	--	--
Bromide	<800	<800	n/a	--	--	--
Nitrate	77000	78000	1.3	--	--	--
Phosphate	12000	12000	0	--	--	--
Sulfate	6000	6000	0	--	--	--

Segment 2B Sludge (119.2B) -- 96-2614

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	10500	10900	3.7	--	--	--
Chloride	1100	1100	0	--	--	--
Nitrite	25000	25000	0	--	--	--
Bromide	<800	<800	n/a	--	--	--
Nitrate	76000	77000	1.3	--	--	--
Phosphate	16000	16000	0	--	--	--
Sulfate	7000	7000	0	--	--	--

Segment 3A Sludge (119.3A) -- 96-2615

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	10700	10400	2.8	--	--	--
Chloride	1100	1100	0	--	--	--
Nitrite	26000	26000	0	--	--	--
Bromide	<800	<800	n/a	--	--	--
Nitrate	77000	77000	0	--	--	--
Phosphate	14000	14000	0	--	--	--
Sulfate	7000	7000	0	--	--	--

Notes:

(a) "<" indicates not detected above reported value.
(b) RPD = "n/a" when either sample or duplicate are <EQL.
(c) Smp Spk = "n/a" when Sample result >4X spiking level.
(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch.

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Table 2.20. IC Core ~~118~~ 119 Seg 3B, Core 118/119 Field Blank & Liner Liquid Tank BX-112

Segment 3B Sludge (119.3B) -- 96-2616

Analyte	Sample (µg/g)	Duplicate (µg/g)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	11200	14700	27.0	--	n/a	--
Chloride	100	1000	0	--	n/a	--
Nitrite	24000	25000	4.1	--	n/a	--
Bromide	1400	1300	7.4	--	n/a	--
Nitrate	73000	73000	0	--	n/a	--
Phosphate	14000	13000	7.4	--	96	--
Sulfate	6000	7000	15.4	--	109	--

Field Blank (Fld-Blk) -- 96-2619

Analyte	Sample (µg/ml)	Duplicate (µg/ml)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	5.3	5.3	0	--	--	--
Chloride	0.9	0.9	0	--	--	--
Nitrite	12.4	12.4	0	--	--	--
Bromide	1.2	1.2	0	--	--	--
Nitrate	31	32	3.2	--	--	--
Phosphate	11.0	11.1	0.9	--	--	--
Sulfate	4.7	4.7	0	--	--	--

Liner Liquid (Hyd-Fluid) -- 96-2620

Analyte	Sample (µg/ml)	Duplicate (µg/ml)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	100	130	26.1	--	--	--
Chloride	100	110	9.5	--	--	--
Nitrite	2400	2540	5.7	--	--	--
Bromide	20100	20700	2.9	--	--	--
Nitrate	6100	6400	4.8	--	--	--
Phosphate	440	4700	6.6	--	--	--
Sulfate	530	570	7.3	--	--	--

Notes:

(a) "<" indicates not detected above reported value.

(b) RPD = "n/a" when either sample or duplicate are <EQL.

(c) Smp Spk = "n/a" when Sample result >4X spiking level.

(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch.

Table 2.21. IC Core 118 Drainable Liquid, Seg 1A & 3, Tank BX-112

1A Dmc 7-31-96

Segment ~~1~~ Drainable Liquid (118.1ADL) -- 96-2848

Analyte	Sample (µg/ml)	Duplicate (µg/ml)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	1600	1800	11.8	<30	--	--
Chloride	1200	1300	8.0	40	--	--
Nitrite	30000	33000	9.5	<50	--	--
Bromide	3800	3700	2.7	<30	--	--
Nitrate	82000	93000	12.6	<50	--	--
Phosphate	15400	17600	13.3	<50	--	--
Sulfate	5600	6400	13.3	<50	--	--

Segment 3 Drainable Liquid (118.3DL) -- 96-2850

Analyte	Sample (µg/ml)	Duplicate (µg/ml)	RPD (%)	Blank (µg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	900	1100	20.0	--	--	--
Chloride	1500	1500	0	--	--	--
Nitrite	38000	40000	5.1	--	--	--
Bromide	300	<300	n/a	--	--	--
Nitrate	106000	113000	6.4	--	--	--
Phosphate	14400	15400	6.7	--	--	--
Sulfate	8100	8600	6.0	--	--	--

Notes:

(a) "<" indicates not detected above reported value.

(b) RPD = "n/a" when either sample or duplicate are <EQL.

(c) Smp Spk = "n/a" when Sample result >4X spiking level.

(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch.

Table 2.22. IC Core 118/119 Composites, Tank BX-112

118 Composite Sludge (118.Comp) -- 96-2617

Analyte	Sample (μg/g)	Duplicate (μg/g)	RPD (%)	Blank (μg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	9200	9300	1.1	<20	n/a	92
Chloride	970	1100	12.6	40	n/a	79
Nitrite	24200	24000	.8	<50	n/a	48
Bromide	840	1000	17.4	<20	n/a	n/a
Nitrate	67000	68000	1.5	110	n/a	94
Phosphate	15300	15000	2.0	<50	79	90
Sulfate	5900	6000	1.7	50	86	88

119 Composite Sludge (119.Comp) -- 96-2618

Analyte	Sample (μg/g)	Duplicate (μg/g)	RPD (%)	Blank (μg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
Fluoride	11500	11500	0	--	--	--
Chloride	1000	1000	0	--	--	--
Nitrite	21000	21000	0	--	--	--
Bromide	<800	<700	n/a	--	--	--
Nitrate	67000	66000	1.5	--	--	--
Phosphate	15000	15000	0	--	--	--
Sulfate	6000	6000	0	--	--	--

Notes:

(a) "<" indicates not detected above reported value.

(b) RPD = "n/a" when either sample or duplicate are <EQL.

(c) Smp Spk = "n/a" when Sample result >4X spiking level.

(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch or Blank and Blank Spike not required on TOC/TIC/TC.

2.3 TOTAL ORGANIC CARBON (TOC) AND TOTAL INORGANIC CARBON (TIC) ANALYSIS

2.3.1 TOC/TIC Sample Preparation and Analysis

The total organic carbon, total inorganic carbon, and total carbon (TOC/TIC/TC) analyses were performed "directly" on homogenized composites of Core 118 and Core 119 as well as on subsegments 2A and 2B of each core. The TOC/TIC/TC analyses were performed by the SAL using a hot persulfate digestion procedure PNL-ALO-381, Rev. 1, and a UIC Coulometrics system.

2.3.2 TOC/TIC Analytical Results

The TOC/TIC/TC analytical results are presented in Table 2.23. For all samples, the carbon results exceed the estimated method detection limit; that is, 60 μg/g TIC and 110 μg/g TOC. By the hot persulfate method, the TIC and TOC are analyzed on the sample and the TC is obtained by summation. No processing blanks are reported for the samples analyzed by the direct hot persulfate method. This method requires results to be corrected for the average blank carbon levels, as well as the average check standard recoveries. Therefore, all core composite sample results have been corrected for the blank contribution and the check standard recovery.

2.3.3 TOC/TIC Quality Control, Precision, and Accuracy

The hot persulfate method does not undergo user calibration for the carbon measurements; the calibration of the coulometric instrumentation is established by the manufacturer. The method verifies instrument response by the use of check standards and then uses the check standards to adjust the reported result for the average standard recovery. The "average daily" check standard recoveries ranged from 93.1% to 94.2% for TIC and for 96.4% to 97.0% for TOC.

Sample and duplicate results are reported for each core subsegment and composite. The RPD between sample and duplicate is used to evaluate the precision of analytical laboratory sample processing and analysis. The RPD values calculated for the core composites are very good (2-5% for TIC, and 2-6% for TOC) and easily meet the 20% criteria established by the SAP [1]. However, the RPD values calculated for the Core 118 segment 2A and 2B and Core 119 segment 2A were very poor; potentially indicating a inhomogeneity within the subsegments. However, the spread of the daily TOC check standard was unusually large (i.e., from 84.9% to 114.5%, averaging 97.0%) for these samples. Therefore, the RPDs may not represent inhomogeneity of the samples, but reflect poorer than normal precision of the analytical measurement. However, the high RPD for Core 119 segment 2A appears to be more a function of sample inhomogeneity than measurement precision.

The accuracy of TOC/TIC/TC results is estimated by the matrix spike recovery. Low recoveries on matrix spikes provide indications of matrix interferences which may adversely affect the reported analytical results. The matrix spike recoveries were within the ±20% criteria established by the SAP [1]; i.e., TIC recovering at 94% and 102% and TOC recovering at 100% and 104%.

Table 2.23. TOC/TIC/TC Core 118/119, Tank BX-112

Analyte	Sample (μg/g)	Duplicate (μg/g)	RPD (%)	Blank (μg/ml)	Smp Spk (%Rec)	Blk Spk (%Rec)
118 Composite Sludge (118.Comp) -- 96-2617						
TOC	460	450	2	--	--	--
TIC	2270	2380	5	--	--	--
TC	2730	2830	4	--	--	--
118 Segment 2A Sludge (118.2A.D) -- 96-2607						
TOC	1070	880	19	--	--	--
TIC	2670	2210	19	--	--	--
TC	3470	3090	19	--	--	--
118 Segment 2B Sludge (118.2B.D) -- 96-2608						
TOC	830	1130	31	--	--	--
TIC	1650	1930	16	--	--	--
TC	2480	3070	21	--	--	--
119 Composite Sludge (119.Comp) -- 96-2618						
TOC	680	720	6	--	100	--
TIC	1970	2000	2	--	94	--
TC	2650	2720	3	--	--	--
119 Segment 2A Sludge (119.2A.D) -- 96-2613						
TOC	1060	520	68	--	--	--
TIC	1840	1080	52	--	--	--
TC	2900	1600	58	--	--	--
119 Segment 2B Sludge (119.2B.D) -- 96-2614						
TOC	1080	1100	2	--	104	--
TIC	2760	2650	4	--	102	--
TC	3840	3750	2	--	--	--

Notes:

(a) "<" indicates not detected above reported value.

(b) RPD = "n/a" when either sample or duplicate are <EQL.

(c) Smp Spk = "n/a" when Sample result >4X spiking level.

(d) "--" indicates analysis not performed on sample; e.g., only one Blank, Sample Spike, and Blank Spike analyzed per batch or Blank and Blank Spike not required on TOC/TIC/TC.

SECTION 3

RADIOCHEMISTRY

3.0 RADIOCHEMICAL ANALYSIS

Radiochemical analyses, including total alpha activity, total beta activity, gamma energy analysis (GEA), strontium-90, and uranium, were performed on segments, subsegments, and composite samples from Cores 118 and 119 and on a field blank. Except for the field blank, the analyses were performed in duplicate on KOH-KNO_3 fusion preparations of sludge samples. To support safety screening, total alpha activity was determined on Core 118 subsegments 1AA, 2A, and 3A; Core 119 subsegments 1A, 2A, and 3A; acidified drainable liquid samples from Core 118 segments 1 and 3; and a field blank. In most cases a sample and a duplicate were analyzed. For each batch of sample preparations (KOH-KNO_3 fusion for sludges or acidification for drainable liquids), a process blank was also analyzed. Note that since the core samples were processed in four different hot cell batches, there is a separate process blank reported for each batch. Since the lab, process, and field blanks were liquid, results were converted from μCi/ml to μCi/g using an average hot cell preparation factor for each batch of samples.

3.1 TOTAL ALPHA ANALYSIS

3.1.1 Safety Screening Total Alpha Analysis

Safety screening total alpha analyses were performed according to procedures PNL-ALO-420/421. The results are presented in Table 3.1. In this method, small aliquots of highly diluted samples are dried on counting disks and counted using Ludlum ZnS scintillation counters. Although the post fusion spike performed on one sample from this set had acceptable recovery at 85%, the plates prepared by this method appeared to have a glassy look suggesting the potential for significant alpha mass absorption. The mass loading on the counting plates due to the core material was very low (typically < 0.1 mg); however, solids loading from the KOH fusion preparation flux may result in an alpha absorption effect. Consequently, all of the samples were reanalyzed with a spike added to a duplicate aliquot for each sample. The results showed that the mass absorption effects were small with an average spike recovery of 108%. The uncertainties on the sample spikes were high because

the added activity of the spike was not high enough to produce more reliable counting statistics. Nevertheless, the consistency between recoveries as well as the repeatability of the replicate runs indicate that the alpha mass absorption is not significant. Total alpha results were thus averaged between the two runs. All of the total alpha results for both cores yielded about the same level of activity. No alpha activity was detected in the drainable liquids. The RPD values for sample duplicates show excellent agreement, the largest value being only 8.6%. All of the process blanks and lab blanks indicate no detectable alpha activity. Low-level activity was detected in the field blank; however, the activity is well below that of the samples (<0.1% contribution).

3.1.2 Historical Total Alpha Analysis

Total alpha analyses on Core 118 and 119 composites and Core 118 Segment 1A were performed according to procedure PNL-ALO-420/421. The results are presented in Table 3.2. In this method, small aliquots of highly diluted samples are dried on counting disks and counted using Ludlum ZnS scintillation counters. Due to concern about alpha mass absorption effects, all of the samples were analyzed with a spike of ^{239}Pu added to a duplicate aliquot for each sample. The results showed that the mass absorption effects were relatively small for the core composites with an average spike recovery of 89%. However, the sample from core 118 segment 1A, as well as the process blank, indicated significantly more alpha mass absorption suggesting that a correction might be needed for these results. All of the total alpha results for both cores yielded about the same level of activity. No significant alpha activity was detected in the process blank. The RPD values for sample duplicates show good agreement, the largest value being 13%, which is comparable to the individual sample uncertainties in the data.

3.2 TOTAL BETA ANALYSIS

Total beta analyses were performed according to procedure PNL-ALO-430/431. The results are presented in Tables 3.3 and 3.4. Small aliquots of the highly diluted samples are

dried on counting disks and counted using gas flow proportional counters. All of the segment and composite samples showed about the same level of beta activity and the RPD values are in good agreement for duplicate samples. Significant beta activity was detected in the field blank; however, only very weak beta activity was seen in the process blanks. Spikes of $^{90}Sr/^{90}Y$ added to selected segment and composite samples resulted in 114% and 88% recoveries, respectively. The total beta activity is in good agreement (<10%) with the sum of the ^{137}Cs and $^{90}Sr/^{90}Y$ activities for all of the samples.

3.3 ^{90}Sr ANALYSIS

^{90}Sr results are presented in Tables 3.3 and 3.4. The ^{90}Sr in the core composites was measured by procedure PNL-ALO-433/431. In this procedure, the ^{90}Sr is separated by ion exchange and dried for counting with gas proportional counters. A second count is performed about 3 days after separation to confirm the ingrowth of ^{90}Y. The results indicate that the level of ^{90}Sr is slightly higher in the composite for Core 119; however, the RPD was slightly above the 20% criteria for this core. These results also fail the mean difference (MD) test suggesting that the sample and duplicate do not agree within the stated uncertainties. The field blank indicated the presence of ^{90}Sr at about 10-15% of the core composite samples; however, no ^{90}Sr was seen in the process blank or lab blank indicating that contamination may have occurred in the field, not in our laboratory.

For the subsegment samples, ^{90}Sr was measured according to procedure PNL-ALO-476/431. In this procedure ^{85}Sr is used as an isotopic tracer to determine the chemical recoveries. The duplicate analyses agreed within 20% except for core 119.2A, which was slightly above this the 20% level at 20.7%. The mean difference for these two results is 1.62 indicating that the results are statistically the same within the 95% confidence level. A sample spike resulted in 105% recovery similar to the standard at 101%. None of the process blanks showed any significant activity.

3.4 GAMMA ENERGY ANALYSIS

Gamma energy analyses (GEA) were performed according to procedure PNL-ALO-450 for both core composites, subsegments, and the field blank. The GEA results are presented in Tables 3.5 and 3.6. ^{137}Cs was the only activity seen in any of these samples. Significant ^{137}Cs was also detected in the field blank; however, only very low-level activity (below the 5% limit of concern) was seen in the process blanks, again suggesting that contamination occurred in the field, not in the laboratory. RPD values indicate excellent agreement for the duplicate samples.

GEA analyses were also performed on a subsegment from each core to evaluate the effectiveness of the homogenization process. These results are presented in Table 3.7. The ^{137}Cs for the duplicates of the top and bottom samples (118.2A/118.2AH and 119.3A/119.3AH) demonstrate remarkable agreement, indicating good homogenization. A summary of the GEA and ICP homogenization test results are presented in Table 3.8.

3.5 TOTAL URANIUM ANALYSIS

Total uranium was measured by laser fluorimetry following procedure PNL-ALO-445. The results are presented in Tables 3.3 and 3.4. This technique uses the method of standard addition to determine the uranium concentration in each sample. Both the core composites and subsegments indicated about the same level of uranium. RPD values show good agreement. No uranium was detected in any of the process blanks or the field blank.

Table 3.1. Total Alpha Results, Core 118/119 Composites, Tank BX-112

ALO #	CORE ID	Total Alpha uCi/g	+/-% Error	Spike Recovery %	95% Confidence Value, uCi/g (1)
96-2617	PROCESS BLANK	<5.7E-4		61%	
96-2617	118.COMP.F	2.45E-01	13%	85%	3.25E-01
96-2617-DUP	118.COMP.F DUP	2.15E-01	14%	83%	
	RPD	13.0%			
96-2618	119.COMP.F	2.42E-01	13%	85%	3.01E-01
96-2618-DUP	119.COMP.F DUP	2.58E-01	12%	103%	
	RPD	6.4%			
96-3365	118.1A.F	1.82E-01	6%	70%	2.41E-01
96-3365-DUP	118.1A.F DUP	1.98E-01	5%	61%	
	RPD	8.4%			
	LAB BLANK	<6.8E-4			
	LAB STANDARD	85%			

Note (1) Notification Limit = 41 uCi/g

Table 3.2. Total Alpha Results, Core 118/119 Subsegments, Tank BX-112

ALO #	CORE ID	ANALYSIS BATCH	Total Alpha uCi/g	+/-% Error	95% Confidence Value, uCi/g (1)
96-2605	PROCESS BLANK	1	<2.E-3		
96-2605	118.1AA.F	1	1.52E-01	14%	1.67E-01
96-2605	118.1AA.F DUP	1	1.56E-01	15%	
	RPD		2.6%		
96-2607	118.2A.F	1	1.65E-01	8%	1.80E-01
96-2607	118.2A.F DUP	1	1.69E-01	8%	
	RPD		2.4%		
96-2609	118.3A.F	1	1.79E-01	15%	2.38E-01
96-2609	118.3A.F DUP	1	1.95E-01	8%	
	RPD		8.6%		
	LAB BLANK	1	<2.E-3		
	LAB STANDARD	1	114%		
	SAMPLE SPIKE	1	85%		
96-2611	PROCESS BLANK	2	<2.E-3		
96-2611	119.1A.F	2	1.92E-01	7%	2.13E-01
96-2611	119.1A.F DUP	2	1.84E-01	7%	
	RPD		4.3%		
96-2613	119.2A.F	2	1.89E-01	8%	1.89E-01
96-2613	119.2A.F DUP	2	1.89E-01	8%	
	RPD		0.0%		
96-2615	119.3A.F	2	1.61E-01	8%	2.12E-01
96-2615	119.3A.F DUP	2	1.75E-01	8%	
	RPD		8.3%		
	LAB BLANK	2	<2.E-3		
	LAB STANDARD	2	110%		
	AVERAGE SPIKE	2	108%		
96-2619	FLD-BLANK.F	1	5.00E-5	38%	
96-2848	PROCESS BLANK	3	<5.E-6		
96-2848	118.1ADL.D	3	<2.E-3		
96-2850	118.3DL.D	3	<2.E-3		
96-2850	118.3DL.D DUP	3	<2.E-3		
	LAB STANDARD	3	100%		
	AVERAGE SPIKE	3	102%		

Note (1) Notification Limit = 41 uCi/g

Table 3.3. Total Beta, U, Sr-90 Results, Core 118/119 Composites, Tank BX-112

ALO #	CORE ID	Total Beta uCi/g	+/-% Error	Sr-90 uCi/g	+/-% Error	Uranium ug/g	+/-% Error
96-2617	PROCESS BLANK	4.26E-02	36%	<3.6E-2		<3.6E+0	
96-2617	118.COMP.F	6.97E+01	4%	5.68E+00	9%	9.79E+02	7%
96-2617-DUP	118.COMP.F DUP	6.86E+01	4%	4.92E+00	9%	1.05E+03	7%
	RPD	1.6%		14.3%		7.0%	
96-2618	119.COMP.F	6.33E+01	4%	9.69E+00	8%	1.09E+03	7%
96-2618-DUP	119.COMP.F DUP	6.41E+01	4%	7.62E+00	8%	1.01E+03	7%
	RPD	1.3%		23.9%		7.6%	
	MD			2.10			
96-2619	FIELD BLANK	7.63E+00	3%	7.86E-01	14%	<8.3E-1	
96-2619-DUP	FIELD BLANK DUP	7.50E+00	3%	7.15E-01	14%	<4.6E-1	
	RPD	1.7%		9.5%			
	LAB BLANK	<2.2E-3		<1.7E-2		<2.0E-2	
	LAB STANDARD	105%		81%		101%	
	SAMPLE SPIKE	88%		99%			

Table 3.4. Total Beta, U, Sr-90 Results, Core 118/119 Seg 2A/2B, Tank BX-112

ALO #	CORE ID	Analysis Batch	Total Beta uCi/g	+/-% Error	Sr-90 uCi/g	+/-% Error	Uranium ug/g	+/-% Error
96-2605	PROCESS BLANK	2	1.81E-01	15%	<2.2E-1		<7.4E+0	
96-2607	118.2A.F	2	6:16E+01	3%	4.39E+00	9%	9.34E+02	10%
96-2607-DUP	118.2A.F DUP	2	5.99E+01	3%	3.60E+00	10%	9.33E+02	10%
	RPD		2.8%		19.8%		0.1%	
96-2606	PROCESS BLANK	2	6.46E-02	33%	<2.3E-1		<7.4E+0	
96-2608	118.2B.F	2	6.30E+01	4%	4.10E+00	10%	1.21E+03	8%
96-2608-DUP	118.2B.F DUP	2	6.37E+01	4%	4.17E+00	9%	1.15E+03	8%
	RPD		1.1%		1.7%		5.1%	
96-2611	PROCESS BLANK	2	1.88E-01	15%	<2.7E-1		<7.8E+0	
96-2613	119.2A.F	2	5.74E+01	3%	8.02E+00	9%	9.69E+02	10%
96-2613-DUP	119.2A.F DUP	2	5.80E+01	3%	9.87E+00	9%	9.74E+02	11%
	RPD		1.0%		20.7%		0.5%	
96-2612	PROCESS BLANK	2	1.94E-01	15%	<2.4E-1		<8.0E+0	
96-2614	119.2B.F	2	5.24E+01	3%	5.87E+00	9%	1.08E+03	10%
96-2614-DUP	119.2B.F DUP	2	5.35E+01	3%	6.13E+00	9%	1.06E+03	9%
	RPD		2.1%		4.3%		1.9%	
	LAB BLANK	2	<3.2E-3		<2.4E-1		<8.0E+1	
	LAB STANDARD	2	101%		101%		105%	
	SAMPLE SPIKE	2	114%		105%		N/A	

Table 3.5. Gamma Energy Analysis, Core 118/119 Composites, Tank BX-112

ALO #	CORE ID	Co-60 uCi/g	Cs-134 uCi/g	Cs-137 uCi/g	+/-% Error	Eu-154 uCi/g	Eu-155 uCi/g	Am-241 uCi/g
96-2617	PROCESS BLANK	<4.E-3	<3.E-3	2.48E-02	9%	<7.E-3	<9.E-3	<9.E-3
96-2617	118.COMP.F	<2.E-2	<4.E-2	6.28E+01	2%	<2.E-2	<1.E-1	<2.E-1
96-2617-DUP	118.COMP.F DUP	<9.E-3	<3.E-2	6.48E+01	2%	<2.E-2	<1.E-1	<1.E-1
	RPD			3.2%				
96-2618	119.COMP.F	<9.E-3	<3.E-2	4.89E+01	2%	<2.E-2	<9.E-2	<1.E-1
96-2618-DUP	119.COMP.F DUP	<7.E-3	<3.E-2	4.95E+01	2%	<2.E-2	<8.E-2	<9.E-2
	RPD			1.1%				
96-2619	FIELD BLANK	<1.E-2	<1.E-2	6.36E+0	2%	<2.E-2	<4.E-2	<4.E-2
96-2619-DUP	FIELD BLANK DUP	<8.E-3	<1.E-2	6.42E+0	2%	<2.E-2	<4.E-2	<4.E-2
	RPD			0.9%				

Table 3.6. Gamma Energy Analysis, Core 118/119 Seg 2A/2B, Tank BX-112

ALO #	CORE ID	Co-60 uCi/g	Cs-134 uCi/g	Cs-137 uCi/g	+/-% Error	Eu-154 uCi/g	Eu-155 uCi/g	Am-241 uCi/g
96-2605-BLK	PROCESS BLANK	<9.8E-3	<6.5E-3	1.51E-01	5%	<1.4E-2	<2.6E-2	<2.4E-2
96-2607	118.2A.F	<1.5E-2	<3.3E-2	5.70E+01	2%	<2.4E-2	<1.2E-1	<1.4E-1
96-2607-DUP	118.2A.F DUP	<1.4E-2	<3.5E-2	5.72E+01	2%	<2.6E-2	<1.3E-1	<1.5E-1
	RPD			0.4%				
96-2606-BLK	PROCESS BLANK	<1.2E-2	<6.5E-3	7.80E-02	8%	<1.8E-2	<2.5E-2	<2.5E-2
96-2608	118.2B.F	<1.5E-2	<3.6E-2	6.24E+01	2%	<2.3E-2	<1.3E-1	<1.5E-1
96-2608-DUP	118.2B.F DUP	<1.4E-2	<3.4E-2	6.29E+01	2%	<1.8E-2	<1.2E-1	<1.5E-1
	RPD			0.8%				
96-2611-BLK	PROCESS BLANK	<1.4E-2	<6.6E-3	1.63E-01	5%	<1.7E-2	<2.8E-2	<2.6E-2
96-2613	119.2A.F	<1.6E-2	<3.3E-2	4.68E+01	2%	<2.7E-2	<1.2E-1	<1.4E-1
96-2613-DUP	119.2A.F DUP	<1.7E-2	<3.3E-2	4.77E+01	2%	<3.0E-2	<1.2E-1	<1.5E-1
	RPD			1.9%				
96-2612-BLK	PROCESS BLANK	<1.2E-2	<7.6E-3	1.39E-01	5%	<2.3E-2	<2.7E-2	<2.8E-2
96-2614	119.2B.F	<1.1E-2	<3.2E-2	4.32E+01	2%	<2.3E-2	<9.7E-2	<1.1E-1
96-2851DUP	119.2B.F DUP	<1.1E-2	<2.9E-2	4.42E+01	2%	<1.6E-2	<9.2E-2	<1.0E-1
	RPD			2.3%				

Table 3.7. Gamma Energy Analysis, Core 118/119 Homogenization Test, Tank BX-112

ALO #	CORE ID	Co-60 uCi/g	Cs-134 uCi/g	Cs-137 uCi/g	+/-% Error	Eu-154 uCi/g	Eu-155 uCi/g	Am-241 uCi/g
96-2605	PROCESS BLANK	<7.E-4	<2.E-3	1.77E-01	3%	<3.E-3	<4.E-3	<5E-3
96-2607	118.2A.F	<3.E-3	<3.E-2	5.49E+01	2%	<5.E-2	<8.E-2	<1.E-1
96-2607	118.2A.F DUP	<2.E-3	<3.E-2	5.37E+01	2%	<5.E-2	<8.E-2	<1.E-1
	RPD			2.2%				
96-2611	PROCESS BLANK	<2.E-3	<1.E-3	1.44E-01	3%	<2.E-3	<3.E-3	<4.E-3
96-2615	119.3A.F	<2.E-3	<3.E-2	3.97E+01	2%	<4.E-2	<7.8-2	<9.E-2
96-2615	119.3A.F DUP	<3.E-3	<3.E-2	3.91E+01	2%	<4.E-2	<7.E-2	<9.E-2
	RPD			1.5%				
96-2849BLK	PROCESS BLANK	<2.E-3	<9.E-4	2.21E-02	4%	<3.E-3	<3.E-3	<5.E-3
96-2849	118.2AH.4	<6.E-3	<6.E-2	5.42E+01	2%	<3.E-2	<2.E-1	<3.E-1
96-2849DUP	118.2AH.4 DUP	<8.E-3	<6.E-2	5.36E+01	2%	<2.E-2	<2.E-1	<3.E-1
	RPD			1.1%				
96-2851	119.3AH.F	<6.E-3	<5.E-2	3.79E+01	2%	<2.E-2	<2.E-1	<3.E-1
96-2851DUP	119.3AH.F DUP	<7.E-3	<5.E-2	3.79E+01	3%	<2.E-2	<2.E-1	<3.E-1
	RPD			0.0%				

Table 3.8. Summary of Tank BX-112 Homogenization Test ICP & GEA Results

Analyte	96-02607		96-02849		
	118.2A Bottom(1)	118.2A Dup Bottom	118.2AH Top(1)	118.2AH Dup Top	RSD (%)
^{137}Cs μCi/g	5.49E1	5.37E1	5.42E1	5.36E1	1
Al μg/g	1.27E4	1.26E4	1.32E4	1.36E4	4
Bi μg/g	1.62E4	1.54E4	1.55E4	1.55E4	2
Cr μg/g	1.36E3	1.33E3	1.24E3	1.24E3	5
Fe μg/g	7.35E3	7.54E3	6.71E3	6.77E3	6
Na μg/g	8.66E4	8.51E4	8.08E4	8.18E4	3
P μg/g	2.18E4	2.15E4	2.07E4	2.09E4	2
Analyte	**96-2615**		**96-02851**		
	119.3A Bottom(1)	119.3A Dup Bottom	119.3AH Top(1)	119.3AH Dup Top	RSD (%)
^{137}Cs μCi/g	3.97E1	3.91E1	3.79E1	3.79E1	2
Al μg/g	1.12E4	1.06E4	1.10E4	1.17E4	4
Bi μg/g	1.63E4	1.56E4	1.53E4	1.54E4	3
Cr μg/g	1.32E3	1.27E3	1.25E3	1.26E3	2
Fe μg/g	8.38E3	8.03E3	7.75E3	7.73E3	4
Na μg/g	7.70E4	7.70E4	7.82E4	7.88E4	1
P μg/g	1.84E4	1.78E4	1.83E4	1.85E4	2

(1) "Top" and "Bottom" refer to analytical sampling locations within the homogenized sample, not to the location of the subsegment within the core.

REFERENCES

[1] J. M. Conner, *Tank 241-BX-112 Push Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-063, Rev. 2, Westinghouse Hanford Company, Richland, Washington, January 22, 1996.

[2] C.H. Brevick, *Historical Tank Content Estimates for Northeast Quadrant of the Hanford 200 East Area*, WHC-SD-WM-ER-349, Rev. 0A, Westinghouse Hanford Company, Richland, Washington, March 9, 1995.

[3] G. T. Dukelow, et al., *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, Washington, August 31, 1995.

[4] B. C. Simpson, and D. J. McCain, *Historical Data Evaluation Requirements*, WHC-SD-WM-DQO-018, Rev. 0A, Westinghouse Hanford Company, Richland, Washington, August 31, 1995.

SINGLE SHELL TANK

WASTE CHARACTERIZATION PROJECT

TANK BX-112 CORES 118 & 119
Revision 1

June 1996

Prepared By: KL Silvers
LR Greenwood
RT Steele
JM Tingey
MW Urie

Pacific Northwest National Laboratory

WHC-SD-WM-DP-170, REV. 1

SINGLE SHELL TANK

WASTE CHARACTERIZATION PROJECT

APPENDICES

PRIMARY ANALYTICAL DATA

TANK BX-112 CORES 118 & 119
Revision 1

June 1996

Pacific Northwest National Laboratory

SINGLE SHELL TANK

WASTE CHARACTERIZATION PROJECT

APPENDIX A

SUPPORTING DOCUMENTATION

TANK BX-112 CORES 118 & 119

March 1996

Pacific Northwest National Laboratory

A1 - SIGNATURE LIST

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325 BUILDING STAFF
SIGNATURE LIST

ANALYST NAME	INITIALS	WRITTEN NAME	WRITTEN INITIALS
QA/QC			
KJ KUHL-KLINGER	KJK		
OP BREDT	OPB		
JD MATHESON	JDM		
RG SWOBODA	RGS		
PROJ MGMT & SUPPORT			
KL SILVERS	KLS		
BM THORNTON	BMT		
DL BELLOFATTO	DLB		
TL BURRUSS	TLB		
EA NELSON	EAN		
LE TOOKER	LET		
SHIELDED ANALYTICAL LABORATORY			
RT STEELE	RTS		
KJ SMITH	KJS		
FV HOOPES	FVH		
CE CHAMBERLIN	CEC		
LP DARNELL	LPD		
IC HENRY	ICH		
JK RAU	JKR		
INORGANIC			
MW URIE	MWU		
DL BALDWIN	DLB		
BJ COOK	BJC		
PK MELETHIL	PKM		
MM O'NEILL	MMO		
JJ WAGNER	JJW		
D ORTIZ	DO		
DR SANDERS	DRS		

325 BUILDING STAFF
SIGNATURE LIST

ANALYST NAME	INITIALS	WRITTEN NAME	WRITTEN INITIALS
ORGANIC			
EW HOPPE	EWH		EWH
GS KLINGER	GSK		GSK
GA ROSS	GAR		
MJ STEELE	MJS		
RADIOCHEMISTRY			
LR GREENWOOD	LRG	LR Greenwood	LRG
SK FADEFF	SDF	Sandra K Fadeff	SKF
RT RATNER	RTR	RTR	RTR
TL TRANG -LE	TLT	T Trang - le	TTL
KA POEPPEL	KAP		
KK THOMAS	KKT		
PROCESS CHEMISTRY			
JM TINGEY	JMT		
SM HEINISCH	SMH		
PR BREDT	PRB	Paul Bredt	PRB
DL ALEXANDER	DLA		DLA
GM RICHARDSON	GMR		
D RINEHART	DR		
SM TINGEY	SMT		
DL BLANCHARD	DLB		

A2 - WHC CHAINS OF CUSTODY

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. No.

Page 1 of 1

Collector: WHC, TWRS Characterization Project	Contact/Requestor: Marty L. Martin	Telephone No.: 373-1795 MSIN: T6-20 FAX: (509)373-5047
SAF No.	Sample Origin: 222-S Laboratories	Purchase Order/Charge Code
Project Title: BX-112 Push Core Characterization	Logbook No.	Ice Chest No.: N/A Temp.
Shipped To (Lab): PNNL 325 Lab - Attn. Joel Tingey	Method of Shipment: Hedgehog shipping container	Bill of Lading/Air Bill No.
Protocol	Data Turnaround	Offsite Property No.

Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
BX112C118S1U	S96T000294	SL			Vial #9141	Per WHC-SD-WM-TSAP-063, Rev. 2	none
BX112C118S1L	S96T000296	SL			Vial #9144	Per WHC-SD-WM-TSAP-063, Rev. 2	none

POSSIBLE SAMPLE HAZARDS/REMARKS (List all known wastes) MSDS ☐ Yes ☒ No

caustic, radioactive, hazardous/dangerous waste

SPECIAL INSTRUCTIONS

Sample numbers: Samples are from Hanford tank 241-BX-112, Core 118 (Riser 2), Segment 1. U denotes upper half segment, L lower half segment.

A copy of the Chain of Custody from field sampling may be obtained from J. M. Conner (373-2711).

Hold Time: n/a

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Arthur D. Bonally [signature]	1-23-96/1300	ROGER L. CHAMBERS [signature]	1-23-96/1300
ROGER L CHAMBERS [signature]	1-23-96/1330	MARTY L MARTIN [signature]	1-23-96/1330
MARTY L MARTIN [signature]	1-26-96/0930	G.R. HILL [signature]	0930 1-26-96
G.R. HILL [signature]	10-20 AM 1-26-96	D.E. Bouchard [signature]	1-26-96 10:20

Matrix*

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process): Per sampling and analysis plan (WHC-SD-WM-TSAP-063, Rev. 2), or QA plans referenced therein, or laboratory procedure.

Disposed By

Date/Time

All samples containing hazardous materials shall be picked up by requestor and returned to parent container or site of origin.

DISTRIBUTION: White - Remain with Samples Color - Customer

BC-G000-020 (12/95)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35151 (2) Sample Number Blank Field (3) Supervisor M. C. Jones

(4) Tank BX-112 (5) Riser 3 (6) Segment Blank (7) Core 119 (8) Cask Serial Number SN-15-G

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	<0.5	
Bottom Dose Rate	<0.5	
Smearable Contamination	<2.0 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	[illegible] (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description	
A. Work Package Number	ES-95-00612
B. Cask Seal Number	3243
C. Sampler Serial Number	95-059
D. Date and Time Sampler Unseated	12-27-95 / 05:30
E. Expected Liquid Content	100%
F. Expected Solid Content	0%
G. Dose Rate Through Drill String	<.5 mR/hr
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

Blank sampler with H2O in it

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX-112	225 300 AREA	for M. Jones James Sickels James Sickels	1/3/96 1200	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels James Sickels		[illegible]	1/3/96 1200	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
[illegible]		[illegible]	1-2-95	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments
		[illegible]	1-2-95	

(18) Seal Intact Upon Release? ☐ Yes ☐ No

(31) Seal Intact Upon Receipt? PRB 4/4/96 ☒ Yes ☐ No

(32) Seal Data Consistent with this Record? PRB 4/4/96

Shipment No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

WHC-SD-WM-DP-170, REV. 1

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-288 (3) Supervisor [signature]

(4) Tank BX-112 (5) Riser 2 (6) Segment 1 (7) Core 118 (8) Cask Serial Number 11-G

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	< 0.5 mR/hr	< 0.5 mR/hr
Side Dose Rate	8 mR/hr	8 mR/hr
Bottom Dose Rate	4.5 mR/hr	5 mR/hr
Smearable Contamination	< 20 dpm/Smear (Alpha)	< 20 dpm/100 cm² (Alpha)
	< 1000 dpm/Smear (Beta-Gamma)	< 1000 dpm/100 cm² (Beta-Gamma)
RCT* (HPT)	[signature] (Signature)	RCT* (HPT) [signature] (Signature)

(10) Shipment Description

A. Work Package Number	ES-95-0061
B. Cask Seal Number	3297
C. Sampler Serial Number	95-055
D. Date and Time Sampler Unseated	11-30-95 1815
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	380 mR
H. Expected Sample Length	19"

(11) INFORMATION (include statement of laboratory tests to be performed.)

(12) Field Comments

NO X-RAY

IT IS NOTED THAT 3 DAYS HAVE TRANSPIRED SINCE THE SAMPLER WAS REMOVED FROM TANK, THIS WAS POINTED OUT TO J. CONNER (TANK CHAR. COO.) [signature] 12/4/95

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX-112	2225 Lab	M.C. Jones [signature]	12-4-95 08:00	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
[signature] M.C. Jones		[signature]	12-4-95 11:00	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
[signature]		N. Lapiers N. LAPIERS	1130 12-4-95	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release? ☒ Yes ☐ No

(31) Seal Intact Upon Receipt? ☒ Yes ☐ No

(32) Seal Data Consistent with this Record?

Shipment No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35156 (2) Sample Number 95-286H (3) Supervisor M. C. Jones

(4) Tank BX-112 (5) Riser 2 (6) Segment 1A (7) Core 118 (8) Cask Serial Number ~~95-040~~ C-1015

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	2.0	
Bottom Dose Rate	<0.5	
Smearable Contamination	<20 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	Tom Graft (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description	
A. Work Package Number	FS-95-00612
B. Cask Seal Number	3241
C. Sampler Serial Number	95-040
D. Date and Time Sampler Unseated	12-21-95 / 18:27
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	250 mR/hr
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX-112	325 200 Area	for M. Jones James Sickels James Sickels	1-2-96 1745	
(19) Relinquished By (Sign and PRINT)		**(20) Received By (Sign and PRINT)**	**(21) Date/Time**	**(22) Receiver Comments**
James Sickels James Sickels		J. L. Henry	1-2-96 1755	
(23) Relinquished By (Sign and PRINT)		**(24) Received By (Sign and PRINT)**	**(25) Date/Time**	**(26) Receiver Comments**
J. L. Henry J. L. Henry		Paul Bredt Paul Bredt	1-2-96 1900	
(27) Relinquished By (Sign and PRINT)		**(28) Received By (Sign and PRINT)**	**(29) Date/Time**	**(30) Receiver Comments**

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
	PRB 1/4/96	PRB 1/4/96		
		Shipment No.	Cask Seal No.	Sample No.
☐ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-303 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35156 (2) Sample Number 95-289 (3) Supervisor M.C. Jones C-1048 12-96

(4) Tank BX-112 (5) Riser 2 (6) Segment 2 (7) Core 118 (8) Cask Serial Number SN-10-37

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	8.0	
Bottom Dose Rate	2.5	
Smearable Contamination	<20 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	(Signature)	RCT* (HPT) (Signature)

(10) Shipment Description	
A. Work Package Number	FS-95-0612
B. Cask Seal Number	3242
C. Sampler Serial Number	95-035
D. Date and Time Sampler Unseated	12-21-95 / 19.31
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	300 MR/HR.
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX-112	325 ~~222-S~~ 300 Area	M. Jones James Sickels	1-2-96 1745	
(19) Relinquished By (Sign and PRINT)		**(20) Received By (Sign and PRINT)**	**(21) Date/Time**	**(22) Receiver Comments**
James Sickels		J.L. Henderson	1-2-96 1755	
(23) Relinquished By (Sign and PRINT)		**(24) Received By (Sign and PRINT)**	**(25) Date/Time**	**(26) Receiver Comments**
J.L. Henderson		Scott Tingey	1-2-96 2100	
(27) Relinquished By (Sign and PRINT)		**(28) Received By (Sign and PRINT)**	**(29) Date/Time**	**(30) Receiver Comments**
		Scott Tingey		

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?
	PRB 1/4/96	PRB 1/4/96
☐ Yes ☐ No	☒ Yes ☐ No	Shipment No. ☒ Yes ☐ No; Cask Seal No. ☒ Yes ☐ No; Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

100

WHC-SD-WM-DP-170, REV. 1

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35156 (2) Sample Number 95-290 (3) Supervisor M.C. Jones 1-2-96

(4) Tank BX-112 (5) Riser 2 (6) Segment 3 (7) Core 118 (8) Cask Serial Number C1037

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	8.0	
Bottom Dose Rate	<0.5	
Smearable Contamination	<20 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	[illegible] (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description	
A. Work Package Number	ES-95-0612
B. Cask Seal Number	4456
C. Sampler Serial Number	95-062
D. Date and Time Sampler Unseated	12-22-95, 0175
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	300 mr/HR
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

HDB went off after sample was pushed 17"

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX-112	325 ~~222-S~~ 300 AREA	Foil Jones James Sickels James Sickels	1-2-96 1745	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels James Sickels		[illegible] / J.L. Hensley	1-2-96 1755	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
[illegible] J.L. Hensley		Scott [illegible] / Scott Tinsey	[illegible]	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release? ☐ Yes ☐ No

(31) Seal Intact Upon Receipt? PRB 1/4/96 ☒ Yes ☐ No

(32) Seal Data Consistent with this Record? PRB 1/4/96

Shipment No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35152 (2) Sample Number 95-292 (3) Supervisor Hartley

(4) Tank BX112 (5) Riser 3 (6) Segment 1 (7) Core 119 (8) Cask Serial Number C1049

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	5.0	—
Bottom Dose Rate	2.0	
Smearable Contamination	<20 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	Tim Leach (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description

A. Work Package Number	ES-95-00612
B. Cask Seal Number	4471
C. Sampler Serial Number	95-037
D. Date and Time Sampler Unseated	12-27-95 1013
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	330 mR/hr
H. Expected Sample Length	19" ~~5 3/4 in/hr~~

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

Small amount of Material on Bottom of Sampler

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX112	325 ~~2101-S~~ 300 Area	For U. Hartley James Sickels	1-2-96 1730	

(19) Relinquished By (Sign and PRINT)	(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels JAMES Sickels	David J Keane	1-2-96 1730	

(23) Relinquished By (Sign and PRINT)	(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
David J Keane David J Keane	Paul Breit / Paul Breit	1/2/96 2100	

(27) Relinquished By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?
☒ Yes ☐ No	PRB 1/4/96 ☒ Yes ☐ No	Shipment No. ☒ Yes ☐ No; Cask Seal No. PRB 1/4/96 ☒ Yes ☐ No; Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

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CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35152 (2) Sample Number 95-293 (3) Supervisor Hartley

(4) Tank BX112 (5) Riser 3 (6) Segment 2 (7) Core 119 (8) Cask Serial Number 1014

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	6.0	
Bottom Dose Rate	2.0	
Smearable Contamination	<20 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	Tom Craft (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description	
A. Work Package Number	ES-95-00612
B. Cask Seal Number	4470
C. Sampler Serial Number	95-042
D. Date and Time Sampler Unseated	12-27-95, 1311
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	280 mr/HR
H. Expected Sample Length	~~19"~~ 19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

1/2" MATERIAL ON BOTTOM of Sampler

Sample was Pushed 19"

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX112	325 DDK 2-22-5300	For D. Hartley James Sickels James Sickels	1-2-96 1730	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels James Sickels		David J Keane David J Keane	1-2-96	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
David J Keane David J Keane		Paul Brett / Paul Brett	1/2/96 2100	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release? ☐ Yes ☐ No

(31) Seal Intact Upon Receipt? PRB 1/4/96 ☒ Yes ☐ No

(32) Seal Data Consistent with this Record? PRB 1/4/96

Shipment No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 35152 (2) Sample Number 95-294 (3) Supervisor Hartley

(4) Tank BX112 (5) Riser 2 (6) Segment 3 (7) Core 119 (8) Cask Serial Number C1034

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<0.5	
Side Dose Rate	6.0	
Bottom Dose Rate	2.0	
Smearable Contamination	<20 (Alpha)	(Alpha)
	<1000 (Beta-Gamma)	(Beta-Gamma)
RCT* (HPT)	Tex Crafft (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description	
A. Work Package Number	ES-95-00612
B. Cask Seal Number	4468
C. Sampler Serial Number	95-116
D. Date and Time Sampler Unseated	12-27-95, 1422
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	300 mr/HR.
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments: Sample was Pushed 17"

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
BX112	325 Area 2-5 300	Fan B. Hartley, James Sickels	1-2-96 1730	
(19) Relinquished By (Sign and PRINT)		**(20) Received By (Sign and PRINT)**	**(21) Date/Time**	**(22) Receiver Comments**
James Sickels, James Sickels		David J Keane, David J Keane	1-2-96 1730	
(23) Relinquished By (Sign and PRINT)		**(24) Received By (Sign and PRINT)**	**(25) Date/Time**	**(26) Receiver Comments**
David J Keane, David J Keane		Paul Brett, Paul Brett	1-3-96 5:00	
(27) Relinquished By (Sign and PRINT)		**(28) Received By (Sign and PRINT)**	**(29) Date/Time**	**(30) Receiver Comments**

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?
☑ Yes ☐ No	ARB 1/4/96 ☒ Yes ☐ No	ARB 1/4/96 Shipment No. ☒ Yes ☐ No; Cask Seal No. ☒ Yes ☐ No; Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

A3 - PNNL CHAINS OF CUSTODY

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HLRF TO SAL CHAINS OF CUSTODY

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Page 1 of 1 Chain of Custody Number: PM-01

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: HLRF

General Sample Description: Samples from BX-112, Core 118, Riser 2

Test Instruction or ASR No. (as applicable): Verbal Instructions from KL Silvers

Analysis Requested and/or Technical Group: Shielded Analytical Laboratory

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
N/A	BX112C118S1U (S96T000294) Vial #9141	
N/A	BX112C118S1L (S96T000296) Vial #9144	

Sender: [signature] 1/29/96 (signature/date) Receiver: [signature] 1/29/96 (signature/date)

Original - Project File

MCS-033, Rev. 3
Issued: 09/95

Page 1 of 1

Chain of Custody Number: PM-~~01~~ 02 KP 2/2/96

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 Originating Technical Group: HLRF

General Sample Description: Tank BX-112 Homogenized Core Samples

Test Instruction or ASR No. (as applicable): 002785, TI96-PM-06

Analysis Requested and/or Technical Group: Sample Prep

Prep Method Description: ~~Fusion~~ None KP 2/2/96

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02605	Core 118 Seg 1AA	DELIVER TO THE SHIELDED ANALYTICAL LAB
96-02607	Core 118 Seg 2A	
96-02609	Core 118 Seg 3A	
96-02611	Core 119 Seg 1A	
96-02613	Core 119 Seg 2A	
96-02615	Core 119 Seg 3A	
96-02849	Core 118 Seg 2A Homog Chk	
96-02851	Core 119 Seg 3A Homog Chk	

Sender: [signature] 2-1-96 (signature/date)

Receiver: [signature] 2/1/96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-04

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: HLRF

General Sample Description: Samples from BX-112, Core 118 and Core 119

Test Instruction or ASR No. (as applicable): TI96-PM-05, Rev 1

Analysis Requested and/or Technical Group: Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02606	BX112 C118 1/2 Seg 1AB	
96-02608	BX112 C118 1/2 Seg 2B	
96-02612	BX112 C119 1/2 Seg 1B	
96-02614	BX112 C119 1/2 Seg 2B	
96-02616	BX112 C119 1/2 Seg 3B	

Sender: Scott [illegible] 2-2-96 (signature/date) Receiver: John K. Ross 2-2-96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-05

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: HLRF

General Sample Description: BX-112, Core 118 Drainable Liquid Samples

Test Instruction or ASR No. (as applicable): TI96-PM-05, Rev 1

Analysis Requested and/or Technical Group: Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02848	BX112 C118 Seg 1A Drainable Liquid-A	
96-02850	BX112 C118 Seg 3 Drainable Liquid-B	
96-02620	C118 Liner Liquid A	
96-02619	Field Blank	

Sender: [signature] 2-5-96 (signature/date) Receiver: [signature] 2/5/96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-11

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: HLRF

General Sample Description: Samples from BX-112, Core's 118 and 119

Test Instruction or ASR No. (as applicable): Memo from RT Steele to JM Tingey, KL Silvers " Request for More Sample Material" Dated February 6, 1996

Analysis Requested and/or Technical Group: Shielded Analytical Laboratory - Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02619	Field Blank	
96-02620	Liner Fluid	

Sender: D.R. [illegible] 2/6/96 (signature/date) Receiver [illegible] 2/6/96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-17

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: HLRF

General Sample Description: Samples from BX-112, Core's 118 and 119

Test Instruction or ASR No. (as applicable): Verbal request from RT Steele to JM Tingey for additional sample material, February 7, 1996.

Analysis Requested and/or Technical Group: Shielded Analytical Laboratory - Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02619	Field Blank	
96-02620	Liner Fluid	

Sender: [illegible] (signature/date) Receiver: John K. Brown 2-9-96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-41

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: HLRF

General Sample Description: Samples from BX-112, Core's 118 and 119

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: Shielded Analytical Laboratory - Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02617	Core 118 Composite	
96-02618	Core 119 Composite	

Sender: [signature] 2-27-96 Receiver: [signature] 2-27-96
(signature/date) (signature/date)

Original - Project File

SAL TO SRPL CHAINS OF CUSTODY

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Page 1 of 1 Chain of Custody Number: PM-03

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 118 and Core 119

Test Instruction or ASR No. (as applicable): TI96-PM-06

Analysis Requested and/or Technical Group: Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02605	BX112 C118, Seg 1AA	
96-02607	BX112 C118, Seg 2A	
96-02609	BX112 C118, Seg 3A	
96-02611	BX112 C119, Seg 1A	
96-02613	BX112 C119, Seg 2A	
96-02615	BX112 C119, Seg 3A	

Sender: 2/2/96 (signature/date) Receiver: 2-2-96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-18

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core's 118 and 119

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: Sample Prep

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02606	118.1AB.F	
96-02608	118.2B.F	
96-02612	119.1B.F	
96-02614	119.2B.F	
96-02616	119.3B.F	
96-02849	118.2AH.F	
96-02851	119.3AH.F	

Sender: 2/8/96 (signature/date) Receiver: 2-8-96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-44

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core's 118 and 119

Test Instruction or ASR No. (as applicable): TI96-PM-06 and TI96-PM-09/ ASR's 2785 and 2889

Analysis Requested and/or Technical Group: Sample Receiving and Prep - Fusion, Water Leach

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02617	118.COMP	
96-02618	119.COMP	
96-03365	118.1A.D	Jar 9144
96-03366	118.1B.D	Jar 9141

Sender: 3/4/96 (signature/date) Receiver: 3-4-96 (signature/date)

Original - Project File

SAL TO LAB CHAINS OF CUSTODY

Page 1 of 1 Chain of Custody Number: PM-12

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Tank BX-112 Drainable Liquid Samples

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: Total Alpha

Prep Method Description: Acidification

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02848-BLK	Process Blank	
96-02848	118.1ADL.D	
96-02850	118.3DL.D	

Sender: 2/8/96 (signature/date) Receiver: 2/8/96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-13

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Tank BX-112 Drainable Liquid Samples

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: ICP

Prep Method Description: Acidification

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02848-BLK	Process Blank	
96-02848	118.1ADL.D	
96-02850	118.3DL.D	

Sender: [signature] (signature/date) Receiver: D R Sanden 2/7/96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-14

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Tank BX-112 Field Blank/Hydrostatic Fluid

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: IC

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02619	FLD-BLANK.F	
96-02620	HYD-FLUID.D	

Sender: [signature] 2/7/96 (signature/date) Receiver: M. O'Neill 2-7-96 (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-16

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Tank BX-112 Field Blank

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: Total Alpha, Total Beta, GEA, Sr-90, U/Laser

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02619	FLD-BLANK.F	

Sender: [signature] 2/7/96 (signature/date) Receiver: [signature] 2/7/96 (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-38

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-104, Core's 126 and 127

Test Instruction or ASR No. (as applicable): TI96-PM-08 / ASR #2822

Analysis Requested and/or Technical Group: Inorganic Group - ICP

Prep Method Description: Ni/KOH Fusion

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02980-BLK	Process Blank	
96-02980	126.2BH.F	
96-02980-DUP	126.2BH.F-DUP	
96-02981	126.2A.F	
96-02981-DUP	126.2A.F-DUP	
96-02983	127.1A.F	
96-02983-DUP	127.1A.F-DUP	
96-02986	127.2AH.F	
96-02986-DUP	127.2AH.F-DUP	
SRM 2709	LCS BX104/HOMO CHK	

Sender: [illegible] 2/22/96 (signature/date) Receiver: DK Sanders 2/22/96 (signature/date)

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BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-104, Core's 126 and 127

Test Instruction or ASR No. (as applicable): TI96-PM-08 / ASR #2822

Analysis Requested and/or Technical Group: Inorganic Group - IC Anions

Prep Method Description: Water Leach

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02979-BLK	Process Blank	
96-02979-BS	Blank Spike	
96-02979	126.1A.W	
96-02979-DUP	126.1A.W-DUP	
96-02979-MS	126.1A.W-MS	
96-02981	126.2A.W	
96-02981-DUP	126.2A.W-DUP	
96-02982	126.2B.W	
96-02982-DUP	126.2B.W-DUP	
96-02983	127.1A.W	
96-02983-DUP	127.1A.W-DUP	
96-02984	127.1B.W	
96-02984-DUP	127.1B.W-DUP	
96-02985	127.2A.W	
96-02985-DUP	127.2A.W-DUP	

Sender: 2/26/96 Receiver: 2-26-96
(signature/date) (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-40

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-104, Core's 126 and 127

Test Instruction or ASR No. (as applicable): TI96-PM-08 / ASR #2822

Analysis Requested and/or Technical Group: Radiochemistry Group - GEA

Prep Method Description: Ni/KOH Fusion

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02980-BLK	Process Blank	
96-02980	126.2BH.F	
96-02980-DUP	126.2BH.F	
96-02986	127.2AH.F	
96-02986-DUP	127.2AH.F	

Sender: [signature] 2/22/96 (signature/date) Receiver: [signature] 2/22/96 (signature/date)

Original - Project File

Page 1 of 1 Chain of Custody Number: PM-42

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 118

Test Instruction or ASR No. (as applicable): TI96-PM-09 / ASR #2889

Analysis Requested and/or Technical Group: DSC/TGA

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-03365	118.1A.D	Jar 9144
96-03366	118.1B.D	Jar 9141

Sender: 3/4/96 (signature/date) Receiver: 4MAR96 (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-43

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 118

Test Instruction or ASR No. (as applicable): TI96-PM-09 / ASR #2889

Analysis Requested and/or Technical Group: Bulk Density

Prep Method Description: None

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-03365	118.1A.D	Jar 9144

Sender: [signature] 3/4/96 (signature/date) Receiver: [signature] 3/4/96 (signature/date)

Original - Project File

SRPL TO LAB CHAINS OF CUSTODY

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WHC-SD-WM-DP-170, REV. 1

Page 1 of 1 Chain of Custody Number: PM-06

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 118

Test Instruction or ASR No. (as applicable): TI96-PM-06

Analysis Requested and/or Technical Group: Radiochemistry Group - Total Alpha, GEA

Prep Method Description: Ni/KOH Fusion

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02605-BLK	Process Blank	ANALYSES: Total Alpha and GEA
96-02605	118.1AA.F	ANALYSES: Total Alpha Only
96-02605-DUP	118.1AA.F-DUP	ANALYSES: Total Alpha Only
96-02607	118.2A.F	ANALYSES: Total Alpha and GEA
96-02607-DUP	118.2A.F-DUP	ANALYSES: Total Alpha and GEA
96-02609	118.3A.F	ANALYSES: Total Alpha Only
96-02609-DUP	118.3A.F-DUP	ANALYSES: Total Alpha Only

Sender: Lori P. Darnell (signature/date) 2-7-96 Receiver: [illegible] 2/7/96 (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-07

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 118

Test Instruction or ASR No. (as applicable): TI96-PM-06

Analysis Requested and/or Technical Group: Inorganic Group - ICP

Prep Method Description: Ni/KOH Fusion

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02605-BLK	Process Blank	
96-02605	118.1AA.F	
96-02605-DUP	118.1AA.F-DUP	
96-02607	118.2A.F	
96-02607-DUP	118.2A.F-DUP	
96-02609	118.3A.F	
96-02609-DUP	118.3A.F-DUP	
SRM2709	LCS BX112/C118	

Sender: Lori P. Darnell (signature/date) 2-7-96 Receiver: Danny Sanders 2/7/96 (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-09

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 119

Test Instruction or ASR No. (as applicable): TI96-PM-06

Analysis Requested and/or Technical Group: Total Alpha, GEA

Prep Method Description: Ni/KOH Fusion

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02611-BLK	Process Blank	ANALYSES: Total Alpha and GEA
96-02611	119.1A.F	ANALYSES: Total Alpha Only
96-02611-DUP	119.1A.F-DUP	ANALYSES: Total Alpha Only
96-02613	119.2A.F	ANALYSES: Total Alpha Only
96-02613-DUP	119.2A.F-DUP	ANALYSES: Total Alpha Only
96-02615	119.3A.F	ANALYSES: Total Alpha and GEA
96-02615-DUP	119.3A.F-DUP	ANALYSES: Total Alpha and GEA

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Page 1 of 1 Chain of Custody Number: PM-10

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 119

Test Instruction or ASR No. (as applicable): TI96-PM-06

Analysis Requested and/or Technical Group: ICP

Prep Method Description: Ni/KOH Fusion

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02611-BLK	Process Blank	
96-02611	119.1A.F	
96-02611-DUP	119.1A.F-DUP	
96-02613	119.2A.F	
96-02613-DUP	119.2A.F-DUP	
96-02615	119.3A.F	
96-02615-DUP	119.3A.F-DUP	
N/A	SRM 2709 (LCS BX112/C119)	

Sender: Lori P. Darnell 2-7-96 (signature/date) Receiver: Danny Sanders 2/7/96 (signature/date)

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Page 1 of 1 Chain of Custody Number: PM-26

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 118

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: Inorganic Group - IC

Prep Method Description: Water Leach

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02605-BLK	Process Blank	
96-02605-BS	Blank Spike	
96-02605	118.1AA.W	
96-02605-DUP	118.1AA.W-DUP	
96-02605-MS	118.1AA.W-MS	
96-02606	118.1AB.W	
96-02606-DUP	118.1AB.W-DUP	
96-02607	118.2A.W	
96-02607-DUP	118.2A.W-DUP	
96-02608	118.2B.W	
96-02608-DUP	118.2B.W-DUP	
96-02609	118.3A.W	
96-02609-DUP	118.3A.W-DUP	

Sender: Lori P. Darnell 2-26-96 Receiver: M. Mull 2-26-96
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Page 1 of 1 Chain of Custody Number: PM-27

BATTELLE, PACIFIC NORTHWEST LABORATORIES
ANALYTICAL CHEMISTRY LABORATORY (ACL)

ACL CHAIN OF CUSTODY

Project No.: 22762 - Push Mode Project Originating Technical Group: SAL

General Sample Description: Samples from BX-112, Core 119

Test Instruction or ASR No. (as applicable): TI96-PM-06 / ASR #2785

Analysis Requested and/or Technical Group: Inorganic Group - IC

Prep Method Description: Water Leach

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	COMMENTS
96-02611-BLK	Process Blank	
96-02611-BS	Blank Spike	
96-02611	119.1A.W	
96-02611-DUP	119.1A.W-DUP	
96-02611-MS	119.1A.W-MS	
96-02612	119.1B.W	
96-02612-DUP	119.1B.W-DUP	
96-02613	119.2A.W	
96-02613-DUP	119.2A.W-DUP	
96-02614	119.2B.W	
96-02614-DUP	119.2B.W-DUP	
96-02615	119.3A.W	
96-02615-DUP	119.3A.W-DUP	
96-02616	119.3B.W	
96-02616-DUP	119.3B.W-DUP	

Sender: Lori P Darnell 2-26-96 Receiver: M. O'Neill 2-26-96
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Original - Project File

A4 - TEST INSTRUCTIONS

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CONTROLLED DOCUMENT
COPY NO. 01

PUSH MODE PROJECT
TEST INSTRUCTIONS FOR HLRF EXTRUSION AND HOMOGENIZATION OF SST 241-BX-112, CORE 118 SEGMENTS 1A, 2, & 3 AND CORE 119 SEGMENTS 1, 2, & 3

DATE PREPARED: January 17, 1996 PREPARED BY: KL Silvers

SAMPLE NUMBERS: 96-02605 thru 96-02620, 96-02848 thru 96-02853

APPROVED BY: DATE: 1/18/96

CONTROLLING DOCUMENTS:

Project No: 22762
WHC TSAP: Tank 241-BY-112 Push Mode Sampling and Analysis Plan (WHC-SD-WM-TSAP-063) Rev. 1
PNL QAP: MCS-033, Revision 3 (September, 1995)
Controlling Procedure: PNL-ALO-010

INTRODUCTION

This Test Instruction (TI) defines the extrusion and subsampling of Single-Shell Tank (SST) 241-BX-112, Core 118 Segments 1A, 2, & 3 and Core 119 Segments 1, 2, & 3. The samples from this tank will be analyzed according to TSAP (WHC-SD-WM-TSAP-063 Rev. 1). If the amount of material recovered from each semi-segment from this tank is less than 20 g, the lab shall notify the Project Manager (PM) immediately. The PM must notify the Tank Cognizant Engineer (John Conner, WHC) within one working day. The samples will be extruded, subsampled, and preliminary physical observations and tests made. Subsequent TIs will define the preparation and analyses of the solid and liquid samples taken under this TI.

Homogenized sample material will be transferred to the SAL for preparation and distribution to appropriate analytical laboratories for homogenization check analyses.

Homogenized sample material will be transferred to the SAL for preparation and distribution to the analytical laboratories to complete the scope of work.

Sample extrusion activities should be charged against work package K36486. Subsampling and homogenization activities should be charged against work package K36487.

All activities identified in this Test Instruction shall be charged against Project 22762. All analyses are to be completed at Impact Level 2. All analyses are to be completed following the identified procedures. Any deviations to the procedures must be documented and this documentation must accompany the analytical data. All analytical data are to be returned to the Laboratory Support Office.

EXTRUSION INSTRUCTIONS

- The samples should be extruded per laboratory procedure PNL-HLRF-002. The extrusion will be videotaped and photographs of the extruded material will be taken.

- Any drainable liquid present shall be collected for each segment.
- Filter drainable liquids prior to analysis.
- Divide segment material into semi-segments.
- Homogenize semi-segment samples.
- Archive at least 10 mL of each semi-segment and drainable liquid from each segment.

PNL-ALO Number Assignment

Sample Identification	PNL-ALO-Number
Core 118 1/2 Seg 1AA	96-02605
Core 118 1/2 Seg 1AB	96-02606
Core 118 1/2 Seg 2A	96-02607
Core 118 1/2 Seg 2B	96-02608
Core 118 1/2 Seg 3A	96-02609
Core 118 1/2 Seg 3B	96-02610
Core 119 1/2 Seg 1A	96-02611
Core 119 1/2 Seg 1B	96-02612
Core 119 1/2 Seg 2A	96-02613
Core 119 1/2 Seg 2B	96-02614
Core 119 1/2 Seg 3A	96-02615
Core 119 1/2 Seg 3B	96-02616
Core 118 Composite	96-02617
Core 119 Composite	96-02618
Field Blank	96-02619
Hydrostatic Fluid	96-02620
CORE 118 Segment 1A Drainable Liquid	96-02848
Core 118 Segment 2 Drainable Liquid	96-02849
Core 118 Segment 3 Drainable Liquid	96-02850
Core 119 Segment 1 Drainable Liquid	96-02851
Core 119 Segment 2 Drainable Liquid	96-02852
Core 119 Segment 3 Drainable Liquid	96-02853

CONTROLLED DOCUMENT
COPY NO. 01

PUSH MODE PROJECT
TEST INSTRUCTIONS FOR SAMPLE PREPARATION & ANALYSIS OF SST 241-BX-112 CORE 118 SEGMENT 1

DATE PREPARED: February 26, 1996 PREPARED BY: KL Silvers

SAMPLE NUMBERS: 96-03365 & 96-03366

APPROVED BY: Kurt L. Silvers DATE: 2/26/96

CONTROLLING DOCUMENTS:

Project No: 22762
WHC TSAP: Tank 241-BX-112 Push Mode Sampling and Analysis Plan (WHC-SD-WM-TSAP-063) Rev. 2
PNL QAP: MCS-033, Revision 3 (September, 1995)
Controlling Procedure: PNL-ALO-010

INTRODUCTION

This Test Instruction (TI) defines the sample preparation and analysis of Single-Shell Tank (SST) 241-BX-112, Core 118 Segment 1. This segment was extruded in the 222-S facility, and transferred to the 325 Laboratory. Two samples (96-03366 = upper half-segment and 96-03365 = lower half-segment) were received. These samples will be analyzed according to TSAP (WHC-SD-WM-TSAP-063 Rev. 2). The samples will be prepared and analyzed according to instructions listed below.

Sample material will be transferred from the SAL to the HLRF for DSC/TGA and bulk density analysis. The SAL will prepare and distribute sample material to the appropriate analytical laboratories for analysis.

Sample preparation and analysis should be charged against the work packages provided in this test instruction.

All activities identified in this Test Instruction shall be charged against Project 22762. All analyses are to be completed at Impact Level 2. All analyses are to be completed following the identified procedures. Any deviations to the procedures must be documented and this documentation must accompany the analytical data. All analytical data are to be returned to the Laboratory Support Office.

SAMPLE PREPARATION INSTRUCTIONS:

- All sample preps shall be performed in duplicate.
- MCS-033 requirements for QC samples will be followed.
- Subsampling activities should be charged to work package K28882, and SAL Task Management activities should be charged to work package K36489.
- A 100 mg aliquot of each sample will be transferred from the SAL for DSC/TGA.

- An aliquot of the lower half segment sample (96-03365) will be transferred from the SAL for bulk density analysis.
- Preps shall be performed in accordance with the following procedures, and time shall be charged to the following work packages:

Prep Type	Procedure Number	Work Package
KOH Fusion	PNL-ALO-115	K36491
Water Leach	PNL-ALO-103	K28794

- Transfer prepared material to laboratories as soon as possible.

SAMPLE ANALYSIS INSTRUCTIONS:

- Analyses shall be performed in accordance with the following procedures, and time shall be charged to the following work packages:

Analysis	Procedure Number	Work Package
DSC/TGA	PNL-ALO-508	K36488
Bulk Density	PNL-ALO-501	K36492
Total Alpha	PNL-ALO-420/421	K36499
ICP	PNL-ALO-211	K36496
IC	PNL-ALO-212	K36497

Tank BX-112 Core 118 Segment 1 Analyses

Sample Numbers	Prep	Analysis
96-03366 (Core 118 Seg 1B upper half segment) 96-03365 (Core 118 Seg 1A lower half segment)	Direct	DSC/TGA
96-03365 (Core 118 Seg 1A lower half segment)	Direct	Density
96-03366 (Core 118 Seg 1B upper half segment) 96-03365 (Core 118 Seg 1A lower half segment)	Water Leach	IC
96-03366 (Core 118 Seg 1B upper half segment) 96-03365 (Core 118 Seg 1A lower half segment)	Fusion	ICP
96-03365 (Core 118 Seg 1A lower half segment)	Fusion	Total Alpha

CONTROLLED DOCUMENT
COPY NO. 01

PUSH MODE PROJECT
TEST INSTRUCTIONS FOR SAMPLE PREPARATION & ANALYSIS OF SST 241-BX-112 CORES 118 & 119

DATE PREPARED: February 5, 1996 PREPARED BY: KL Silvers

SAMPLE NUMBERS: 96-02605 thru 96-02609, 96-02611 thru 96-02620, 96-02848 thru 96-02851

APPROVED BY: [signature] DATE: 2/5/96

CONTROLLING DOCUMENTS:

Project No: 22762
WHC TSAP: Tank 241-BX-112 Push Mode Sampling and Analysis Plan (WHC-SD-WM-TSAP-063) Rev. 2
PNL QAP: MCS-033, Revision 3 (September, 1995)
Controlling Procedure: PNL-ALO-010

INTRODUCTION

This Test Instruction (TI) defines the sample preparation and analysis of Single-Shell Tank (SST) 241-BX-112, Core 118 Segments 1A, 2, & 3 and Core 119 Segments 1, 2, & 3. The samples from this tank will be analyzed according to TSAP (WHC-SD-WM-TSAP-063 Rev. 2). The samples will be prepared and analyzed according to instructions listed below.

Homogenized sample material will be transferred from the HLRF to the SAL for preparation and distribution to appropriate analytical laboratories for homogenization check analyses.

Homogenized sample material will be transferred from the HLRF to the SAL for preparation and distribution to the analytical laboratories to complete the scope of work.

Sample preparation and analysis should be charged against the work packages provided in this test instruction.

All activities identified in this Test Instruction shall be charged against Project 22762. All analyses are to be completed at Impact Level 2. All analyses are to be completed following the identified procedures. Any deviations to the procedures must be documented and this documentation must accompany the analytical data. All analytical data are to be returned to the Laboratory Support Office.

SAMPLE PREPARATION INSTRUCTIONS:

- All sample preps shall be performed in duplicate.
- MCS-033 requirements for QC samples will be followed.
- Subsampling activities should be charged to work package K28882, and SAL Task Management activities should be charged to work package K36489.

- Preps shall be performed in accordance with the following procedures, and time shall be charged to the following work packages:

Prep Type	Procedure Number	Work Package
KOH Fusion	PNL-ALO-115	K36491
Water Leach	PNL-ALO-103	K28794

- Preparation of samples is prioritized as follows:

1. Fusion preparation of the bottom semi-segments (see Table 1). The prepared samples will be transfered immediately to the radiochemistry for Total Alpha analysis, which is on the 45-day clock (due to the client 2/13/96).

Table 1: First Priority Fusion Preps

Core 118 Semi-segment 1AA	96-02605
Core 118 Semi-segment 2A (Top of sample, for homogenization check)	96-02607
Core 118 Semi-segment 3A	96-02609
Core 119 Semi-segment 1A	96-02611
Core 119 Semi-segment 2A	96-02613
Core 119 Semi-segment 3A (Top of sample, for homogenization check)	96-02615

2. Subsampling and dilution of drainable liquid samples (96-02848 & 96-02850) for Total Alpha, IC ICP analyses (HLRF: DSC/TGA and bulk density analyses) are required.

3. Subsampling and distribution of the field blank (sample 96-02619) to the lab.

4. Fusion preparation of the two additional homogenization check samples (96-02849 & 96-02851).

5. Fusion preparation of the top semi-segments (see Table 2).

Table 2: Second Priority Fusion Preps

Core 118 Semi-segment 1AB	96-02606
Core 118 Semi-segment 2B	96-02608
Core 119 Semi-segment 1B	96-02612
Core 119 Semi-segment 2B	96-02614
Core 119 Semi-segment 3B	96-02616

6. Fusion preparation of the Core Composite samples (96-02617 & 96-02618).

7. Water leach (for ICP and IC) of the Core Composite samples (96-02617 & 96-02618).

- Perform direct analyses for IC & ICP on liner liquid (sample number 96-02620).
- Transfer prepared material to laboratories as soon as possible. All remaining analyses (excluding the first priority fusions listed in Table 1 and drainable liquids) are on the 105-day clock, and are due to the client on 4/13/96.

SAMPLE ANALYSIS INSTRUCTIONS:

The analysis scheme being impelmented in this test instruction is being divided into a 45-day data deliverable and a 105-day data deliverable. The following analyses are on the 45-day clock, and are due to the client on 2/13/96: Total Alpha analyses (fusion prep) and density on the bottom 1/2 segments listed in Table 1, and DSC/TGA on all of the homogenized 1/2 segments.

If any of the notification limits for the 45-day analyses are exceeded, a 90-day data deliverable will be required. Any required secondary analyses (90-day) will communicated in a seperate test instruction.

Safety Screening Notification Limits

Analysis	Notification Limit	Action Required
DSC	> 480 J/g (dry weight) *	Contact PM immediately and provide data
Total Alpha	> 41 μCi/g (assuming density of 1.5 g/cm^3) *	Contact PM immediately and provide data

* The requirement for safety screening notification is that they be below the limit when compared at a 95% confidence level. The equation for determining the upper 95% confidence value is:

$$\hat{\mu} + t_{(n-1)} * \frac{\sqrt{\hat{\sigma}^2}}{\sqrt{n}} \qquad (1)$$

Where $\hat{\mu}$ is the sample mean, $\hat{\sigma}^2$ is the sample variance, n is the number of observations (for a sample run in duplicate, n equals 2), and $t_{(n-1)}$ is the quantile from Student's t distribution with (n-1) degrees of freedom (for a one-sided 95% confidence interval and when n is 2, t is 6.314). This equation is appropriate for confidence limit estimates of the mean when the sample size is small. This equation, as well as a table of values for the Student t statistic, should be found in any introductory statistics textbook (e.g. Lapin, 1983). For a sample run in duplicate, n equals 2.

The analyst must contact the Project Manager or delegate immediately when a limit is exceeded. Verbal communication to the client will follow with additional written notification within one day.

All of the samples described in this test instruction have been logged into LIMS. The analysis due dates have been logged in based on the associated deliverable (45-day report or the 105-day report). The attached LIMS Sample Cross-Reference Report identifies the client sample number, analyses to be performed, samples to be analyzed, order numbers, and work packages. The client sample number includes the core number, type of sample (i.e., 1/2 seg identification, composite, drainable liquid, blank), and the prep type (i.e., D = direct, F = KOH fusion, W = water leach).

- Analyses shall be performed in accordance with the following procedures, and time shall be charged to the following work packages:

Analysis	Procedure Number	Work Package
DSC/TGA	PNL-ALO-508	K36488
Bulk Density	PNL-ALO-501	K36492
Total Alpha	PNL-ALO-420/421	K36499
Total Beta	PNL-ALO-430/431	M23196
Sr-90	PNL-ALO-430/431	M23195
GEA - Cs-137	PNL-ALO-450	K41903
Uranium - Laser	PNL-ALO-445	M23197
ICP	PNL-ALO-211	K36496
IC	PNL-ALO-212	K36497
TOC - Hot Persulfate	PNL-ALO-381	K36494

Tank BX-112 Analyses

Prep	Analysis	Sample Type
Fusion	Total Alpha	bottom 1/2 segs, core composites, field blank
Fusion	ICP	all 1/2 segs, core composites, field blank
Fusion	GEA (Cs-137), Sr-90, U-Laser, Total Beta	core composites, field blank, and selected segment or 1/2 seg TBD
Water Leach	ICP	core composites, field blank, and selected segment or 1/2 seg TBD
Water Leach	IC	all 1/2 segs, core composites, field blank
Direct	DSC/TGA	all 1/2 segs, core composites, field blank, and drainable liquids
Direct	Bulk Density	bottom 1/2 segs, core composites, field blank
Direct	TOC hot persulfate	core composites, selected segment or 1/2 seg TBD, and field blank
Direct	ICP, IC, Total Alpha, Density	drainable liquids, field blank, liner liquid (IC & ICP only)

Tank BX-112 PNL-ALO Number Assignment

Sample Identification	Sample Description	PNL ALO-Number
Core 118 1/2 Seg 1AA	Bottom of Segment 1A	96-02605
Core 118 1/2 Seg 1AB	Top of Segment 1A	96-02606
Core 118 1/2 Seg 2A (included in homogenization check)	Bottom of Segment 2	96-02607
Core 118 1/2 Seg 2B	Top of Segment 2	96-02608
Core 118 1/2 Seg 3A	Segment 3 (no 1/2 segs)	96-02609
Core 119 1/2 Seg 1A	Bottom of Segment 1	96-02611
Core 119 1/2 Seg 1B	Top of Segment 1	96-02612
Core 119 1/2 Seg 2A	Bottom of Segment 2	96-02613
Core 119 1/2 Seg 2B	Top of Segment 2	96-02614
Core 119 1/2 Seg 3A (included in homogenization check)	Bottom of Segment 3	96-02615
Core 119 1/2 Seg 3B	Top of Segment 3	96-02616
Core 118 Composite	--	96-02617
Core 119 Composite	--	96-02618
Field Blank	--	96-02619
Liner Liquid	--	96-02620
Core 118 Segment 1A Drainable Liquid	--	96-02848
Core 118 Segment 3 Drainable Liquid	--	96-02850
Homogenization Check Samples		
Core 118 Segment 2A (Top)	Sample from top of 1/2 seg 2A	96-02849
Core 118 Segment 2A (Bottom)	Sample from bottom of 1/2 seg 2A	96-02607
Core 119 Segment 3A (Top)	Sample from top of 1/2 seg 2A	96-02851
Core 119 Segment 3A (Bottom)	Sample from bottom of 1/2 seg 2A	96-02615

Core 118

Prep Type	Seg 1AB (top) 96-02606	Seg 1AA (bottom) 96-02605	Seg 2B (top) 96-02608	Seg 2A (seg bot, smp bot) 96-02607	Seg 3A (-) 96-02609	Core 118 Composite 96-02617	Seg 1A Drain Liq 96-02848	Seg 3 Drain Liq 96-02850	Seg 2A (smp top) homog chk 96-02849
Fusion	ICP (ASAP)	Total Alpha (45) ICP (ASAP)	ICP (ASAP)	Total Alpha (45) ICP (homog ASAP) GEA (homog ASAP)	Total Alpha (45) ICP (ASAP)	Total Alpha (105) Total Beta (105) GEA (105) ICP (105) Sr-90 (105) U-laser (105)			ICP (homog ASAP) GEA (homog ASAP)
Water Leach	IC (ASAP)	IC (ASAP)	IC (ASAP)	IC (ASAP)	IC (ASAP)	IC (105) ICP (105)			
Direct	DSC/TGA (45)	DSC/TGA (45) Density (45)	DSC/TGA (45)	DSC/TGA (45) Density (45)	DSC/TGA (45) Density (45)	DSC/TGA (105) Density (105) TOC - hot per (105)	Total Alpha (45) DSC/TGA (45) Density (45) ICP (105) IC (105)	Total Alpha (45) DSC/TGA (45) Density (45) ICP (105) IC (105)	

Core 119

Prep Type	Seg 1B (top) 96-02612	Seg 1A (bottom) 96-02611	Seg 2B (top) 96-02614	Seg 2A (bottom) 96-02613	Seg 3B (top) 96-02616	Seg 3A (seg bot, smp bot) 96-02615	Core 119 Composite 96-02618	Seg 3A (smp top) homog chk 96-02851
Fusion	ICP (ASAP)	Total Alpha (45) ICP (ASAP)	ICP (ASAP)	Total Alpha (45) ICP (ASAP)	ICP (ASAP)	Total Alpha (45) ICP (homog ASAP) GEA (homog ASAP)	Total Alpha (105) Total Beta (105) GEA (105) ICP (105) Sr-90 (105) U-laser (105)	ICP (homog ASAP) GEA (homog ASAP)
Water Leach	ICP (ASAP)	IC (ASAP)	IC (ASAP)	IC (ASAP)	IC (ASAP)	IC (ASAP)	IC (105) ICP (105)	
Direct	DSC/TGA (45)	DSC/TGA (45) Density (45)	DSC/TGA (45)	DSC/TGA (45) Density (45)	DSC/TGA (45)	DSC/TGA (45) Density (45)	DSC/TGA (105) Density (105) TOC - hot per (105)	

Other

Prep Type	Field Blank 96-02619	Liner Liquid 96-02620
Fusion	Total Alpha (45) Total Beta (105) GEA (105) ICP (105) Sr-90 (105) U-laser (105)	
Water Leach	IC (105)	
Direct	DSC/TGA (45) Density (45)	IC (105) ICP (105)

SAMPLE CROSS-REFERENCE Report by Sample Group, ASR, Client Sample Number

Sample Group / Client Sample Number	ASR	Proj./WP / ACL Num.	Client / Order	Test	Project Manager / WP	Due
TWRS/BX-112	002785	22762/K36480	SILVERS/KL		SILVERS/KL	
118.1AA.D		96-002605	38686	DSC-TGA/	.K36488	02/13
				PHYSICAL/	.K36492	02/13
118.1AA.F		96-002605	38717	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				ICP	.K36496	02/13
118.1AA.W		96-002605	38697	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
118.1AB.D		96-002606	38681	DSC-TGA/	.K36488	02/13
118.1AB.F		96-002606	38712	.FUSION/KOH	.K36491	04/12
				ICP	.K36496	04/12
118.1AB.W		96-002606	38698	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
118.1ADL.D		96-002848	38692	ALPHA/GROSS	.K36499	02/13
				DSC-TGA/	.K36488	02/13
				IC/ANIONS	.K36497	.04/12
				ICP	.K36496	.04/12
				PHYSICAL/	.K36492	02/13
118.2A.D		96-002607	38687	DSC-TGA/	.K36488	02/13
				PHYSICAL/	.K36492	02/13
118.2A.F		96-002607	38718	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				GEA	.K41903	02/13
				ICP	.K36496	02/13
118.2A.W		96-002607	38699	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
118.2AH.F		96-002849	38726	.FUSION/KOH	.K36491	02/13
				GEA	.K41903	02/13
				ICP	.K36496	02/13
118.2B.D		96-002608	38682	DSC-TGA/	.K36488	02/13
118.2B.F		96-002608	38713	.FUSION/KOH	.K36491	.02/13
				ICP	.K36496	.02/13
118.2B.W		96-002608	38700	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13

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SAMPLE CROSS-REFERENCE Report by Sample Group, ASR, Client Sample Number

Sample Group / Client Sample Number	ASR	Proj./WP / ACL Num.	Client Order	Test	Project Manager WP	Due
118.3A.D		96-002609	38688	DSC-TGA/	.K36488	02/13
				PHYSICAL/	.K36492	02/13
118.3A.F		96-002609	38719	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				ICP	.K36496	02/13
118.3A.W		96-002609	38701	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
118.3DL.D		96-002850	38693	ALPHA/GROSS	.K36499	02/13
				DSC-TGA/	.K36488	02/13
				IC/ANIONS	.K36497	.04/12
				ICP	.K36496	.04/12
				PHYSICAL/	.K36492	02/13
118.COMP.D		96-002617	38694	DSC-TGA/	.K36488	04/12
				PHYSICAL/	.K36492	04/12
				TC,TOC,TIC/P	.K36494	04/12
118.COMP.F		96-002617	38724	.FUSION/KOH	.K36491	04/12
				ALPHA/GROSS	.K36499	04/12
				BETA/GROSS	.M23196	04/12
				GEA	.K41903	04/12
				ICP	.K36496	04/12
				SR90	.M23195	04/12
				U/LASER	.M23197	04/12
118.COMP.W		96-002617	38710	.LEACH	.K28794	.04/12
				IC/ANIONS	.K36497	.04/12
				ICP	.K36496	.04/12
119.1A.D		96-002611	38689	DSC-TGA/	.K36488	02/13
				PHYSICAL/	.K36492	02/13
119.1A.F		96-002611	38720	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				ICP	.K36496	02/13
119.1A.W		96-002611	38702	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
119.1B.D		96-002612	38683	DSC-TGA/	.K36488	02/13
119.1B.F		96-002612	38714	.FUSION/KOH	.K36491	04/12
				ICP	.K36496	04/12
119.1B.W		96-002612	38703	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13

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SAMPLE CROSS-REFERENCE Report by Sample Group, ASR, Client Sample Number

Sample Group / Client Sample Number	ASR	Proj./WP / ACL Num.	Client Order	Test	Project Manager WP	Due
119.2A.D		96-002613	38690	DSC-TGA/	.K36488	02/13
				PHYSICAL/	.K36492	02/13
119.2A.F		96-002613	38721	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				ICP	.K36496	02/13
119.2A.W		96-002613	38704	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
119.2B.D		96-002614	38684	DSC-TGA/	.K36488	02/13
119.2B.F		96-002614	38715	.FUSION/KOH	.K36491	.02/13
				ICP	.K36496	.02/13
119.2B.W		96-002614	38705	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
119.3A.D		96-002615	38691	DSC-TGA/	.K36488	02/13
				PHYSICAL/	.K36492	02/13
119.3A.F		96-002615	38722	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				GEA	.K41903	02/13
				ICP	.K36496	02/13
119.3A.W		96-002615	38706	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
119.3AH.F		96-002851	38727	.FUSION/KOH	.K36491	02/13
				GEA	.K41903	02/13
				ICP	.K36496	02/13
119.3B.D		96-002616	38685	DSC-TGA/	.K36488	02/13
119.3B.F		96-002616	38716	.FUSION/KOH	.K36491	.02/13
				ICP	.K36496	.02/13
119.3B.W		96-002616	38707	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
119.COMP.D		96-002618	38695	DSC-TGA/	.K36488	04/12
				PHYSICAL/	.K36492	04/12
				TC,TOC,TIC/P	.K36494	04/12
119.COMP.F		96-002618	38725	.FUSION/KOH	.K36491	04/12
				ALPHA/GROSS	.K36499	04/12
				BETA/GROSS	.M23196	04/12
				GEA	.K41903	04/12

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SAMPLE CROSS-REFERENCE Report by Sample Group, ASR, Client Sample Number

Sample Group / Client Sample Number	ASR	Proj./WP / ACL Num.	Client Order	Test	Project Manager WP	Due
119.COMP.F		96-002618	38725	ICP	.K36496	04/12
				SR90	.M23195	04/12
				U/LASER	.M23197	04/12
119.COMP.W		96-002618	38711	.LEACH	.K28794	.04/12
				IC/ANIONS	.K36497	.04/12
				ICP	.K36496	.04/12
FLD-BLANK.D		96-002619	38696	DSC-TGA/	.K36488	04/12
				PHYSICAL/	.K36492	04/12
FLD-BLANK.F		96-002619	38723	.FUSION/KOH	.K36491	02/13
				ALPHA/GROSS	.K36499	02/13
				BETA/GROSS	.M23196	.04/12
				GEA	.K41903	.04/12
				ICP	.K36496	.04/12
				SR90	.M23195	.04/12
				U/LASER	.M23197	.04/12
FLD-BLANK.W		96-002619	38708	.LEACH	.K28794	02/13
				IC/ANIONS	.K36497	02/13
HYD-FLUID.D		96-002620	38709	IC/ANIONS	.K36497	02/13
				ICP	.K36496	02/13

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CONTROLLED DOCUMENT
COPY NO. 01

PUSH MODE PROJECT
TEST INSTRUCTIONS FOR HLRF HOMOGENIZATION, SUBSAMPLING & TRANSFER OF SST 241-BX-112, CORE 118 SEGMENTS 1A, 2, & 3 AND CORE 119 SEGMENTS 1, 2, & 3

DATE PREPARED: February 5, 1996 PREPARED BY: KL Silvers

SAMPLE NUMBERS: 96-02605 thru 96-02609; 96-02611 thru 96-02620, 96-02848 thru 96-02851

APPROVED BY: [signature] DATE: 2/5/96

CONTROLLING DOCUMENTS:

Project No: 22762
WHC TSAP: Tank 241-BX-112 Push Mode Sampling and Analysis Plan (WHC-SD-WM-TSAP-063) Rev. 2
PNL QAP: MCS-033, Revision 3 (September, 1995)
Controlling Procedure: PNL-ALO-010

INTRODUCTION

This Test Instruction (TI) defines the homogenization and subsampling of Single-Shell Tank (SST) 241-BX-112, Core 118 Segments 1A, 2, & 3 and Core 119 Segments 1, 2, & 3. The samples from this tank will be analyzed according to TSAP (WHC-SD-WM-TSAP-063 Rev. 2). The samples will be homogenized and subsampled according to according to instructions listed below.

Homogenized sample material will be transferred to the SAL for preparation and distribution to appropriate analytical laboratories for homogenization check analyses.

Homogenized sample material will be transferred to the SAL for preparation and distribution to the analytical laboratories to complete the scope of work.

Archive samples will be obtained from the homogenized half-segments, homogenized core composites, and drainable liquids.

Sample homogenization and subsampling activities should be charged against work package K36487.

All activities identified in this Test Instruction shall be charged against Project 22762. All analyses are to be completed at Impact Level 2. All analyses are to be completed following the identified procedures. Any deviations to the procedures must be documented and this documentation must accompany the analytical data. All analytical data are to be returned to the Laboratory Support Office.

HOMOGENIZATION AND SUBSAMPLING INSTRUCTIONS:

- Homogenize each semi-segment or other specified sample aliquot as described below following procedure PNL-ALO-135.

- Perform homogenization of the lower semi-segments first (see Table 1 below). Aliquot 10 g of material for transfer to the SAL. Aliquot enough sample to perform DSC/TGA and bulk density analyses.

Table 1: High Priority Homogenizations

Core 118 Semi-segment 1AA	96-02605
Core 118 Semi-segment 2A (Top of sample, for homogenization check)	96-02607
Core 118 Semi-segment 3A	96-02609
Core 119 Semi-segment 1A	96-02611
Core 119 Semi-segment 2A	96-02613
Core 119 Semi-segment 3A (Top of sample, for homogenization check)	96-02615

- Aliquot an additional 10 g of sample from Core 118 semi-segment 2A (new sample number 96-02849) and Core 119 semi-segment 3A (new sample number 96-02851) for homogenization check analyses (see Table 2).

Table 2: Homogenization Check Sample Numbers

Core 118 Semi-segment 2A	96-02849 (Bottom of sample)
Core 119 Semi-segment 3A	96-02851 (Bottom of sample)

- Perform visual observation for organic layers of drainable liquids prior to subsampling. Filter drainable liquids prior to subsampling. Subsample 10 ml of drainable liquid from Core 118 Segments 1A and 3 (sample numbers 96-02848 and 96-02850, respectively).

- Aliquot adequate sample volume to perform DSC/TGA and bulk density analyses on the filtered drainable liquids (sample numbers 96-02848 and 96-02850).

- Aliquot 10 ml of liner liquid (sample number 96-02620) and transfer to SAL.

- Transfer high priority homogenization samples, homogenization check samples, and drainable liquid samples to SAL.

- Perform homogenization of the remaining semi-segments. Aliquot 10 g of material for transfer to the SAL. Aliquot enough sample to perform DSC/TGA and bulk density analyses.

- Prepare a core composite for each core using approximately 10 g of homogenized material from each semi-segment, with the exception of Core 118 Segment 3A which requires 20 g. Core 118 Composite will be identified as sample 96-02617. Core 119 Composite will be identified as sample 96-02618.

- Homogenize core composites. Aliquot 10 g of material from each core composite for transfer to the SAL. Aliquot enough sample to perform DSC/TGA and bulk density analyses.

- Recover a 10 g aliquot from each of the homogenized semi-segments, core composites, and drainable liquid samples for archive. Identification should be consistent with the ACL number assigned to each semi-segment, core composite and drainable liquid (see table below).

- Aliquot 10 ml of the field blank sample (96-02619) for transfer to the SAL. Also aliquot adequate sample from the field blank for DSC/TGA.

- Aliquot 10 ml of filtered liner liquid (sample 96-02620) and transfer to the SAL.

- Transfer top semi-segment and core composite subsamples to SAL.

Tank BX-112 PNNL ACL Number Assignment

Sample Identification	ACL-Number
Core 118 1/2 Seg 1AA	96-02605
Core 118 1/2 Seg 1AB	96-02606
Core 118 1/2 Seg 2A (included in homogenization check)	96-02607
Core 118 1/2 Seg 2B	96-02608
Core 118 1/2 Seg 3A	96-02609
Core 119 1/2 Seg 1A	96-02611
Core 119 1/2 Seg 1B	96-02612
Core 119 1/2 Seg 2A	96-02613
Core 119 1/2 Seg 2B	96-02614
Core 119 1/2 Seg 3A (included in homogenization check)	96-02615
Core 119 1/2 Seg 3B	96-02616
Core 118 Composite	96-02617
Core 119 Composite	96-02618
Field Blank	96-02619
Liner Fluid	96-02620
Core 118 Segment 1A Drainable Liquid	96-02848
Core 118 Segment 3 Drainable Liquid	96-02850
Homogenization Check Samples	
Core 118 Segment 2A (Top)	96-02849
Core 119 Segment 3A (Top)	96-02851

A5 - SAMPLE PREP DATA SHEETS

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WATER LEACH

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DATE TO QC: 03/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Water Leach

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2617, 96-2618, 96-3365, 96-3366

PNL ACL Quality Representative

3/17/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
WATER LEACH

Tank BX112 Core(s) 118/119

Project Id: 22762 WP Number: K28794

TI Number: TI96-PM-06; TI96-PM-09 Procedure: PNL-ALO-103

Sample Ident.	Sample Gross Wt (g)	Sample Tare Wt (g)	Sample Net Wt (g)	DIW Gross Wt (g)	DIW Tare Wt (g)	DIW Net Wt (g)	Spike Volume
96-02617-BLK PROCESS BLK		94.6454				50.0931	
96-02617-BS BLANK SPIKE		95.0703				50.1063	0.5000 ml
96-02617 118.COMP.W	97.0280	96.4519	0.5761	147.1825	97.0280	50.1545	
96-02617-DUP 118.COMP.W	91.6321	91.0472	0.5849	141.8420	91.6321	50.2099	
96-02617-MS MATRIX SPIKE	96.3840	95.8241	0.5599	146.6616	96.3840	50.2776	0.5000 ml
96-02618 119.COMP.W	96.6410	96.0924	0.5586	146.8246	96.6510	50.1736	
96-02618-DUP 119.COMP.W	94.0344	93.4583	0.5761	144.1458	94.0344	50.1114	
96-03365 118.1A.W	95.2560	94.7239	0.5321	145.4252	95.2560	50.1692	
96-03365-DUP 118.1A.W	94.0127	93.4903	0.5224	144.1703	94.0127	50.1576	
96-03366 118.1B.W	95.2951	94.7132	0.5819	145.4917	95.2951	50.1966	
96-03366-DUP 118.1B.W	93.1027	92.5326	0.5701	143.3619	93.1027	50.2592	

Spike Id: #960213ICSP1 Pipette ck # 273494 at 25°C (0.5000 ml) – 0.4967 g. – 0.4990 g. – 0.4997 g. – 0.4960 g. – 0.4949 g. x = 0.4973 g S = 0.0020 %RSD = 0.4022 Dels. = 0.4988 ml

M&TE:

___ Mettler AE160 (360-06-01-016) ___ Mettler AE200 (362-06-01-038)

___ Sartorius R200D (360-06-01-024) ✓ mettler AT400 (360-06-01-037)

Analyst: Lori P. Darnell Date: 3-11-96 Reviewer: [signature] Date: 3-12-96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI96-PM-09/ASR 2839
TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/8/96 PREP TYPE: WATER LEACH

ANALYST: Lori L. Darnell DATE: 3-11-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 3-12-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36497	96-02617-BLK	PROCESS BLANK	IC ICS	—	50.0931	10						
	96-02617-BS	BLANK SPIKE		—	50.1063		* See Below	0.5000 ml				
	96-02617	118.COMP.W		0.5761	50.1545							38710
	96-02617-DUP	118.COMP.W		0.5849	50.2099							
	96-02617-MS	MATRIX SPIKE		0.5599	50.2776		* See Below	0.5000 ml				
	96-02618	119.COMP.W		0.5586	50.1736							38711
	96-02618-DUP	119.COMP.W		0.5761	50.1114							
	96-03365	118.1A.W		0.5321	50.1692							39419
	96-03365-DUP	118.1A.W		0.5224	50.1576							
	96-03366	118.1B.W		0.5819	50.1866							39418
	96-03366-DUP	118.1B.W		0.5701	50.2592							

REQUIRED PROCEDURE(S) BY ANALYTE: IC PNL-ALO-212

* #960213ICSP1

PAGE 1 OF 1

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WHC-SD-WM-DP-170, REV. 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/8/96 PREP TYPE: WATER LEACH

ANALYST: Lori P. Darnell DATE: 3-11-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 3-12-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02617-BLK	PROCESS BLANK	ICP 105	———	50.0931							
	96-02617	118.COMP.W		0.5761	50.1545							38710
	96-02617-DUP	118.COMP.W		0.5849	50.2099							
	96-02618	119.COMP.W		0.5586	50.1736							38711
	96-02618-DUP	119.COMP.W		0.5761	50.1114							

REQUIRED PROCEDURE(S) BY ANALYTE: ICP PNL-ALO-211

PAGE 1 OF 1

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DATE TO QC: 03/04/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Water Leach

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2605 thru 96-2609, 96-2611 thru 96-2616

PNL ACL Quality Representative

3/12/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
WATER LEACH

Tank BX112 Core(s) 118

Project Id: 22762 WP Number: K28794

TI Number: TI96-PM-06 Procedure: PNL-ALO-103

	Sample Ident.	Sample Gross Wt (g)	Sample Tare Wt (g)	Sample Net Wt (g)	DIW Gross Wt (g)	DIW Tare Wt (g)	DIW Net Wt (g)	Spike Volume
1	96-02605-BLK PROCESS BLK		80.9177				50.1163	
2	96-02605-BS BLANK SPIKE		86.3016				50.1078	500µl
3	96-02605 118.1AA.W	85.4557	84.9096	0.5461	135.4721	85.4557	50.0164	
4	96-02605-DUP 118.1AA.W	90.7154	90.1773	0.5381	140.8375	90.7154	50.1221	
5	96-02608-MS MATRIX SPIKE	91.7025	91.1717	0.5308	141.8805	91.7025	50.1780	500µl
6	96-02606 118.1AB.W	87.1691	86.6381	0.5310	137.1788	87.1691	50.0097	
7	96-02606-DUP 118.1AB.W	84.6449	84.0954	0.5495	134.6942	84.6449	50.0493	

Spike Id: #960213ICSP1

#273494 at 25°C 0.4988g

0.4974g. X = 0.4968g

0.4970g. S = 0.0014

0.4959g. %RSD = 0.2818

0.4957g. Delo = 0.4983 ml

M&TE: ____ Room 420 (360-06-01-036) Room 524 (360-06-01-038) ____

✓ Room 525 (360-06-01-037) Room 525 (360-06-01-042) ____

Analyst: Lori P. Darnell Date: 2-22-96 Reviewer: [signature] Date: 2-23-96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
WATER LEACH

Tank BX112 Core(s) 118

Project Id: 22762 WP Number: K28794

TI Number: TI96-PM-06 Procedure: PNL-ALO-103

	Sample Ident.	Sample Gross Wt (g)	Sample Tare Wt (g)	Sample Net Wt (g)	DIW Gross Wt (g)	DIW Tare Wt (g)	DIW Net Wt (g)	Spike Volume
8	96-02607 118.2A.W	85.5842	85.0718	0.5124	135.6706	85.5842	50.0864	
9	96-02607-DUP 118.2A.W	81.7864	81.2820	0.5044	131.8388	81.7864	50.0524	
10	96-02608 118.2B.W	88.8906	88.3842	0.5064	138.9576	88.8906	50.0670	
11	96-02608-DUP 118.2B.W	91.8901	91.3802	0.5099	142.0363	91.8901	50.1462	
12	96-02609 118.3A.W	88.3351	87.8308	0.5043	138.3531	88.3351	50.0180	
13	96-02609-DUP 118.3A.W	89.1151	88.5990	0.5161	139.2126	89.1151	50.0975	

Spike Id: #960213ICSP1

#273494 at 25°C 0.4988 g.

0.4974 g. $\bar{x}$ = 0.4968 g

0.4970 g. s = 0.0014

0.4959 g. %RSD = 0.2818

0.4951 g. Delv. = 0.4983 ml

M&TE: ____ Room 420 (360-06-01-036) Room 524 (360-06-01-038) ____

✓ Room 525 (360-06-01-037) Room 525 (360-06-01-042) ____

Analyst: Lori P. Darnell Date: 2-22-96 Reviewer: [illegible] Date: 2-23-96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/5/96 PREP TYPE: WATER LEACH

ANALYST: Lori L. Darnell DATE: 2-22-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 2-23-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

	WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
1	K36497	96-02605-BLK	PROCESS BLANK	IC ASAP	—	50.1163							
2		96-02605-BS	BLANK SPIKE	ASAP	—	50.1078		*SEE Below	500 µL.				
3		96-02605	118.1AA.W	ASAP	0.5461	50.0164							38697
4		96-02605-DUP	118.1AA.W	ASAP	0.5381	50.1221							
5		96-02608 MS ~~96-02605-MS~~ 2/PD 2-22-96	MATRIX SPIKE	ASAP	0.5308	50.1780		*SEE BELOW	500 µL.				
6		96-02606	118.1AB.W	ASAP	0.5310	50.0097							38698
7		96-02606-DUP	118.1AB.W	ASAP	0.5495	50.0493							
8		96-02607	118.2A.W	ASAP	0.5124	50.0864							38699
9		96-02607-DUP	118.2A.W	ASAP	0.5044	50.0524							
10		96-02608	118.2B.W	ASAP	0.5064	50.0670							38700
11		96-02608-DUP	118.2B.W	ASAP	0.5099	50.1462							
12		96-02609	118.3A.W	ASAP	0.5043	50.0180							38701
13		96-02609-DUP	118.3A.W	ASAP	0.5161	50.0975							

REQUIRED PROCEDURE(S) BY ANALYTE: IC PNL-ALO-212

*#960213 IC SP1

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WHC-SD-WM-DP-170, REV. 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
WATER LEACH

Tank BX112 Core(s) 119

Project Id: 22762

WP Number: K2879

TI Number: TI96-PM-06

Procedure: PNL-ALO-10

Sample Ident.	Sample Gross Wt (g)	Sample Tare Wt (g)	Sample Net Wt (g)	DIW Gross Wt (g)	DIW Tare Wt (g)	DIW Net Wt (g)	Spike Volume
96-02611-BLK PROCESS BLK		87.2671				50.0276	
96-02611-BS BLANK SPIKE		91.8895				50.0497	500µl
96-02611 119.1A.W	89.2684	88.7443	0.5241	139.3363	89.2684	50.0679	
96-02611-DUP 119.1A.W	90.8420	90.2975	0.5445	140.9732	90.8420	50.1312	
96-02615-MS MATRIX SPIKE	89.6923	89.1500	0.5423	139.9474	89.6923	50.2551	500µl
96-02612 119.1B.W	87.3947	86.8656	0.5291	137.5810	87.3947	50.1863	
96-02612-DUP 119.1B.W	89.0905	88.5733	0.5172	139.2827	89.0905	50.1922	

Spike Id: #960213 ICSP1

pipette #273494 at 22°C 0.4972 g.

0.4992 g. X = 0.4974 g.

0.4994 g. S = 0.0020

0.4961 g. %RSD = 0.4021

0.4949 g. Dilu. = 0.4985 ml.

M&TE: ____ Room 420 (360-06-01-036)

✓ Room 525 (360-06-01-037)

Room 524 (360-06-01-038) ____

Room 525 (360-06-01-042) ____

Analyst: Lori P. Parnell Date: 2-23-96

Reviewer: [signature] Date: 2-26-96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
WATER LEACH

Tank BX112 Core(s) 119

Project Id: 22762

WP Number: K2879

TI Number: TI96-PM-06

Procedure: PNL-ALO-103

Sample Ident.	Sample Gross Wt (g)	Sample Tare Wt (g)	Sample Net Wt (g)	DIW Gross Wt (g)	DIW Tare Wt (g)	DIW Net Wt (g)	Spike Volume
96-02613 119.2A.W	91.9903	91.4570	0.5333	142.0412	91.9903	50.0509	
96-02613-DUP 119.2A.W	88.7204	88.1935	0.5269	138.7709	88.7204	50.0505	
96-02614 119.2B.W	88.2810	87.7462	0.5348	138.3274	88.2810	50.0264	
96-02614-DUP 119.2B.W	92.9211	92.4021	0.5190	142.9548	92.9211	50.0337	
96-02615 119.3A.W	88.5453	88.0418	0.5035	138.6751	88.5453	50.1298	
96-02615-DUP 119.3A.W	86.9041	86.3945	0.5096	136.9446	86.9041	50.0405	
96-02616 119.3B.W	85.8859	85.3663	0.5196	135.9134	85.8859	50.0275	
96-02616-DUP 119.3B.W	89.0949	88.5537	0.5412	139.2560	89.0949	50.1611	

Spike Id: #960213ICSP1

pipette #273494 @ 22°C 0.4972g.

0.4992g. x = 0.4974g

0.4994g. s = 0.0020

0.4961g. %RSD = 0.4021

0.4949g. Dels. = 0.4985ml

M&TE: ____ Room 420 (360-06-01-036)

✓ Room 525 (360-06-01-037)

Room 524 (360-06-01-038) ____

Room 525 (360-06-01-042) ____

Analyst: Lori P. Darnell Date: 2-23-96

Reviewer: [illegible] Date: 2-26-96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/5/96 PREP TYPE: WATER LEACH

ANALYST: Lori L. Darnell DATE: 2-23-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2-26-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36497	96-02611-BLK	PROCESS BLANK	IC ASAP	—	50.0276							
	96-02611-BS	BLANK SPIKE	ASAP	—	50.0497		* See Below	500 µl				
	96-02611	119.1A.W	ASAP	0.5241	50.0679							38702
	96-02611-DUP	119.1A.W	ASAP	0.5445	50.1312							
LPD 2-23-96	96-02615MS ~~96-02611~~-MS	MATRIX SPIKE	ASAP	0.5423	50.2551		* See Below	500 µl				
	96-02612	119.1B.W	ASAP	0.5291	50.1863							38703
LPD 2-23-96	96-02612DUP ~~96-02612~~-DUP	119.1B.W	ASAP	0.5172	50.1922							
	96-02613	119.2A.W	ASAP	0.5333	50.0509							38704
	96-02613-DUP	119.2A.W	ASAP	0.5269	50.0505							
	96-02614	119.2B.W	ASAP	0.5348	50.0264							38705
	96-02614-DUP	119.2B.W	ASAP	0.5190	50.0337							
	96-02615	119.3A.W	ASAP	0.5035	50.1298							38706
	96-02615-DUP	119.3A.W	ASAP	0.5096	50.0405							
	06-02616	119.3B.W	ASAP	0.5196	50.0275							38707
	96-02616-DUP	119.3B.W	ASAP	0.5412	50.1611							

REQUIRED PROCEDURE(S) BY ANALYTE: IC PNL-ALO-212

* #960213ICSP1

PAGE 1 OF 1

DATE TO QC: 02/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Sample Transfer

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2606, 96-2608, 96-2612, 96-2614, 96-2616, 96-2849, 96-2851

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
Bench Sheet

Client: KL SILVERS WP Number: Kp 2/8/96 ~~K36491~~ K28882

TI#/ARF: TI96-PM-06/ASR 2785 Procedure: BENCH INSTRUCTION

96-02606/8/12/14/16 AND 96-02849/51 FUSION SUBSAMPLING
SAMPLE IDENTIFICATION

Transferred 2 mls. of each sample into clean vials and delivered to the SRPL along with C.O.C.

M&TE:

___ Mettler AE160 (360-06-01-016) Mettler AE200 (362-06-01-038) ___

___ Sartorius R200D (360-06-01-024) Corning pH Meter Model 240 S/N 6629 ___

Analyst: [signature] Date: 2/8/96 Reviewer: [signature] Date: 3/6/96

ACIDIFICATION

THIS PAGE WAS INTENTIONALLY LEFT BLANK

DATE TO QC: 02/23/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Acidification

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2619, 96-2620

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
Bench Sheet

Client: KL SILVERS WP Number: K28794

TI#/ARF: TI96-PM-06/ASR 2785 Procedure: BENCH INSTRUCTION

96-02618 FIELD BLANK; 96-02620 LINER
SAMPLE IDENTIFICATION

Acidified 10 mls of sample with .2 ml of HNO_3 and delivered to Denny B. in 4C for ICP work

M&TE:

___ Mettler AE160 (360-06-01-016) Mettler AE200 (362-06-01-038) ___

___ Sartorius R200D (360-06-01-024) Corning pH Meter Model 240 S/N 6629 ___

Analyst: [signature] Date: 2/15/96 Reviewer: [signature] Date: 2/16/96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: LIQUID

ISSUED BY: Rick T. Steele DATE: 2/6/96 PREP TYPE: ACIDIFICATION

ANALYST: [signature] DATE: 2/15/96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2/15/96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02619	FLD-BLANK.F	ICP 105									38723
	96-02620	HYD-FLUID.D	105									38709

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

RUN SAMPLES ABOVE IN DUPLICATE

PAGE 1 OF 1

DATE TO QC: 02/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Subsample - Acidifcation

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2619, 96-2620

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
Bench Sheet

Client: KL SILVERS WP Number: K28794

TI#/ARF: TI96-PM-06/ASR 2785 Procedure: BENCH INSTRUCTION

19 RJS 2-7-96

96-026~~18~~ FIELD BLANK; 96-02620 LINER
SAMPLE IDENTIFICATION

Took out 5 ml. of the original blank & liner and delivered to lab 400 for IC analysis.
Acidified the 20 ml blanks and mixed well. No precipitation occured. I gave 10 ml to Rad Chem & 10 ml. to ICP of 96-2619. I intended to pour all of 2620 into a vial for ICP, but mistakenly poured some of it into 2619 ICP instead. We are requesting more sample if there is any left.

M&TE:

___ Mettler AE160 (360-06-01-016) Mettler AE200 (362-06-01-038) ___

___ Sartorius R200D (360-06-01-024) Corning pH Meter Model 240 S/N 6629 ___

Analyst: [signature] Date: 2/7/96 Reviewer: Rick L Steele Date: 2/8/96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: LIQUID

ISSUED BY: Rick T. Steele DATE: 2/6/96 PREP TYPE: NONE

ANALYST: [signature] DATE: 2/7/96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: Rick T. Steele DATE: 2/7/96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36497	96-02619	FLD-BLANK.F	IC ADAP									38723
	96-02620	HYD-FLUID.D	105									38709

REQUIRED PROCEDURE(S) BY ANALYTE:
IC PNL-ALO-212

RUN SAMPLES ABOVE IN DUPLICATE

PAGE 1 OF 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: LIQUID

ISSUED BY: Rick T. Steele DATE: 2/6/96 PREP TYPE: ACIDIFICATION

ANALYST: [signature] DATE: 2-7-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2/7/96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
SEE BELOW	96-02619	FLD-BLANK.F	SEE BELOW									38723
K36499			TOTAL ALPHA 45	14								
M23196			TOTAL BETA 105									
K41903			GEA 105									
M23195			Sr-90 105									
M23197			U-laser 105									

REQUIRED PROCEDURE(S) BY ANALYTE: T. ALPHA PNL-ALO-420/421; T. BETA PNL-ALO-430/431; Sr-90 PNL-ALO-430/431; GEA-Cs-137 PNL-ALO-450; U-laser PNL-ALO-445

RUN SAMPLES ABOVE IN DUPLICATE

PAGE 1 OF 1

DATE TO QC: 02/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Acidifcation

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2848, 96-2850

PNL ACL Quality Representative

2/23/96

Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
Bench Sheet

Client: KL SILVERS WP Number: K28794

TI#/ARF: TI96-PM-06/ASR 2785 Procedure: BENCH INSTRUCTION

96-02848 DRAINABLE LIQUD; 96-02850 DRAINABLE LIQUID
SAMPLE IDENTIFICATION

Acidification for total alpha and ICP

Sample Id	Gross Vial Tare	Gross DIW wgt	Gross Sample wgt	Gross Acid Wgt
96-02848-BLK	13.1041	27.2721	XXX	27.9572
96-02848	13.1752	24.3534	27.5679	28.2652
96-02850	13.2247	34.2069	27.8023	28.5030

Weighed all additions of DIW, sample & acid. Mixed well and took out all of sample to labs 309, and 405 for Rad chem & ICP analyses.

HNO_3 Acid sp. gr. = 1.40 C118 Seg 1 A DL = 1.11 T=25°C

DIW SpG = 1.00 C118 Seg 3 DL = 1.16

M&TE:

X Mettler AE160 (360-06-01-016) Mettler AE200 (362-06-01-038) ___

___ Sartorius R200D (360-06-01-024) Corning pH Meter Model 240 S/N 6629 ___

Analyst: [signature] Date: 2/2/96 Reviewer: [signature] Date: 2/7/96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: DRAINABLE LIQUID

ISSUED BY: Rick T. Steele DATE: 2/6/96 PREP TYPE: ACIDIFICATION

ANALYST: [signature] DATE: 2/7/96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: Rick T. Steele DATE: 2/7/96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36499	96-02848-BLK	PROCESS BLANK	TOTAL ALPHA 45							10.6M HNO_3		
	96-02848	118.1ADL.D	45						4.69X	↓		38692
	96-02850	118.3DL.D	45						4.25X	↓		38693
							ym received ~ 5 mls.					

REQUIRED PROCEDURE(S) BY ANALYTE:
TOTAL ALPHA PNL-ALO-420/421

TOTAL ALPHA NOTIFICATION LIMIT > 41 microCURIES PER GRAM

PAGE 1 OF 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: DRAINABLE LIQUID

ISSUED BY: Rick T. Steele DATE: 2/6/96 PREP TYPE: ACIDIFICATION

ANALYST: [signature] DATE: 2/7/96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: Rick T. Steele DATE: 2/7/96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02848-BLK	PROCESS BLANK	ICP 105							~0.6M HNO_3		
	96-02848	118.1ADL.D	105						4.69X	↓		38692
	96-02850	118.3DL.D	105						4.25X	↓		38693
						Yes received		~	10 mls.			

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

PAGE 1 OF 1

PRJ#22762
K36496
KL Silvers

Author: Jerome J Wagner at ~PNL89
Date: 2/5/96 7:35 PM
Priority: Normal
Receipt Requested
TO: Rick T Steele
Subject: BX112 Supernate Dilution
---------- Message Contents ----------

Rick,

I talked with Gregg Lumetta about the BX112 Tank Supernate liquid. We couldn't come up with any hard information regarding the concentration of NaOH for the supernate liquid in this tank. Gregg said that a rough guess of the NaOH concentration might be about 1M NaOH.

In order to bring the total dissolved solids to about 0.5% my calculation indicates we will need a minimum dilution of 5x. This will provide a Na concentration of about 4600 ug/mL (if the assumptions are any where near correct). Below is a best guess of how one might prepare the sample aliquot for ICPAES analysis. I have assumed that the TK BX112 Supernate liquid will be neutralized and that the final solution will have an excess of acid of approximately 2% v/v HNO3 (or 0.38N HNO3).

For 20 mL of diluted sample use:
4 mL of TK BX112 Supernate liquid,
add 0.65 mL concentrated HNO3,
add 15.35 mL of water.

----or if 8M HNO3 (50% v/v HNO3) is used----
4 mL of TK BX112 Supernate liquid,
add 1.3 mL 8M HNO3 (50% v/v HNO3),
add 14.7 mL water.
.....

For 10 mL of diluted sample use:
2 mL of TK BX112 Supernate liquid,
add 0.325 mL concentrated HNO3 (or something close e.g. 0.35 mL)
add 7.675 mL of water.

----or if 8M HNO3 (50% v/v HNO3) is used----
2 mL of TK BX112 Supernate liquid,
add 0.65 mL concentrated HNO3,
add 7.35 mL of water.
.....

Other aliquot quantities could be prepared as long as the ratio of sample/acid/final volume is held constant.

I hope this works for OK for you.
If you wish clarification please call (376-0506).

Jerry

DATE TO QC: 02/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Subsample

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2848, 96-2850

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: DRAINABLE LIQUID

ISSUED BY: Rick T. Steele DATE: 2/6/96 PREP TYPE: NONE

ANALYST: [signature] DATE: 2/9/96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: Rick T. Steele DATE: 2/9/96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36497	96-02848-BLK	PROCESS BLANK	IC 105					NO Dilution	~~107.2~~ [illegible]	DIW	4.9578	x2
	96-02848	118.1ADL.D	105						107.28X	↓	0.933	38692
	96-02850	118.3DL.D	105						↓	↓		38693
							.0933 →	→ 9.91	55 = 10	7.28 X		
								.0933				

REQUIRED PROCEDURE(S) BY ANALYTE:
IC PNL-ALO-212

PAGE 1 OF 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

Shielded Analytical Laboratory
Bench Sheet

Client: KL SILVERS WP Number: K28794

TI#/ARF: TI96-PM-06/ASR 2785 Procedure: BENCH INSTRUCTION

96-02848 DRAINABLE LIQUD; 96-02850 DRAINABLE LIQUID
SAMPLE IDENTIFICATION

5 ml. Pipet. DIW @ 27°C (Bench top.)

4.9298 $\bar{x}$ = 4.9405 g.
4.9495
4.9350 s = .0082
4.9470
4.9414 RSD = .17%

Del. = 4.9578 ml. For DIW x 2

.1 ml. Pipet DIW @ 27°C (in cell)

.0917 $\bar{x}$ = .0930
.0943
.0928 s = .0013
.0919
.0944 RSD = 1.38%

Del = 0.0933 ml For spl.

M&TE:

X Mettler AE160 (360-06-01-016) Mettler AE200 (362-06-01-038) ___

X ~~Sartorius R200D~~ Denver A-160 (360-06-01-~~024~~ 040) Corning pH Meter Model 240 S/N 6629 ___

Analyst: [signature] Date: 2/9/96 Reviewer: [signature] Date: 2/9/96

KOH FUSION

THIS PAGE WAS INTENTIONALLY LEFT BLANK

DATE TO QC: 03/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2617, 96-2618, 96-3365, 96-3366

PNL ACL Quality Representative

3/17/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

PNL-ALO-115 Solubilization of Metals from Solids Using a KOH-KNO3 Fusion

Client name: Kurt Silvers
Work Auth. Doc (WAD): TI96-PM-06 / ASR #2785 TI96-PM-09/ASR 2839
Tank/Core/Project: BX 112 Core's 118/119 Core Composites C118.5EG1
Special instructions

Work package number: K36491
Project number: 22762
PNL QA plan: MCS-033
PNL impact level: 2
Prep. lab (SAL/SRPL/other): SRPL
Preparation batch number:

	ACL Sample ID	ACL order number or Client sample ID	Crucible Identifier	Crucible weight (g)	Crucible + sample weight (g)	Sample weight (g)	Spike added Vol. (ml)	Spike added Weight. (g)	Final solution Volume (ml)	Process Factor (1)
1	96-02617-BLK	Process Blank	1	31.4443	—	—			100 ml	
2	96-02617	118.COMP.F	2	31.7824	31.9942	0.2118				
3	96-02617-DUP	118.COMP.F	3	32.3881	32.6269	0.2388				
4	96-02618	119.COMP.F	4	32.2287	32.4413	0.2126				
5	96-02618-DUP	119.COMP.F	5	32.3363	32.5970	0.2607				
6	SRM2709	LCS BX112/CORECOMP	6	32.4723	32.7074	0.2351				
7	96-03365	118.1A.F	7	32.6000	32.8123	0.2123				
8	96-03365-DUP	118.1A.F	8	32.6471	32.8770	0.2299				
9	96-03366	118.1B.F	9	32.7898	33.0415	0.2517				
10	96-03366-DUP	118.1B.F	10	31.4539	31.7073	0.2534				
11										
12										
13										
14										

Analyst's sample preparation comments: DOSE RATE:

Pipette #H30754 - 5.0140 g.
H_2O at 24°C (5 ml) 5.0020 g. X = 4.9987 g.
4.9953 g. S = 0.0096
4.9907 g. %RSD = 0.1920
4.9916 g. Delv. = 5.0122 ml.

Spike source:
PNL spike ID number:
Anal. balance M&TE: 360-06-01-037
HCl volume added (ml): NONE
Solution heated (yes/no):
*Sample filtered (yes/no): 0.45 µm
* All samples, Blank and LCS

(1) Process factor = Final volume (ml) / [Crucible & sample weight (g) - Crucible weight (g)]

Other sample preparation worksheets may be substituted at the discretion of the Cognizant Scientist. Use one worksheet per client.

Analyst/Date: Lori P. Darnell 3-6-96 Reviewer/Date: [signature] 3-6-96

Rev. 2.0 7-28-95 JMR

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/7/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 3-6-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 3-6-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02617-BLK	PROCESS BLANK	ICP 165	—		100mL			5X	H_2O		
	96-02617	118.COMP.F		0.2118								38724
	96-02617-DUP	118.COMP.F		0.2388								
	96-02618	119.COMP.F		0.2126								38725
	96-02618-DUP	119.COMP.F		0.2607								
	SRM2709	LCS BX112/CORECOMP		0.2351								
	96-03365	118.1A.F		0.2123								39423
	96-03365-DUP	118.1A.F		0.2299								
	96-03366	118.1B.F		0.2517								39420
	96-03366-DUP	118.1B.F		0.2534								

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

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WHC-SD-WM-DP-170, REV. 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06 (09)/ASR 2785 (2889) PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/27/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 3-6-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 3-6-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
SEE BELOW	96-02617-BLK	PROCESS BLANK	SEE BELOW	—		100 ml						
	96-02617	118.COMP.F		0.2118		↓						38724
	96-02617-DUP	118.COMP.F		0.2388								
	96-02618	119.COMP.F		0.2126								38725
	96-02618-DUP	119.COMP.F		0.2607								
	96-03365	118.1A.F	T.A. ONLY	0.2123								~~39423~~ ~~39423~~ 2-27-96
	96-03365-DUP	118.1A.F	T.A. ONLY	0.2299								
K36499			TOTAL ALPHA									
M23196			TOTAL BETA									
K41903			GEA									
M23195			Sr-90									
M23197			U-laser									

REQUIRED PROCEDURE(S) BY ANALYTE: T. ALPHA PNL-ALO-420/421; T. BETA PNL-ALO-430/431; Sr-90 PNL-ALO-430/431; GEA-Cs-137 PNL-ALO-450; U-laser PNL-ALO-445

PAGE 1 OF 1

DATE TO QC: 02/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Ni/KOH Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2605, 96-2607, 96-2609

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

PNL-ALO-115 Solubilization of Metals from Solids Using a $KOH-KNO_3$ Fusion

Client name: Kurt Silvers
Work Auth. Doc (WAD): TI96-PM-06 / ASR #2785
Tank/Core/Project: Tank BX-112, Core 118
Special instructions

Work package number: K36491
Project number: 22762
PNL QA plan: MCS-033
PNL impact level: 2
Prop. lab (SAL/SRPL/other): SRPL
Preparation batch number: I

	ACL Sample ID	ACL order number or Client sample ID	*Crucible Identifier	Crucible weight (g)	Crucible + sample weight (g)	Sample weight (g)	Spike added Vol. (ml)	Spike added Weight (g)	Final solution Volume (ml)	Process Factor (1)
1	96-02605-BLK	Process Blank	1	39.1471					100 ml	
2	96-02605	118.1AA.F	2	38.2496	38.3758	0.1262				
3	96-02605-DUP	118.1AA.F-DUP	3	38.6196	38.7904	0.1708				
4	96-02607	118.2A.F	4	39.4743	39.6431	0.1688				
5	96-02607-DUP	118.2A.F-DUP	5	38.4537	38.6107	0.1570				
6	96-02609	118.3A.F	6	38.9680	39.0810	0.1130				
7	96-02609-DUP	118.3A.F-DUP	7	39.0643	39.2255	0.1612				
8	SRM2709	LCS BX112/C118	8	39.1250	39.2776	0.1526				
9										
10										
11										
12										
13										
14										

Analyst's sample preparation comments: DOSE RATE:

Spike source:
PNL spike ID number:
Anal. balance M&TE: 360-06-01-037
HCl volume added (ml):
Solution heated (yes/no): NO
Sample filtered (yes/no): NO

(1) Process factor = Final volume (ml) / [Crucible & sample weight (g) - Crucible weight (g)]

Other sample preparation worksheets may be substituted at the discretion of the Cognizant Scientist. Use one worksheet per client.

Analyst/Date: Lori P. Darnell 2-5-96 Reviewer/Date: [signature] 2-6-96

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/1/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-5-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 2-6-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
SEE BELOW	96-02605-BLK	PROCESS BLANK	T. ALPHA GEA	—		100ml				Water		
	96-02605	118.1AA.F	T. ALPHA	0.1262g								38717
	96-02605-DUP	118.1AA.F	T. ALPHA	0.1708g								
	96-02607	118.2A.F	T. ALPHA GEA	0.1688g								38718
	96-02607-DUP	118.2A.F	T. ALPHA GEA	0.1570g								
	96-02609	118.3A.F	T. ALPHA	0.1130g								38719
	96-02609-DUP	118.3A.F	T. ALPHA	0.1612g								
K36499			TOTAL ALPHA									
K41903			GEA									

REQUIRED PROCEDURE(S) BY ANALYTE:
TOTAL ALPHA PNL-ALO-420/421
GEA PNL-ALO-450

TOTAL ALPHA NOTIFICATION LIMIT > 41 microCURIES PER GRAM

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WHC-SD-WM-DP-170, REV. 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/1/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-5-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 2-6-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02605-BLK	PROCESS BLANK	ICP	—		100ml			1:5	Water		
	96-02605	118.1AA.F		0.1262								38717
	96-02605-DUP	118.1AA.F		0.1708								
	96-02607	118.2A.F		0.1688								38718
	96-02607-DUP	118.2A.F		0.1570								
	96-02609	118.3A.F		0.1130								38719
	96-02609-DUP	118.3A.F		0.1612								
	SRM 2709	LCS BX112/C118		0.1526								

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

pipette # H30754 checked with DDI at 25°C

10.0334 $\bar{x}$ = 10.0131 g.
10.0193 s = 0.0222
10.0246 %RSD = 0.2217
10.0124 Dev = ~~9.9835 ml~~ RS 2-7-96 10.0427 ml
9.9758

PAGE 1 OF 1

DATE TO QC: 02/20/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Ni/KOH Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2849 & 96-2851

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/1/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-13-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2-14-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K41903	96-02849-BLK	PROCESS BLANK	GEA NSAP	—		100 ml						
	96-02849	118.2AH.F	NSAP	0.1542		↓						38726
	96-02849-DUP	118.2AH.F	NSAP	0.1623								
	96-02851	119.3AH.F	NSAP	0.1710								38727
	96-02851-DUP	119.3AH.F	NSAP	0.1611								

REQUIRED PROCEDURE(S) BY ANALYTE:
GEA PNL-ALO-450

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Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/5/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-13-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2-14-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118/119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02849-BLK	PROCESS BLANK	ICP ASAP	~~[illegible]~~ 1-3-96		100 ml			5X	2% HNO_3		
	96-02849	118.2AH.F	ASAP	0.1542		↓			↓	↓		38726
	96-02849-DUP	119.2AH.F	ASAP	0.1623		↓			↓	↓		
	96-02851	119.3AH.F	ASAP	0.1710		↓			↓	↓		38727
	96-02851-DUP	119.3AH.F	ASAP	0.1611		↓			↓	↓		
	SRM 2709	LCS BX112/HOMO	ASAP	0.1548		↓			↓	↓		
	#H30754	(10 mls) 23°C										
	10.0127											
	10.0069	X = 10.0165 g										
	10.0161	S = 0.0073										
	10.0258	%RSD = 0.0729										
	10.0212	Delv. = 10.0412 ml										

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

PAGE 1 OF 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

PNL-ALO-115 Solubilization of Metals from Solids Using a KOH-KNO3 Fusion

Client name: Kurt Silvers
Work Auth. Doc (WAD): TI96-PM-06 / ASR #2785
Tank/Core/Project: BX 112 Core's 118 and 119
Special instructions

Work package number: K36491
Project number: 22762
PNL QA plan: MCS-033
PNL impact level: 2
Prep. lab (SAL/SRPL/other): SRPL
Preparation batch number:

	ACL Sample ID	ACL order number or Client sample ID	Crucible identifier	Crucible weight (g)	Crucible + sample weight (g)	Sample weight (g)	Spike added Vol. (ml)	Spike added Weight. (g)	Final solution Volume (ml)	Process Factor (1)
1	96-02849-BLK	Process Blank	1	32.3084	—	—			100 ml	
2	96-02849	118.2AH.F	2	32.7159	32.8701	0.1542				
3	96-02849-DUP	118.2AH.F	3	31.9836	32.1459	0.1623				
4	96-02851	119.3AH.F	4	32.4736	32.6446	0.1710				
5	96-02851-DUP	119.3AH.F	5	32.7053	32.8664	0.1611				
6	SRM2709	LCS BX112/HOMO	6	32.2106	32.3654	0.1548				
7										
8		# H30754	(10mls)	23°C						
9		10.0127								
10		10.0069	X =	10.0165	g.					
11		10.0161	S =	0.0073						
12		10.0258	% RSD =	0.0729						
13		10.0212	Dilu. =	10.0412	ml					
14										

Analyst's sample preparation comments:

DOSE RATE:

Spike source:
PNL spike ID number:
Anal. balance M&TE: 340-06-01-037
HCl volume added (ml): NONE
Solution heated (yes/no):
Sample filtered (yes/no):

(1) Process factor = Final volume (ml) / [Crucible & sample weight (g) - Crucible weight (g)]

Other sample preparation worksheets may be substituted at the discretion of the Cognizant Scientist. Use one worksheet per client.

Analyst/Date: Lori P. Darnell 2-13-96 Reviewer/Date: [illegible] 2-14-96

Rev. 2.0 7-28-95 JMR

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WHC-SD-WM-DP-170, REV. 1

DATE TO QC: 02/23/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Ni/KOH Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2606, 96-2608

PNL ACL Quality Representative

2/23/96
Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

PNL-ALO-115 Solubilization of Metals from Solids Using a KOH-KNO3 Fusion

Client name: Kurt Silvers
Work Auth. Doc (WAD): TI96-PM-06 / ASR #2785
Tank/Core/Project: BX 112 Core's 118
Special instructions

Work package number: K36491
Project number: 22762
PNL QA plan: MCS-033
PNL impact level: 2
Prep. lab (SAL/SRPL/other): SRPL
Preparation batch number:

	ACL Sample ID	ACL order number or Client sample ID	Crucible identifier	Crucible weight (g)	Crucible + sample weight (g)	Sample weight (g)	Spike added Vol. (ml)	Spike added Weight. (g)	Final solution Volume (ml)	Process Factor (1)
1	96-02606-BLK	Process Blank	1	32.3614	—	—			100 ml	
2	96-02606	118.1AB.F	2	32.3283	32.4683	0.1400			↓	
3	96-2606-DUP	118.1ABF	3	32.6279	32.8101	0.1822				
4	96-2608	118.2B.F	4	32.2014	32.3665	0.1651				
5	96-02608-DUP	118.2B.F	5	32.8483	33.0320	0.1837				
6	SRM2709	LCS BX112/C118-2	6	31.8276	32.0064	0.1788			↓	
7										
8		#H30754 (10ml)	at 25°C							
9		10.0509								
10		10.0499 V =	10.0329 g.							
11		10.0242 S =	0.0164							
12		10.0148 %RSD =	0.1635							
13		10.0249 Delv. =	10.0626 ml							
14										

Analyst's sample preparation comments:
* NOTE: The SRM2709 sample contained a very small amount of what seemed to be silica.

DOSE RATE:

Spike source:
PNL spike ID number:
Anal. balance M&TE: 360-06-01-037

HCl volume added (ml): NONE
Solution heated (yes/no): (no)
Sample filtered (yes/no): .45 um
* QC Samples also filtered

(1) Process factor = Final volume (ml) / [Crucible & sample weight (g) - Crucible weight (g)]

Other sample preparation worksheets may be substituted at the discretion of the Cognizant Scientist. Use one worksheet per client.

Analyst/Date: Lori P. Darnell 2-14-96
Reviewer/Date: [signature] 2-15-96

Rev. 2.0 7-28-95 JMR

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/5/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P Daynell DATE: 2-14-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 2-15-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 118 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02606-BLK	PROCESS BLANK	ICP NAP	—		100 mL			5X	2% HNO_3		
	96-02606	118.1AB.F	ASAP	0.1400		↓			↓	↓		38712
	96-02606-DUP	118.1AB.F	ASAP	0.1822								
	96-02608	118.2B.F	ASAP	0.1651								38713
	96-02608-DUP	118.2B.F	ASAP	0.1837								
	SRM 2709	LCS BX112/C118-2	ASAP	0.1788								

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

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DATE TO QC: 02/23/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Ni/KOH Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2612, 96-2614, 96-2616

PNL ACL Quality Representative

2/23/96

Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

PNL-ALO-115 Solubilization of Metals from Solids Using a KOH-KNO3 Fusion

Client name: Kurt Silvers
Work Auth. Doc (WAD): TI96-PM-06 / ASR #2785
Tank/Core/Project: BX 112 Core's 119
Special instructions

Work package number: K36491
Project number: 22762
PNL QA plan: MCS-033
PNL impact level: 2
Prep. lab (SAL/SRPL/other): SRPL
Preparation batch number:

	ACL Sample ID	ACL order number or Client sample ID	Crucible identifier	Crucible weight (g)	Crucible + sample weight (g)	Sample weight (g)	Spike added Vol. (ml)	Spike added Weight. (g)	Final solution Volume (ml)	Process Factor (1)
1	96-02612-BLK	Process Blank	1	32.8584	—	—			100 ml	
2	96-02612	119.1B.F	2	32.5000	32.6909	0.1909			↓	
3	96-02612-DUP	119.1B.F	3	32.8242	33.0156	0.1914				
4	96-02614	119.2B.F	4	32.7537	32.9032	0.1495				
5	96-02614-DUP	119.2B.F	5	32.7141	32.8914	0.1773				
6	96-02616	119.3B.F	6	32.8394	33.0146	0.1752				
7	96-02616-DUP	119.3B.F	7	32.7683	32.9326	0.1643				
8	SRM2709	LCS BX112/C119-2	8	32.9302	33.0785	0.1483				
9	#H30754	(10ml) @ 25°C								
10	10.0383g.	X = 10.0200 g								
11	10.0258g.	S = 0.0126								
12	10.0106g.	%RSD = 0.1257								
13	10.0067g.	Dilb. = 10.0497 ml								
14	10.0188g.									

Analyst's sample preparation comments: DOSE RATE:

The SRM2709 sample contained what appeared to be a very small amount of silica.

X There is no remaining archive prep for KOH-KNO3 fusion on sample # 96-02616 Dup. The 5X dilution for ICP is the only remaining prepped material.

Spike source:
PNL spike ID number:
Anal. balance M&TE: 360-06-01-037
HCl volume added (ml):
Solution heated (yes/no):
Sample filtered (yes/no): .45 µM
* QC samples were also filtered

(1) Process factor = Final volume (ml) / [Crucible & sample weight (g) - Crucible weight (g)]

Other sample preparation worksheets may be substituted at the discretion of the Cognizant Scientist. Use one worksheet per client.

Analyst/Date: Lori P. Darnell 2-15-96
Reviewer/Date: 2-16-96

Rev. 2.0 7-28-95 JMR

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WHC-SD-WM-DP-170, REV. 1

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/5/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-15-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2-16-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02612-BLK	PROCESS BLANK	ICP ASAP	—		100 ml			5x	2% HNO_3		
	96-02612	119.1B.F	ASAP	0.1909		↓			↓	↓		38714
	96-02612-DUP	119 1B.F	ASAP	0.1914								
	96-02614	119.2B.F	ASAP	0.1495								38715
	96-02614-DUP	119.2B.F	ASAP	0.1773								
	96-02616	119.3B.F	ASAP	0.1752								38716
	96-02616-DUP	119.3B.F	ASAP	0.1643								
	SRM2709	LCS BX112/C119-2	ASAP	0.1483								
	#H30754	(10 ml) @ 25°C										
	10.0383 g.	Y = 10.0200 g.										
	10.0258 g.	S = 0.0126										
	10.0106 g.	%RSD = 0.1257										
	10.0067 g.	Delv = 10.0497 ml										
	10.0188 g.											

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

DATE TO QC: 02/13/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Ni/KOH Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2611, 96-2613, 96-2615

PNL ACL Quality Representative

2/23/96

Date

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
Shielded Analytical Laboratory

PNL-ALO-115 Solubilization of Metals from Solids Using a $KOH-KNO_3$ Fusion

Client name: Kurt Silvers
Work Auth. Doc (WAD): TI96-PM-06 / ASR# 2785
Tank/Core/Project: Tank BX112, Core 119
Special Instructions

Work package number: K36491
Project number: 22762
PNL QA plan: MCS-033
PNL Impact level: 2
Prep. lab (SAL/SRPL/other): SRPL
Preparation batch number: 2

	ACL Sample ID	ACL order number or Client sample ID	Crucible identifier	Crucible weight (g)	Crucible + sample weight (g)	Sample weight (g)	Spike added Vol. (ml)	Spike added Weight. (g)	Final solution Volume (ml)	Process Factor (1)
1	96-02611-BLK	PROCESS BLANK	9	37.7611	—	—			100 ml	
2	96-02611	119.1A.F	10	37.3831	37.5675	0.1844				
3	96-02611-DUP	119.1A.F-DUP	11	39.0644	39.2379	0.1735				
4	96-02613	119.2A.F	12	38.6922	38.8466	0.1544				
5	96-02613	119.2A.F-DUP	13	38.8177	38.9585	0.1408				
6	96-02615	119.3A.F	14	39.4195	39.5707	0.1512				
7	96-02615-DUP	119.3A.F-DUP	15	38.8299	38.9906	0.1607				
8	SRM2709	LCS BX112/C119	16	34.9670	35.1084	0.1414				
9										
10										
11										
12										
13										
14										

Analyst's sample preparation comments: DOSE RATE:

All samples excluding the above process blank contained a very small amount of brown insoluble material.

Spike source:
PNL spike ID number:
Anal. balance M&TE: 360-06-01-037
HCl volume added (ml):
Solution heated (yes/no): NO
Sample filtered (yes/no): yes - .45 µm
*all of the above, blank included

(1) Process factor = Final volume (ml) / [Crucible & sample weight (g) - Crucible weight (g)]

Other sample preparation worksheets may be substituted at the discretion of the Cognizant Scientist. Use one worksheet per client.

Analyst/Date: Lori P. Darnell 2-6-96
Reviewer/Date: [illegible] 2-6-96

Rev. 2.0 7-28-95 JMR

Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/1/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-6-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [illegible] DATE: 2-6-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
SEE BELOW	96-02611-BLK	PROCESS BLANK	T. ALPHA GEA	—		100 ml				Water		
	96-02611	119.1A.F	T. ALPHA	0.1844 g.								38720
	96-02611-DUP	119.1A.F	T. ALPHA	0.1735 g.								
	96-02613	119.2A.F	T. ALPHA	0.1544 g.								38721
	96-02613-DUP	119.2A.F	T. ALPHA	0.1408 g.								
	96-02615	119.3A.F	T. ALPHA GEA	0.1572 g.								38722
	96-02615-DUP	119.3A.F	T. ALPHA GEA	0.1607 g.								
K36499			TOTAL ALPHA									
K41903			GEA									

REQUIRED PROCEDURE(S) BY ANALYTE:
TOTAL ALPHA PNL-ALO-420/421
GEA PNL-ALO-450

TOTAL ALPHA NOTIFICATION LIMIT > 41 microCURIES PER GRAM

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Battelle Pacific Northwest Laboratories
Analytical Chemistry Laboratory
325 Shielded Analytical Laboratory

SAMPLE PREP SHEET
(325 SHIELDED ANALYTICAL LABORATORY)

TI NO.: TI96-PM-06/ASR 2785 PROJECT NO.: 22762 WBS NO.: _____ SAMPLE TYPE: SLUDGE

ISSUED BY: Rick T. Steele DATE: 2/1/96 PREP TYPE: Ni/KOH FUSION

ANALYST: Lori P. Darnell DATE: 2-6-96 CONTROLLING PROCEDURE: PNL-ALO-010

REVIEW: [signature] DATE: 2-6-96 QA PLAN: MCS 033 IMPACT LEVEL: II

CORE ID: CORE 119 TANK ID: BX112

WORK PACKAGE NUMBER	ALO NUMBER	SAMPLE IDENTIFICATION	ANALYTE OR ANALYSIS	SAMPLE WT	WATER WT (g)	TOTAL VOL (mL)	SPIKE ID	SPIKE VOL (mL)	DILUTION FACTOR	DILUTION MATRIX	PIPET CALIB (mL)	ORDER NUMBER
K36496	96-02611-BLK	PROCESS BLANK	ICP	———		100ml			1:5	Water		
	96-02611	119.1A.F		0.1844								38720
	96-02611-DUP	119.1A.F		0.1735								
	96-02613	119.2A.F		0.1544								38721
	96-02613-DUP	119.2A.F		0.1408								
	96-02615	119.3A.F		0.1572								38722
	96-02615-DUP	119.3A.F		0.1607								
	SRM 2709	LCS BX112/C119		0.1414								

REQUIRED PROCEDURE(S) BY ANALYTE:
ICP PNL-ALO-211

RCS 2-7-96

pipette # H30754 checked with DDI at ~~25~~ 25 °C

10.0334 g.
10.0193 g.
10.0246 g.
10.0124 g.
9.9758 g.

x = 10.0131 g.
s = 0.0222
%RSD = 0.2217
Dilu. = ~~9.9835 ml~~ 10.0427 ml RCS 2-7-96

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WHC-SD-WM-DP-170, REV. 1

SINGLE SHELL TANK

WASTE CHARACTERIZATION PROJECT

APPENDIX B

PHYSICAL PROPERTIES

TANK BX-112 CORES 118 & 119

March 1996

Pacific Northwest National Laboratory

B1 - INTRODUCTION

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Introduction to Physical Properties Primary Data Package

This section of the BX-112 Cores 118 and 119 Primary Data Package contains primary or "raw" data collected during preparation and analysis of physical properties on these core samples.

B2 - DSC/TGA ANALYSIS

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DATE TO QC: 03/20/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - DSC/TGA

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2617, 96-2618, 96-3365, 96-3366

PNL ACL Quality Representative

3/28/96
Date

DATE TO QC: 02/28/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - DSC/TGA

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2605, 96-2606, 96,2607, 96-2608, 96-2609, 96-2611
96-2612, 96-2613, 96-2614, 96-2615, 96-2616, 96-2619
96-2848, 96-2850

PNL ACL Quality Representative

2/28/96
Date

THERMOGRAVIMETRIC ANALYSIS (TGA)

Percent water determinations by TGA were made on homogenized subsamples from Core 118 Segments 1A, 2, and 3 and Core 119 Segments 1, 2, and 3. Samples were run on a SEIKO 5200 instrument. Balance calibration of the instrument was checked against a known 20 mg standard laboratory weight. The instrument temperature was calibrated using indium and lead standards; instrument temperature was checked using the indium standard. Temperature readings for the instrument were within 2 °C of the reported literature value. Balance calibration of the TGA was within 0.01 mg of its expected value. The temperature range for the TGA runs was from ambient (~20 °C) to 550 °C, using a scan rate of 10 °C per minute to permit good thermal conductivity in the sample. Analyses were conducted using platinum sample pans under a nitrogen cover gas. Data for percent water are provided in Table 3.

All of the TGA results fell well within the established 20% RPD precision limit. Confidence intervals listed in Table 3 correspond to the 95% lower limit values for percent water in the samples.

DIFFERENTIAL SCANNING CALORIMETRY (DSC)

Energetics of Core 118 and Core 119 samples were determined by DSC. DSC analyses were conducted using a SEIKO 5200 instrument. Temperature and enthalpy calibrations of the DSC instrument were made using indium and lead standards. Calibration was checked periodically using an indium standard. A melting temperature of 155.5 °C was measured for the indium standard. This melting temperature was within ± 2 °C of reported literature value (156.6 °C).

The temperature range for the DSC runs was from ambient (~20 °C) to 550 °C, using a scan rate of 10 °C per minute to permit good thermal conductivity in the sample. Analyses were conducted using platinum sample pans under a nitrogen cover gas.

Enthalpy data are tabulated in Table 4. Confidence intervals listed in Table 4 represent the maximum potential values for samples exhibiting exothermic behavior (e.g., upper confidence limit), and minimum values for sample exhibiting endothermic behavior (lower confidence limit). Sample behavior is broken down into first transition (typically assumed to be water loss) and second transition results. Note that exotherms are recorded as negative numbers. Thus, in the context of Table 4, the confidence limit would have to exceed -480 J/g to impact the notification limit.

Only one sample, 96-02848 (Core 118 Segment 3 drainable liquid) exhibited exothermic activity, based on initial enthalpy determinations. Mean enthalpy for this sample and its duplicate was -193 J/g (dry weight basis) at the upper 95% confidence level. An additional sample, 96-02612 (Core 119, subsegment 1B) showed an enthalpy of -1 J/g at the lower 95% confidence limit. Both samples were well below the 480 J/g notification limit. As a consequence, no safety screening limit notifications are required for either sample.

For the initial water transition, only two samples, 96-02605 (Core 118

subsegment 1AB) and 96-02612 (Core 119 Subsegment 1B) exhibited RPD values in excess of the 20% precision limit, with RPD values of 23.9% and 29.3%, respectively. Seven samples (96-02605, 96-02612, 96-02613, 96-02614, 96-02615, 96-02848, and 96-02850) exceeded the 20% RPD precision criterion for second transition enthalpies. Such results are expected for transitions which exhibit low overall enthalpies. In these samples, small enthalpy differences contribute to the larger calculated RPD values.

TABLE 3. TGA Results for Homogenized Samples from Tank 241-BX-112

100-DAY REPORT

Description	Sample#	Wt% H2O, 1	Wt% H2O, 2	Delta Wt% H2O (1-2)	Avg Wt% H2O	t	s^2	(SQRT(s^2)/(N))*t	95% C.L.	RPD
C118,S1AA,LH	96-02605	99.8	32.3	67.5	67.2	6.314	0.18	1.8942	65	1
Duplicate	96-02605D	100.4	33.5	66.9						
C118,S1AB,UH	96-02606	99.5	33.4	66.1	65.85	6.314	0.125	1.5785	64	1
Duplicate	96-02606D	99.1	33.5	65.6						
C118,S2A,LH	96-02607	99.8	36.5	63.3	62	6.314	3.38	8.2062	54	4
Duplicate	96-02607D	99.6	38.9	60.7						
C118,S2B,UH	96-02608	99.4	32.3	67.1	67.45	6.314	0.245	2.2099	65	1
Duplicate	96-02608D	99.4	31.6	67.8						
C118,S3A	96-02609	99.6	35.7	63.9	65.2	6.314	3.38	8.2062	57	4
Duplicate	96-02609D	100	33.5	66.5						
C119,S1A,LH	96-02611	99.6	33.5	66.1	64.9	6.314	2.88	7.5768	57	4
Duplicate	96-02611D	99.4	35.7	63.7						
C119,S1B,UH	96-02612	99.3	35.6	63.7	61.2	6.314	12.5	15.785	45	8
Duplicate	96-02612D	99.2	40.5	58.7						
C119,S2A,LH	96-02613	99.9	34.2	65.7	65.05	6.314	0.845	4.1041	61	2
Duplicate	96-02613D	98.8	34.4	64.4						
C119,S2B,UH	96-02614	99.5	38	61.5	62.5	6.314	2	6.314	56	3
Duplicate	96-02614D	100	36.5	63.5						
C119,S3A,LH	96-02615	99.5	35.5	64	64.9	6.314	1.62	5.6826	59	3
Duplicate	96-02615D	99.5	33.7	65.8						
C119,S3B,UH	96-02616	99.5	34.4	65.1	65.55	6.314	0.405	2.8413	63	1
Duplicate	96-02616D	99.5	33.5	66						
C118 Comp	96-02617	98.8	37.5	61.3	61.55	6.314	0.125	1.5785	60	1
Duplicate	96-02617D	99.2	37.4	61.8						
C119 Comp	96-02618	99.7	33.2	66.5	65.55	6.314	1.805	5.9983	60	3
Duplicate	96-02618D	99.2	34.6	64.6						
Field Blank	96-02619	97.8	0.2	97.6	98.2	6.314	0.72	3.7884	94	1
Duplicate	96-02619D	99.3	0.5	98.8						
C118,S1A,DL	96-02848	99.4	36.1	63.3	64.35	6.314	2.205	6.6297	58	3
Duplicate	96-02848D	99.4	34	65.4						
C118,S3,DL	96-02850	98.8	28.4	70.4	70.75	6.314	0.245	2.2099	69	1
Duplicate	96-02850D	100	28.9	71.1						
C118,S1A,LH	96-03365	100	46.3	53.7	54.15	6.314	0.405	2.8413	51	2
Duplicate	96-03365D	99.9	45.3	54.6						
C118,S1B,UH	96-03366	99.9	42.9	57	56.55	6.314	0.405	2.8413	54	2
Duplicate	96-03366D	99.9	43.8	56.1						

TABLE 4. DSC Results for Homogenized Samples from Tank 241-BX-112

100-DAY REPORT

Description	Sample#	(1) DeltaH1	(1) AvgH1 J/g	(2) DeltaH2**	(2) AvgH2 J/g **	t	(1) s^2	(2) s^2	(1) (SQRT(s^2)/(N))*t	(2) (SQRT(s^2)/(N))*t	(1) 95% C.L.	(2) 95% C.L.	(1) RPD	(2) RPD
C118,S1AA,LH	96-02605	898.1	1019.7	16.9	14.35	6.314	29573.12	13.01	767.78	16.10	252	-2	24	36
Duplicate	96-026050	1141.3		11.8										
C118,S1AB,UH	96-02606	1038.7	1006.6	17.2	15.65	6.314	2060.82	4.81	202.68	9.79	804	8	6	20
Duplicate	96-026060	974.5		14.1										
C118,S2A,LH	96-02607	855.4	839.85	13.1	11.85	6.314	483.61	2.65	98.18	7.28	742	5	4	19
Duplicate	96-026070	824.3		10.8										
C118,S2B,UH	96-02608	1042.6	1058.3	18.5	17.35	6.314	492.98	2.64	99.13	7.26	959	10	3	13
Duplicate	96-026080	1074		16.2										
C118,S3A	96-02609	949.5	1010.7	15.8	15.15	6.314	7490.88	0.85	386.42	4.10	624	11	12	9
Duplicate	96-026090	1071.9		14.5										
C119,S1A,LH	96-02611	1065.2	1023.1	11.3	10.3	6.314	3544.82	2.00	265.82	6.31	757	4	8	19
Duplicate	96-026110	981		9.3										
C119,S1B,UH	96-02612	1092.6	963.9	23.2	31.1	6.314	33127.38	124.82	812.61	49.88	151	-19	27	51
Duplicate	96-026120	835.2		39										
C119,S2A,LH	96-02613	1059.6	1109.1	9.7	9.65	6.314	4860.98	0.01	311.28	0.32	798	9	9	1
Duplicate	96-026130	1158.4		9.6										
C119,S2B,UH	96-02614	919.6	966.15	20	18.6	6.314	4333.81	3.92	293.92	8.84	672	10	10	15
Duplicate	96-026140	1012.7		17.2										
C119,S3A,LH	96-02615	1079.9	1051.05	6.7	6.15	6.314	1664.64	0.61	182.16	3.47	869	3	5	18
Duplicate	96-026150	1022.2		5.6										
C119,S3B,UH	96-02616	1154	1098.05	12.5	11.3	6.314	8260.81	2.88	353.27	7.58	745	4	10	21
Duplicate	96-026160	1042.1		10.1										
C118 Comp	96-02617	707.1	860.45	15.1	14.75	6.314	47032.45	0.24	968.25	2.21	-108	13	36	5
Duplicate	96-026170	1013.8		14.4										
C119 Comp	96-02618	1050.1	1025.95	14	14.2	6.314	1166.45	0.08	152.48	1.26	873	13	5	3
Duplicate	96-026180	1001.8		14.4										
Field Blank	96-02619	1542.7	1548.25	n/a	n/a	6.314	61.60	n/a	35.04	n/a	1513	n/a	1	n/a
Duplicate	96-026190	1553.8		n/a										
C118,S1A,DL	*96-02848	946.9	987.35	-127.6	-128.8	6.314	3272.40	2.52	255.40	7.08	732	-136	8	-2
Duplicate	*96-02848D	1027.8		-129.9										
C118,S3,DL	96-02850	1064.6	1075.3	31.7	34.7	6.314	228.98	18.00	67.56	18.94	1006	16	2	17
Duplicate	96-028500	1086		37.7										
C118,S1A,LH	96-03365	899.8	900.5	10.7	10.55	6.314	0.98	0.04	4.42	0.95	896	10	0	3
Duplicate	96-03365D	901.2		10.4										
C118,S1B,UH	96-03366	932.9	939.85	6.6	6.6	6.314	96.60	0.00	43.88	0.00	896	7	1	0
Duplicate	96-03366D	946.8		6.6										

* Adjustment factor for exothermic dry weight-basis correction, based on TGA results for %H2O [100-64.35%]/[100]: 0.3565

Sample 96-02848 data, columns 5, 6, and 13 represent corrected exothermic values.

** Exothermic values are preceded by a "-".

(1) Represents data and/or calculations for the first DSC transition.

(2) Represents data and/or calculations for the second DSC transition.

TG/DTA

<Name>
7feb96n

<Date>
96/02/12 11:19

<Sample>
7feb96n
20.810 mg
(20.810 mg)

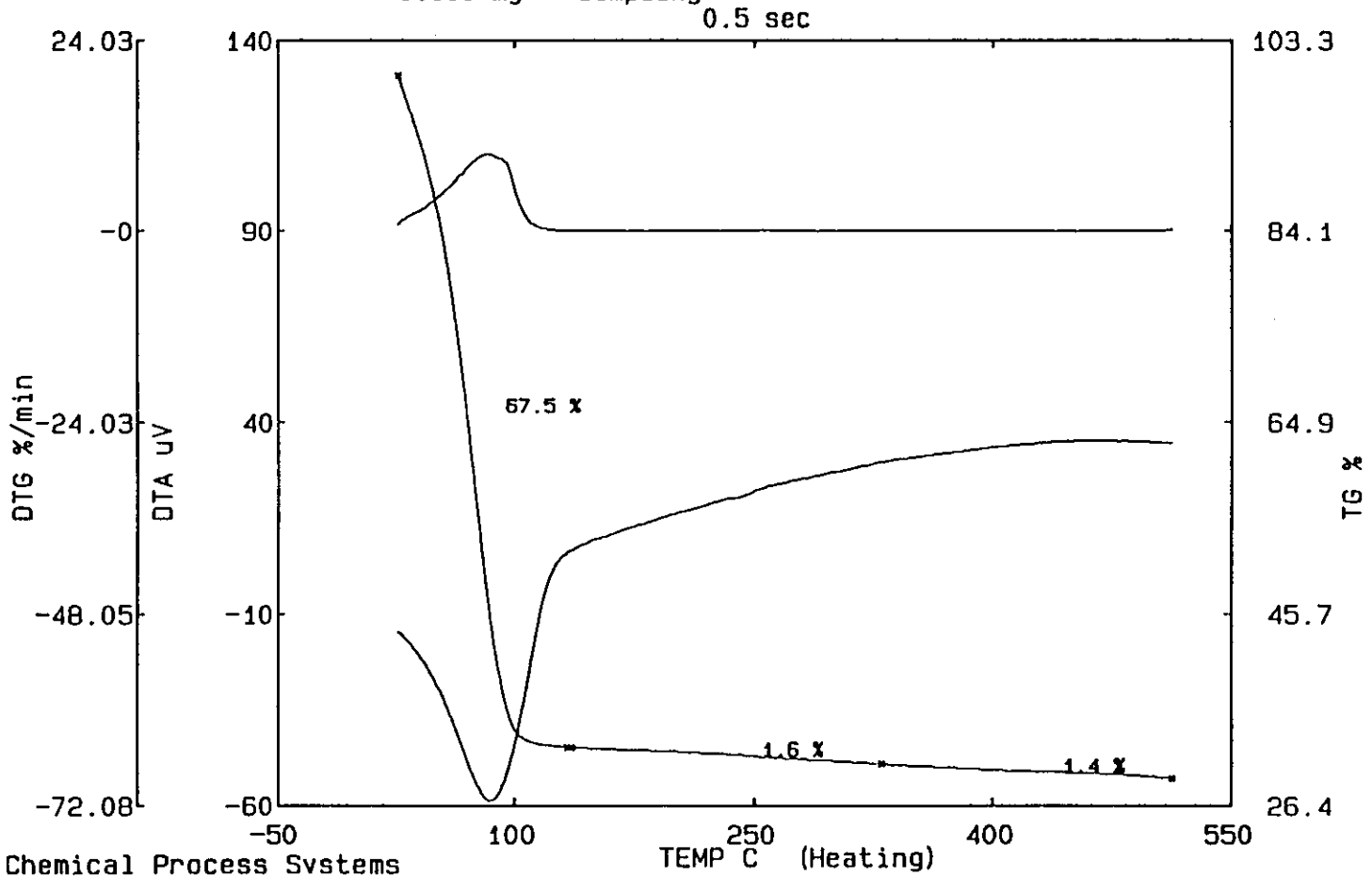
<Reference>
pt pan
0.000 mg

<Comment>
96-02605

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
7feb96p

<Date>
96/02/07 22:51

<Sample>
7feb96p
19.892 mg
(19.892 mg)

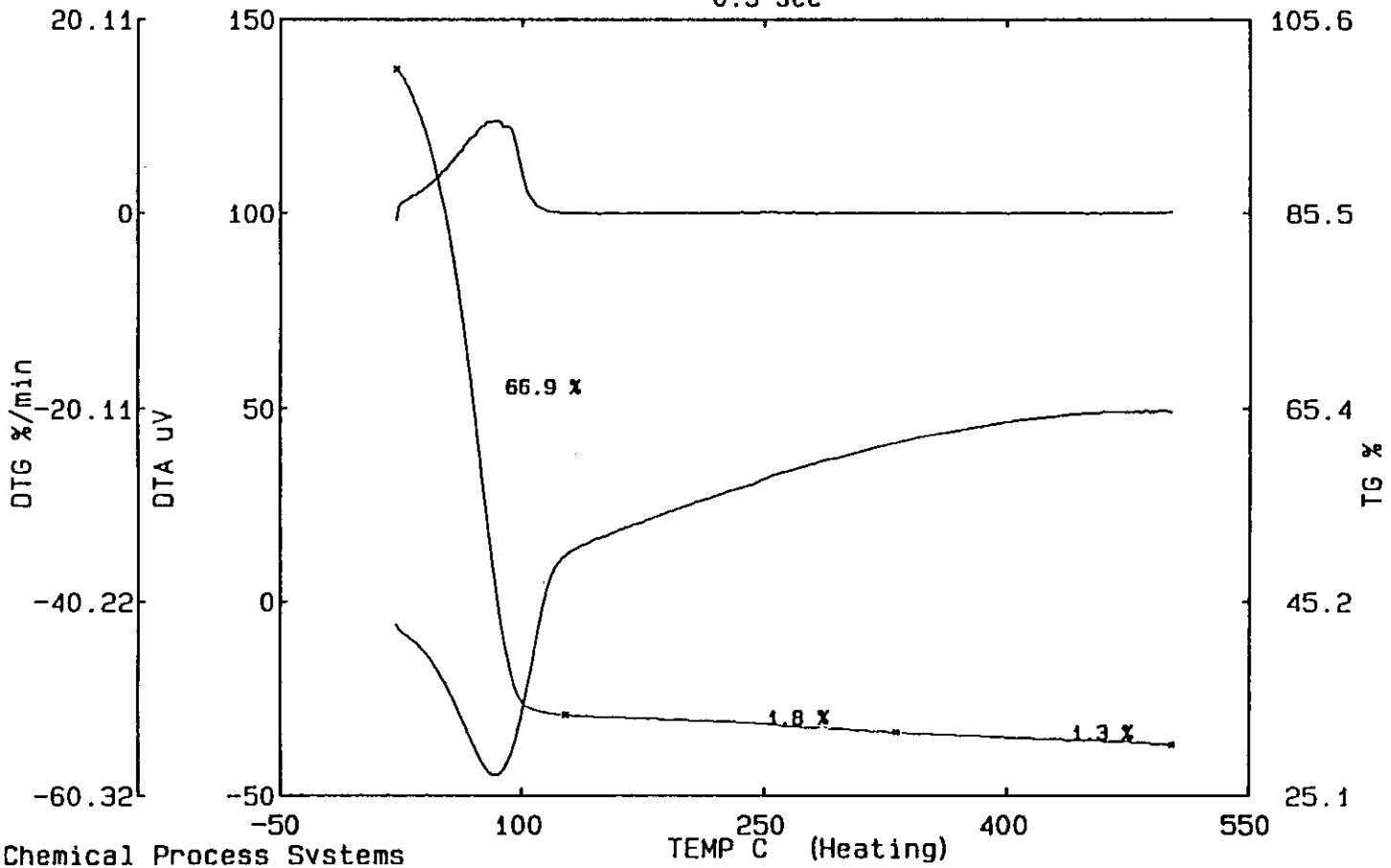
<Reference>
pt pan
0.000 mg

<Comment>
96-02605D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
9feb96h
<Date>
96/02/09 16: 16

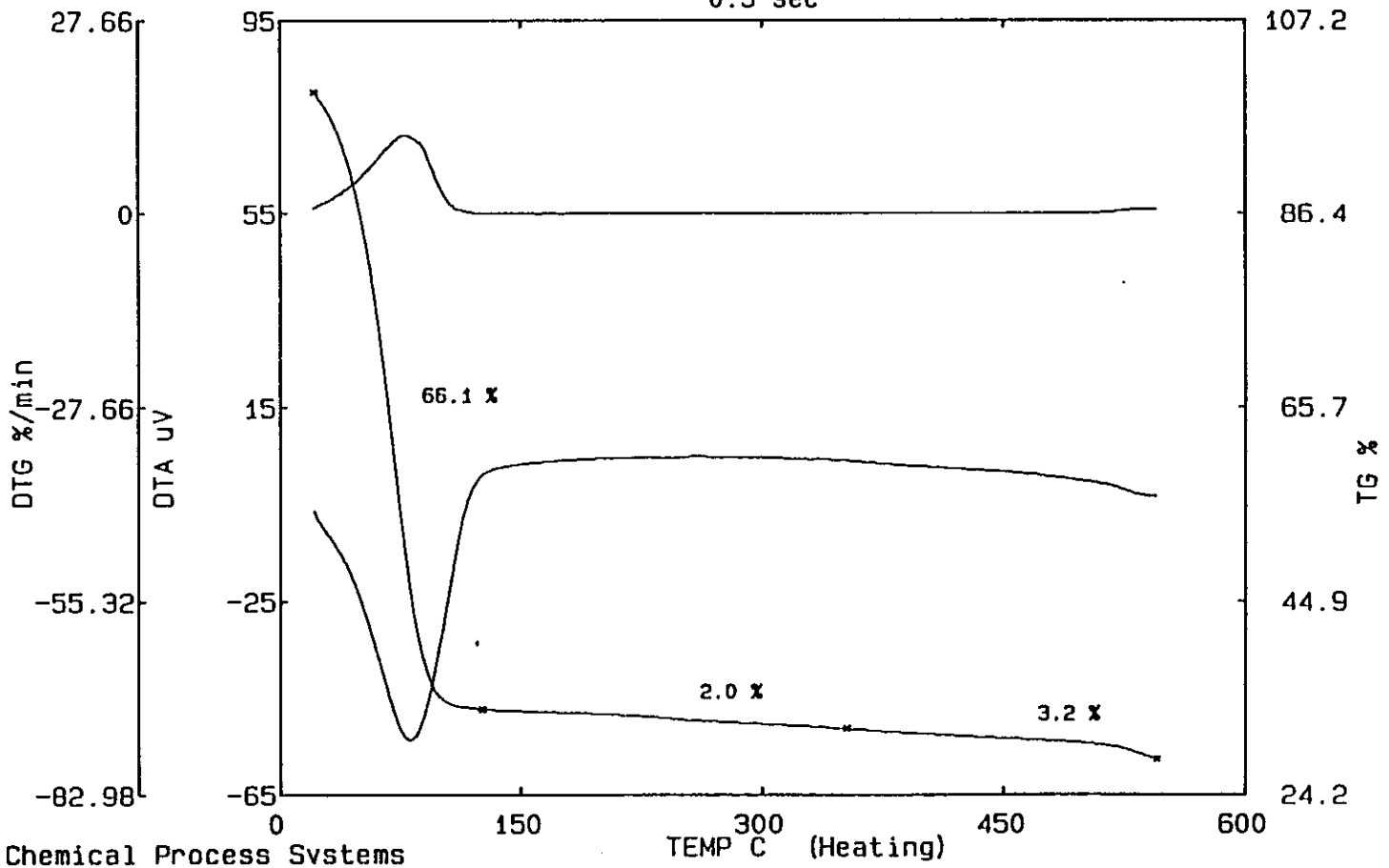
<Sample>
9feb96h
14.462 mg
(14.462 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02606

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
9feb96j
<Date>
96/02/09 18:19

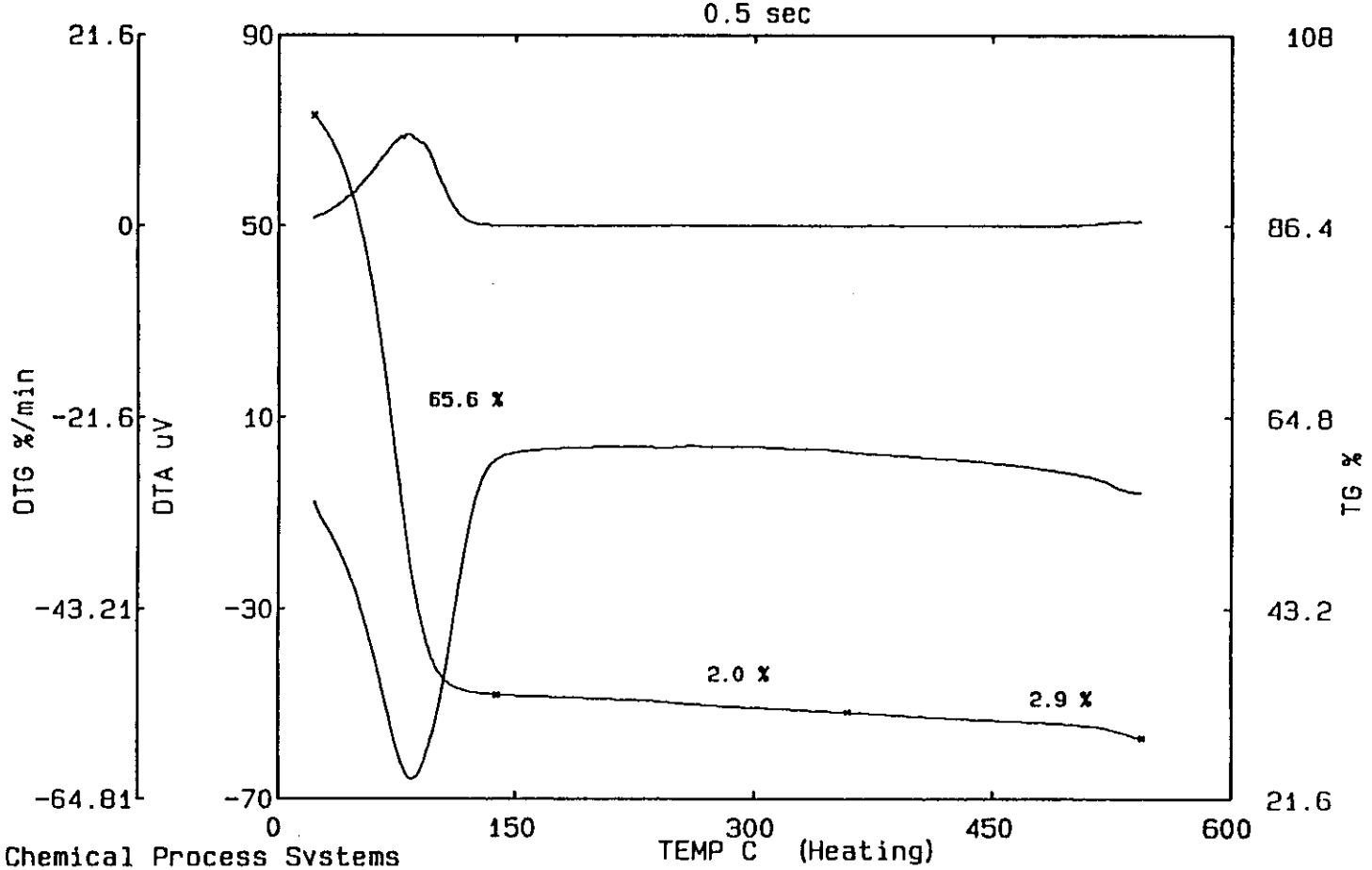
<Sample>
9feb96j
18.515 mg
(18.515 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02606D

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

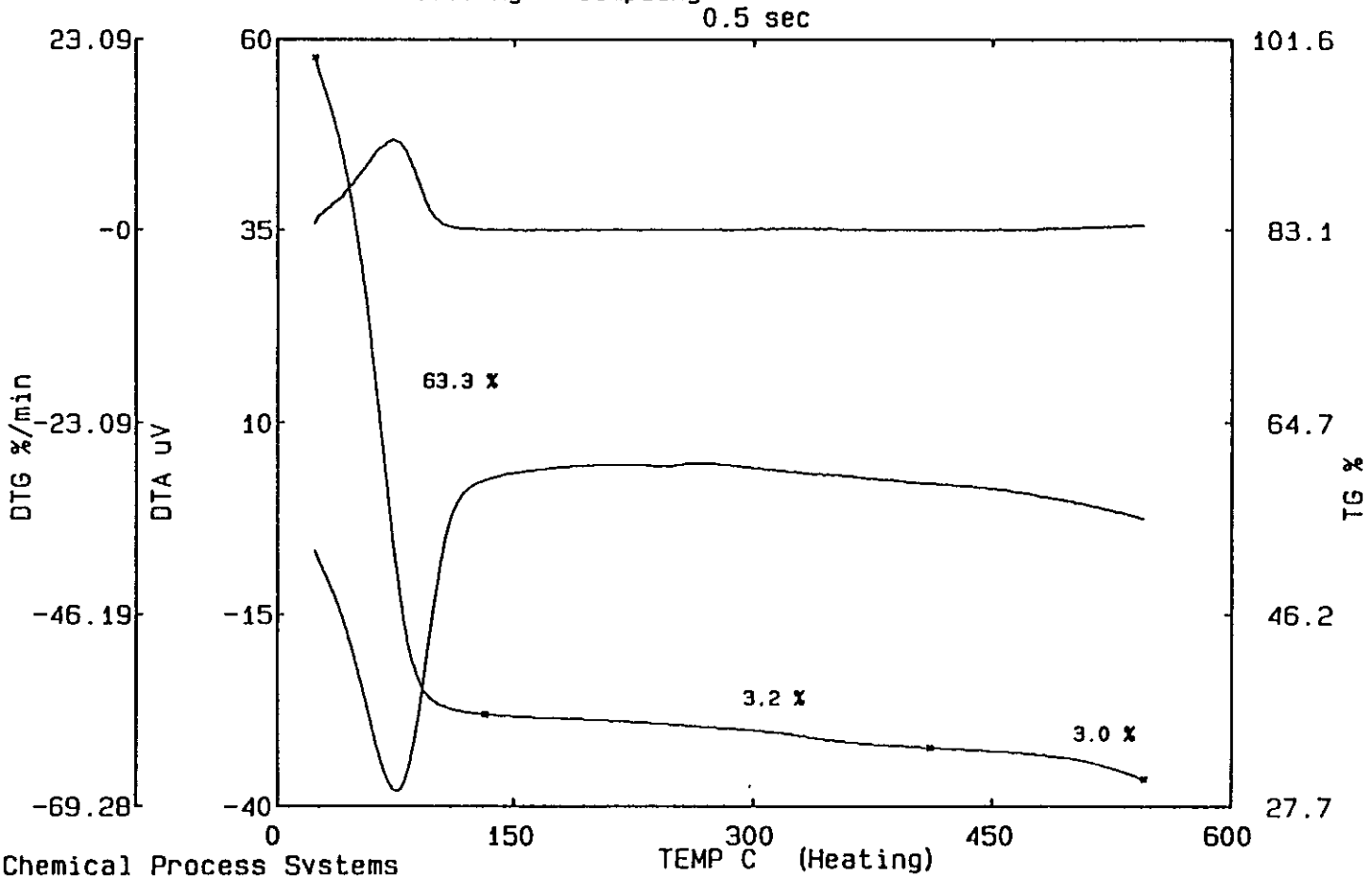
<Name>
8feb96n
<Date>
96/02/08 23:44

<Sample>
8feb96n
10.825 mg
(10.825 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02607

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

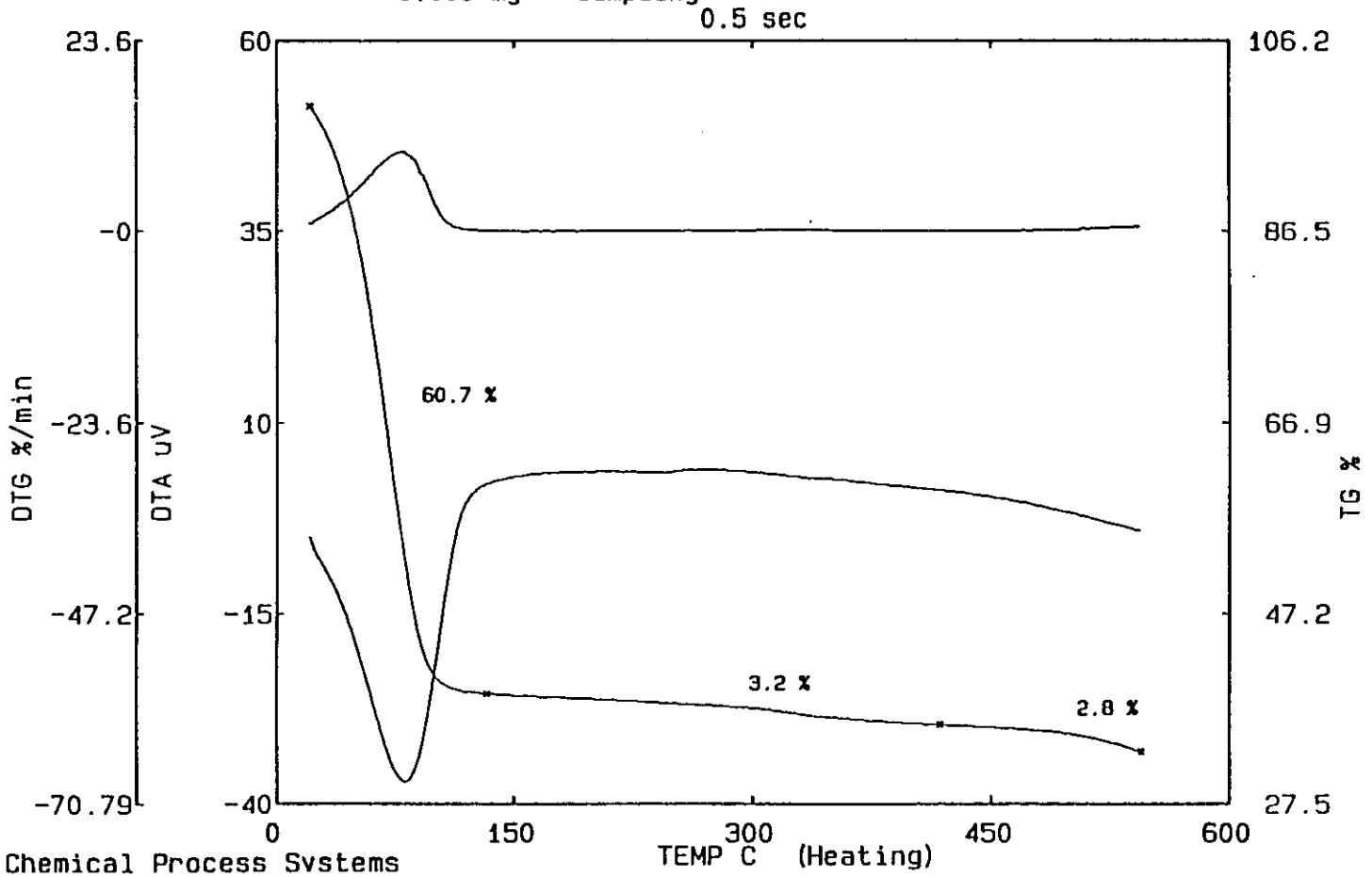
<Name>
9feb96b
<Date>
96/02/09 09:11

<Sample>
9feb96b
12.713 mg
(12.713 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02607D

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
8feb96j

<Date>
96/02/08 15:41

<Sample>
8feb96j
12.870 mg
(12.870 mg)

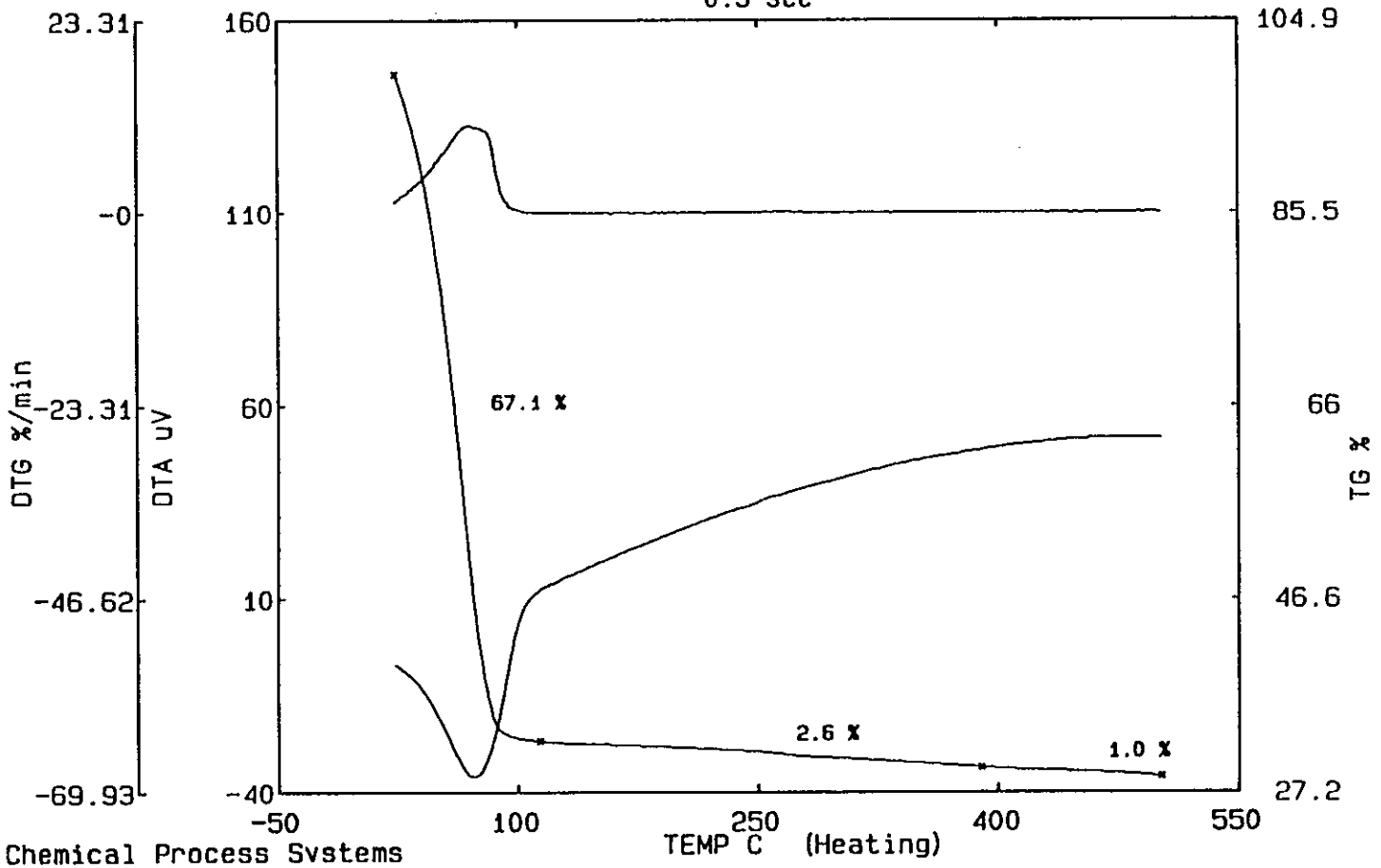
<Reference>
pt pan
0.000 mg

<Comment>
96-02608

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
8feb961

<Date>
96/02/08 17:46

<Sample>
8feb961
18.115 mg
(18.115 mg)

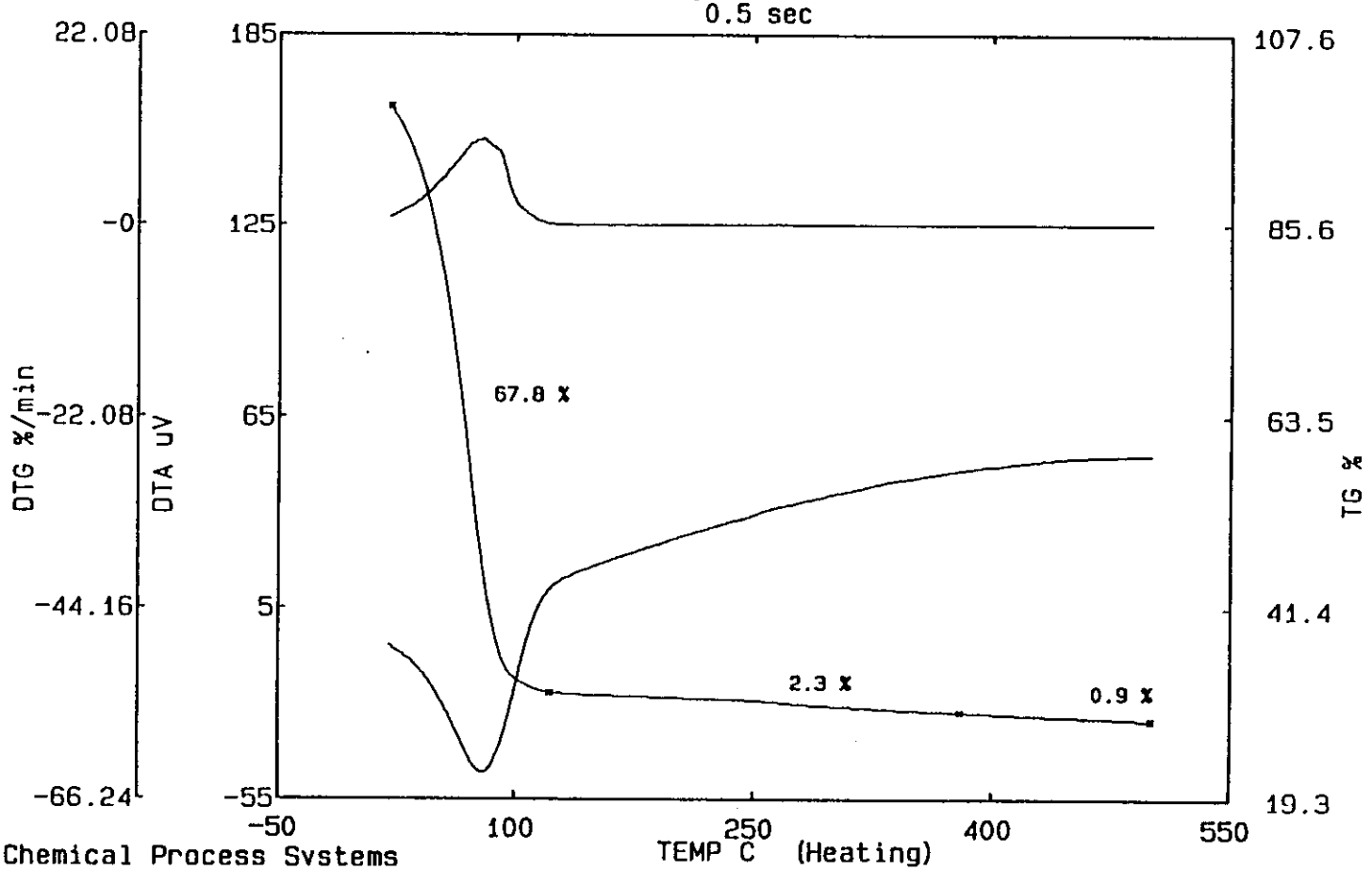
<Reference>
pt pan
0.000 mg

<Comment>
96-02608D

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
9feb96d
<Date>
96/02/09 11:13

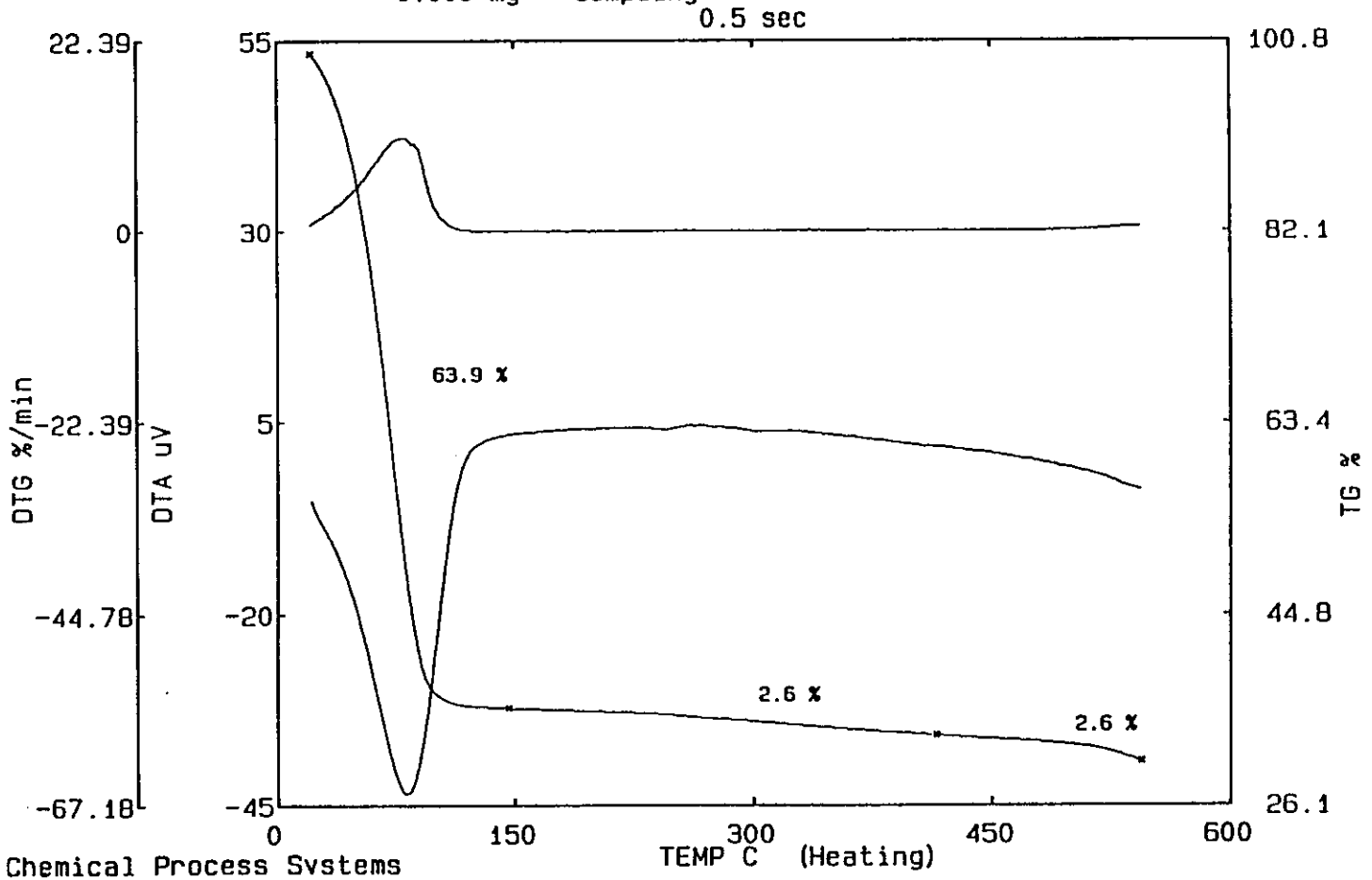
<Sample>
9feb96d
13.398 mg
(13.398 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02609

<Sampling>
0.5 sec

<Temp.program [C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

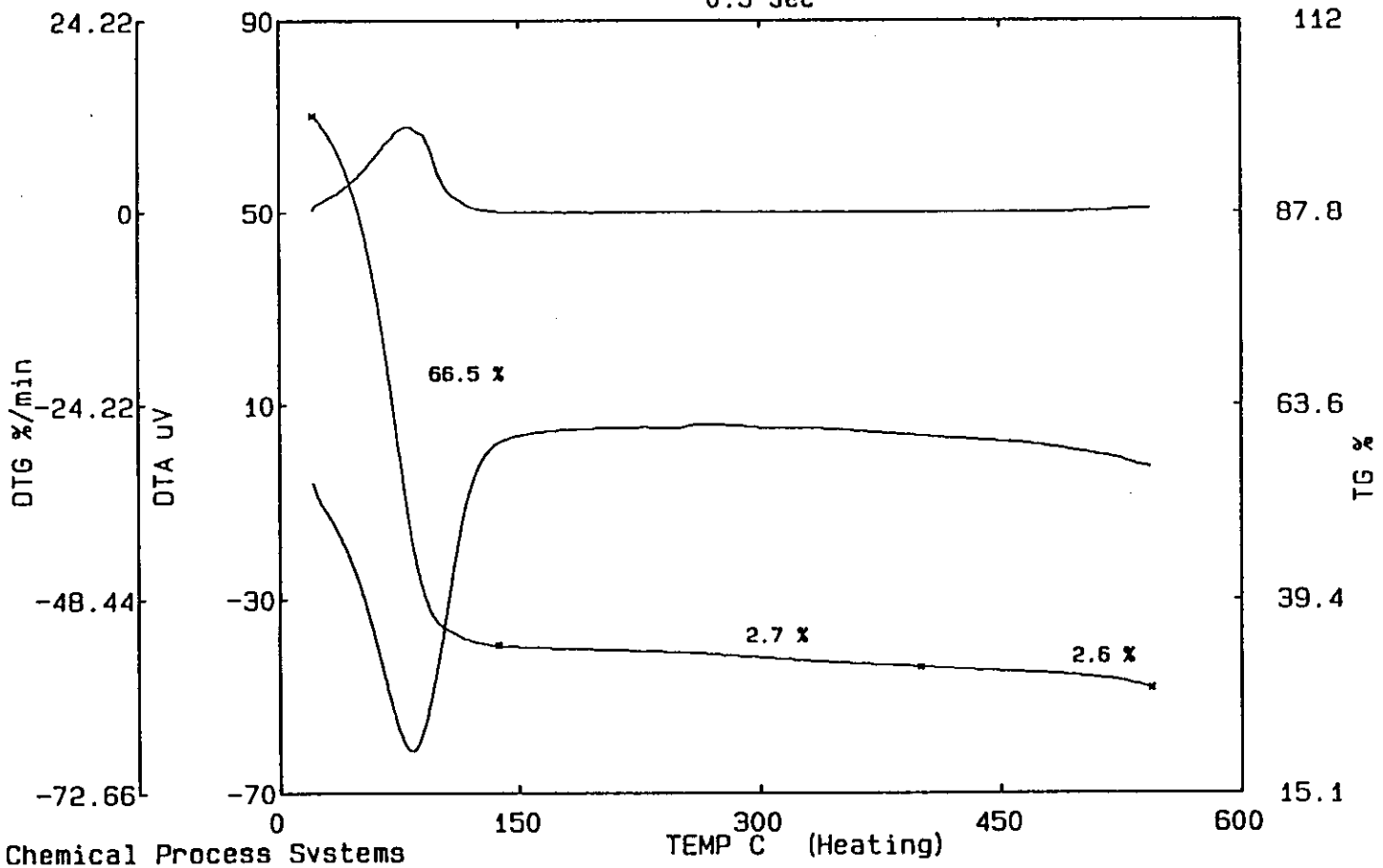
<Name>
9feb96f
<Date>
96/02/09 12:48

<Sample>
9feb96f
16.516 mg
(16.516 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02609D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
7feb96l

<Date>
96/02/07 17:01

<Sample>
7feb96l
12.623 mg
(12.623 mg)

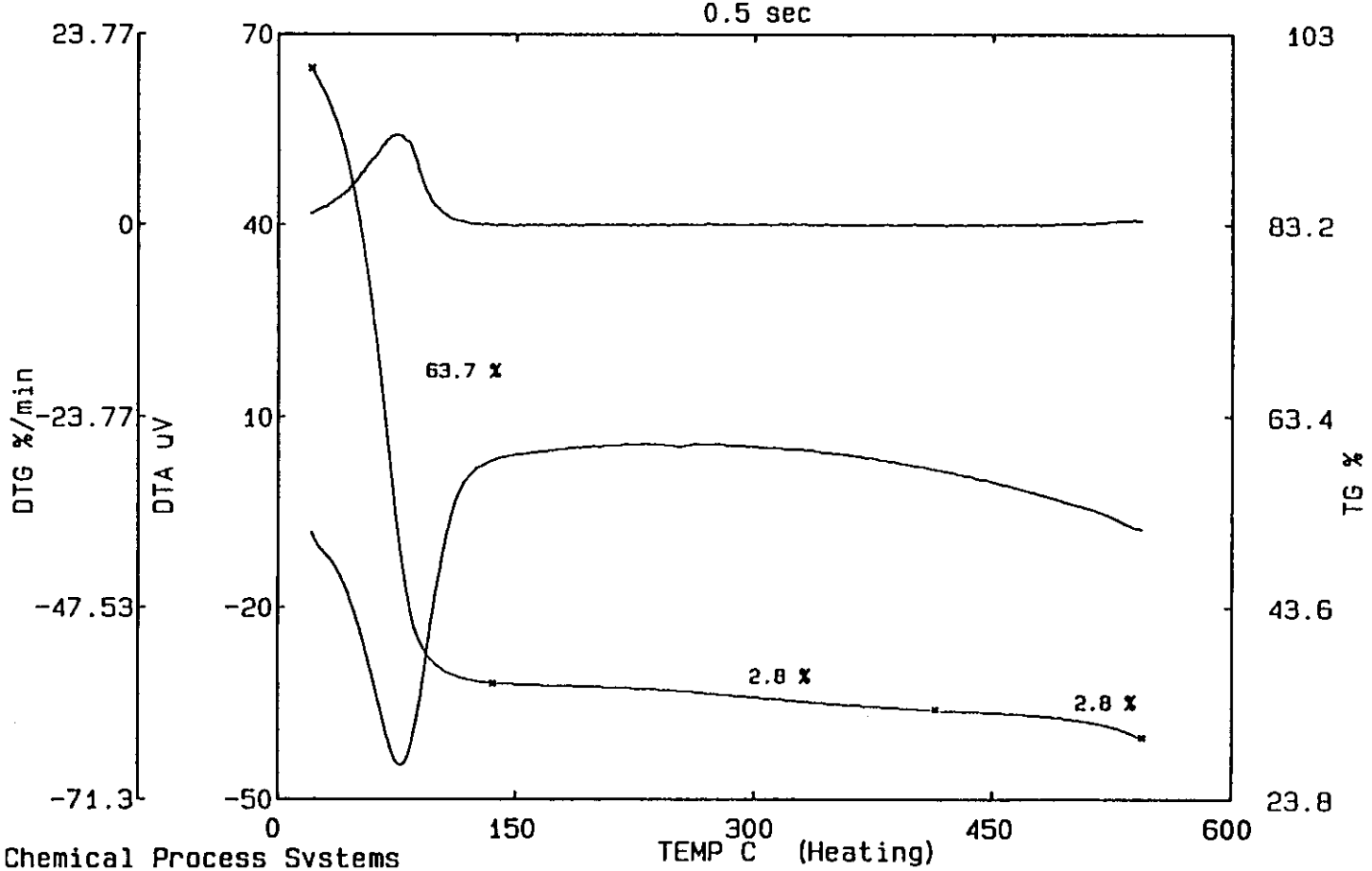
<Reference>
pt pan
0.000 mg

<Comment>
96-02611D

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
13feb96d

<Date>
96/02/13 14:59

<Sample>
13feb96d
18.732 mg
(18.732 mg)

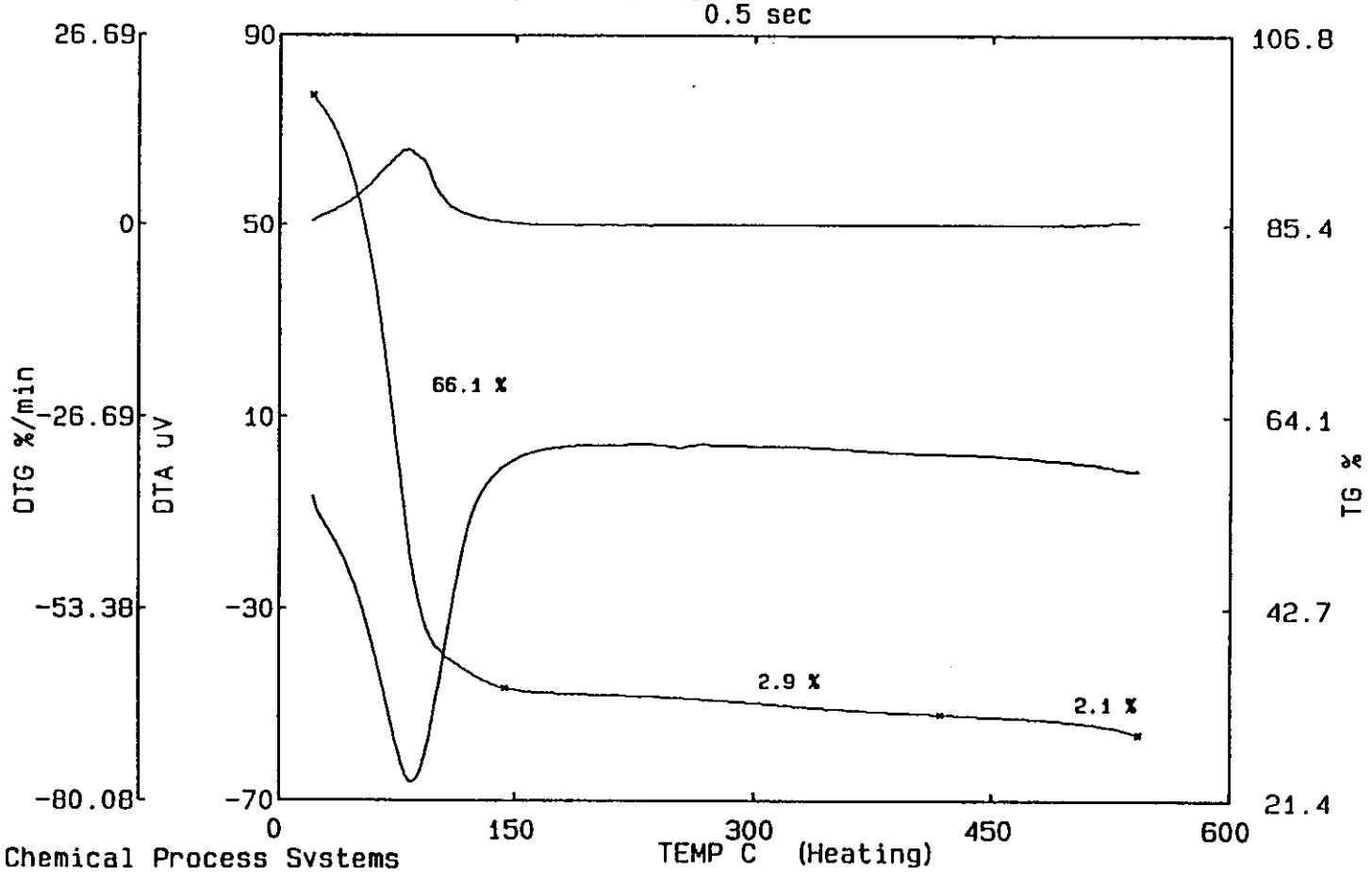
<Reference>
al pan & lid
0.000 mg

<Comment>
96-02611T

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
7feb96b

<Date>
96/02/07 09:10

<Sample>
7feb96b
10.946 mg
(10.946 mg)

<Reference>
pt pan
0.000 mg

<Comment>
96-02612

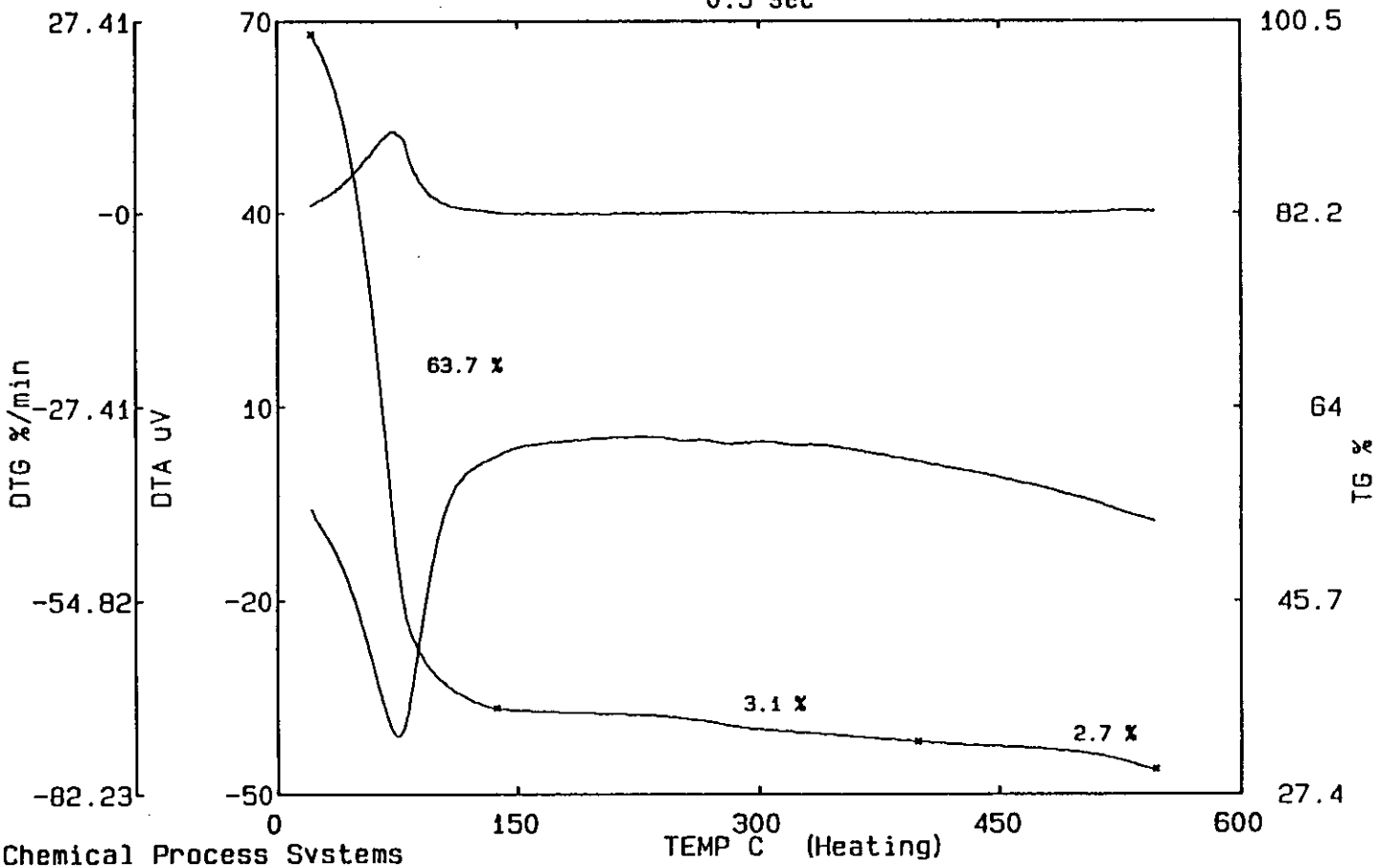
<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>

1*	30.0- 550.0	10.00	0.00
2	550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

TG/DTA

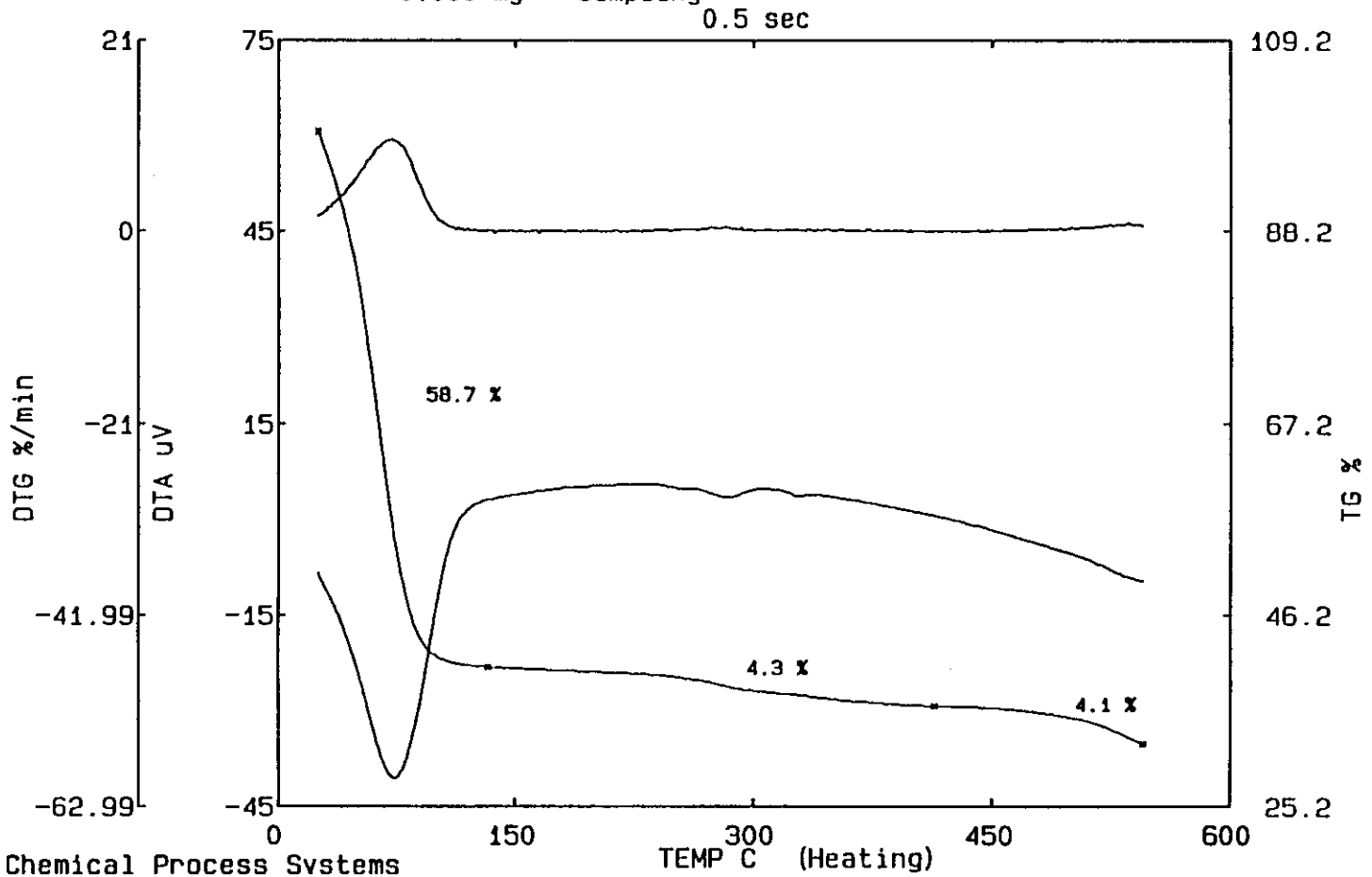
<Name>
7feb96h
<Date>
96/02/07 13:15

<Sample>
7feb96h
11.907 mg
(11.907 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-026120

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
8feb96f

<Date>
96/02/08 13:06

<Sample>
8feb96f
14.153 mg
(14.153 mg)

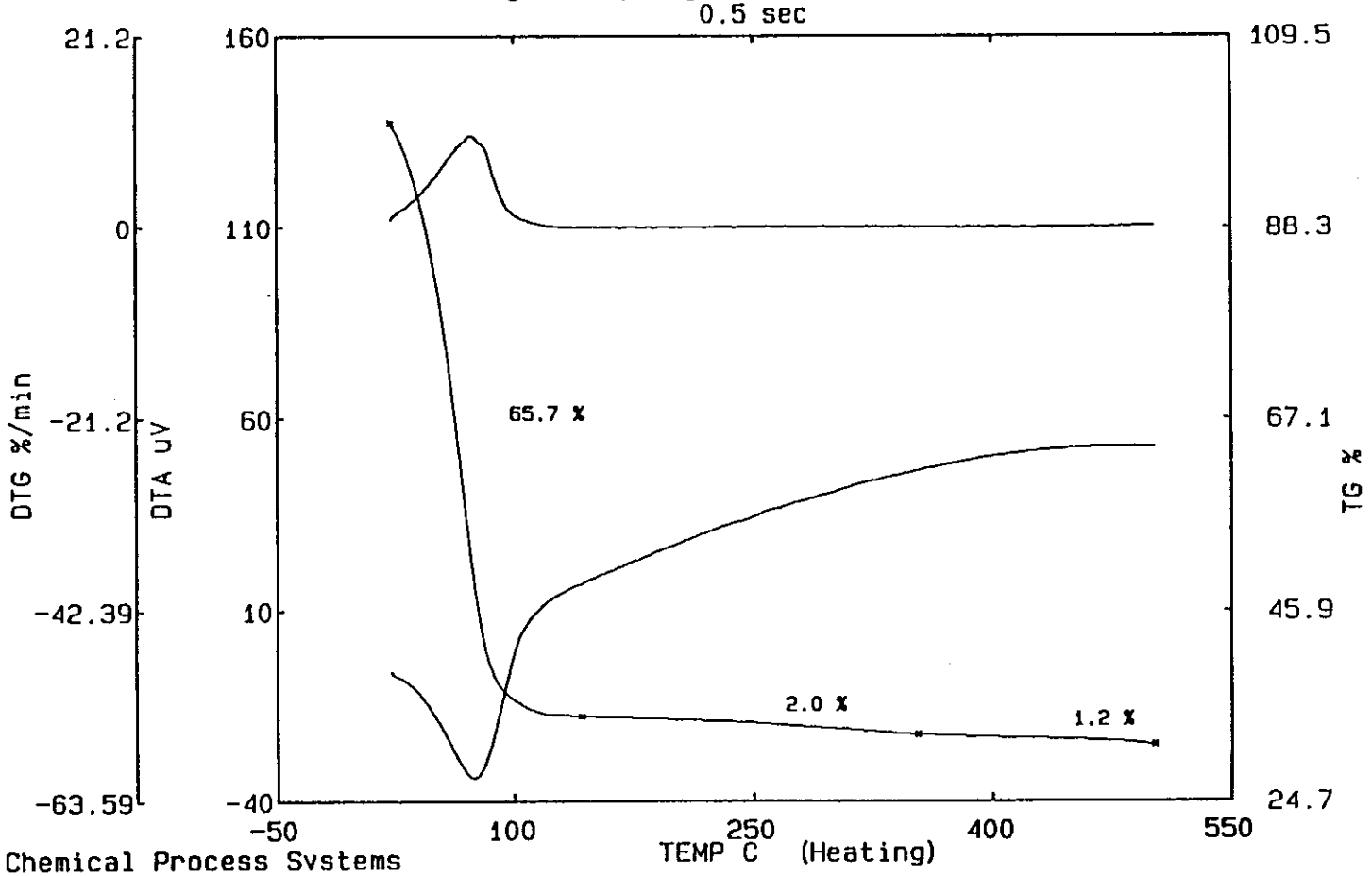
<Reference>
pt pan
0.000 mg

<Comment>
96-02613

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

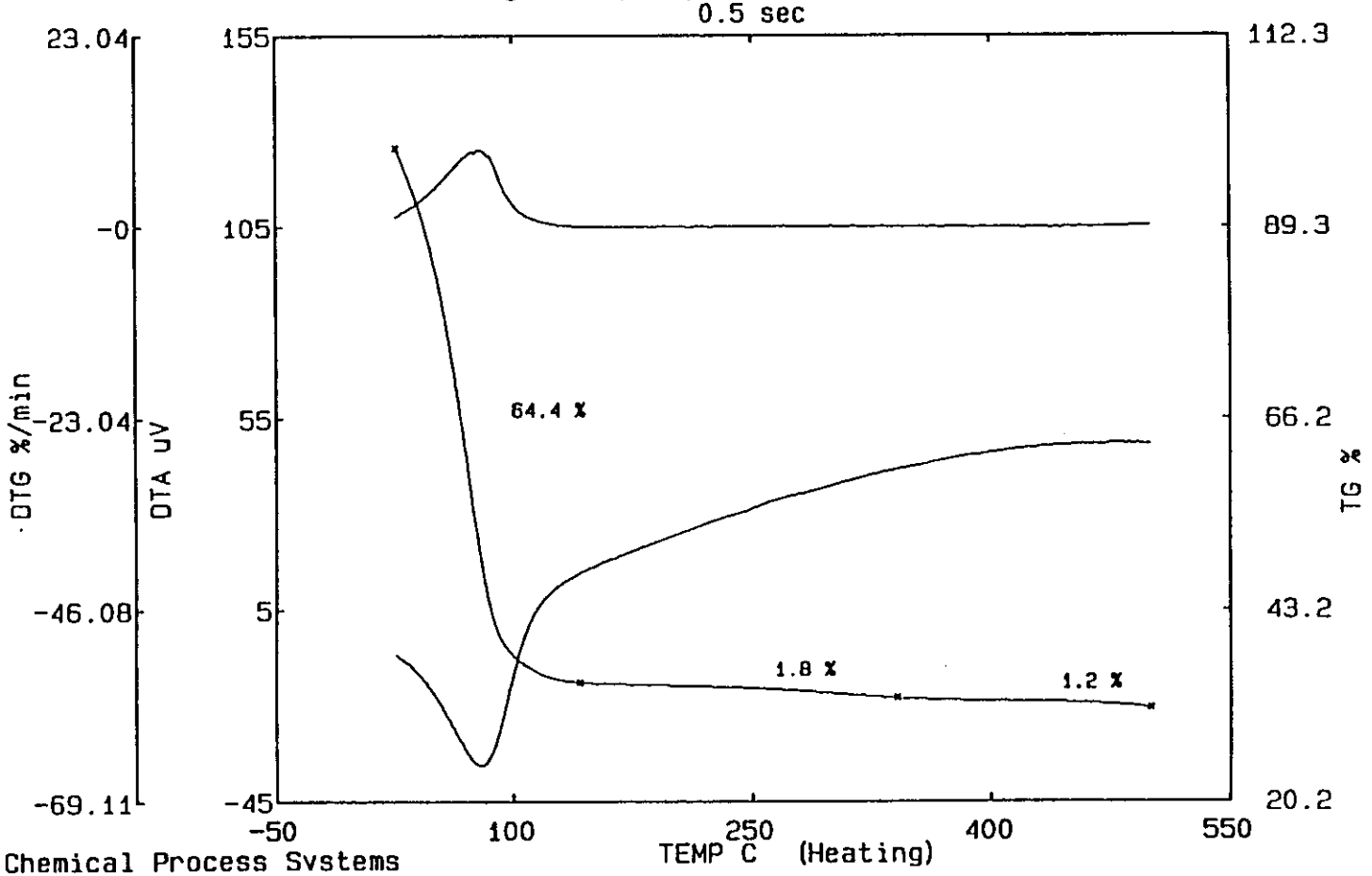
<Name>
8feb96h
<Date>
96/02/08 14:19

<Sample>
8feb96h
17.363 mg
(17.363 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02613D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

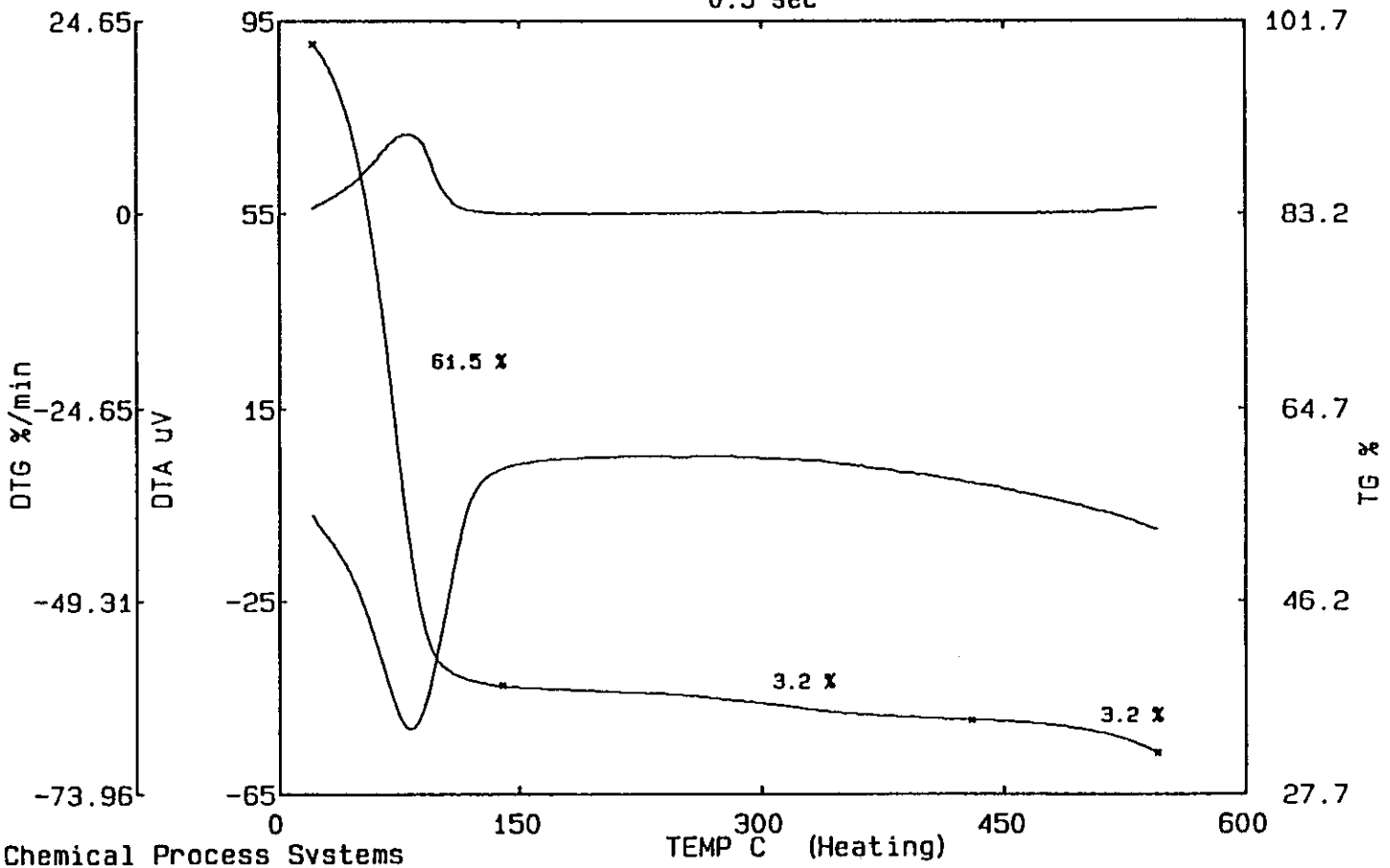
<Name>
6feb96h
<Date>
96/02/06 18:39

<Sample>
6feb96h
16.225 mg
(16.225 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02614

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
6feb96j

<Date>
96/02/06 21:43

<Sample>
6feb96j
14.070 mg
(14.070 mg)

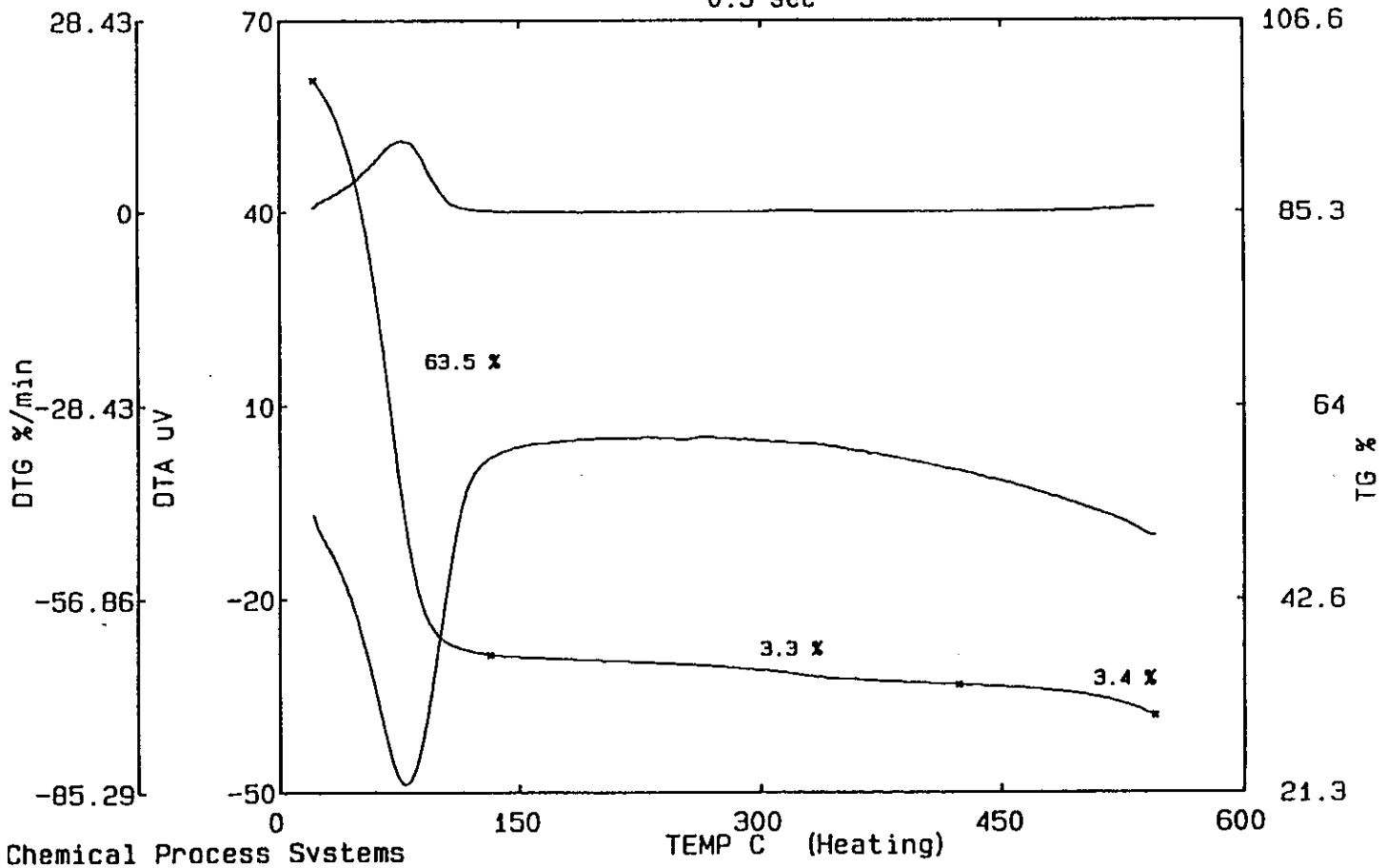
<Reference>
pt pan
0.000 mg

<Comment>
96-02614D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
8feb96b

<Date>
96/02/08 09:33

<Sample>
8feb96b
13.631 mg
(13.631 mg)

<Reference>
pt pan
0.000 mg

<Comment>
96-02615

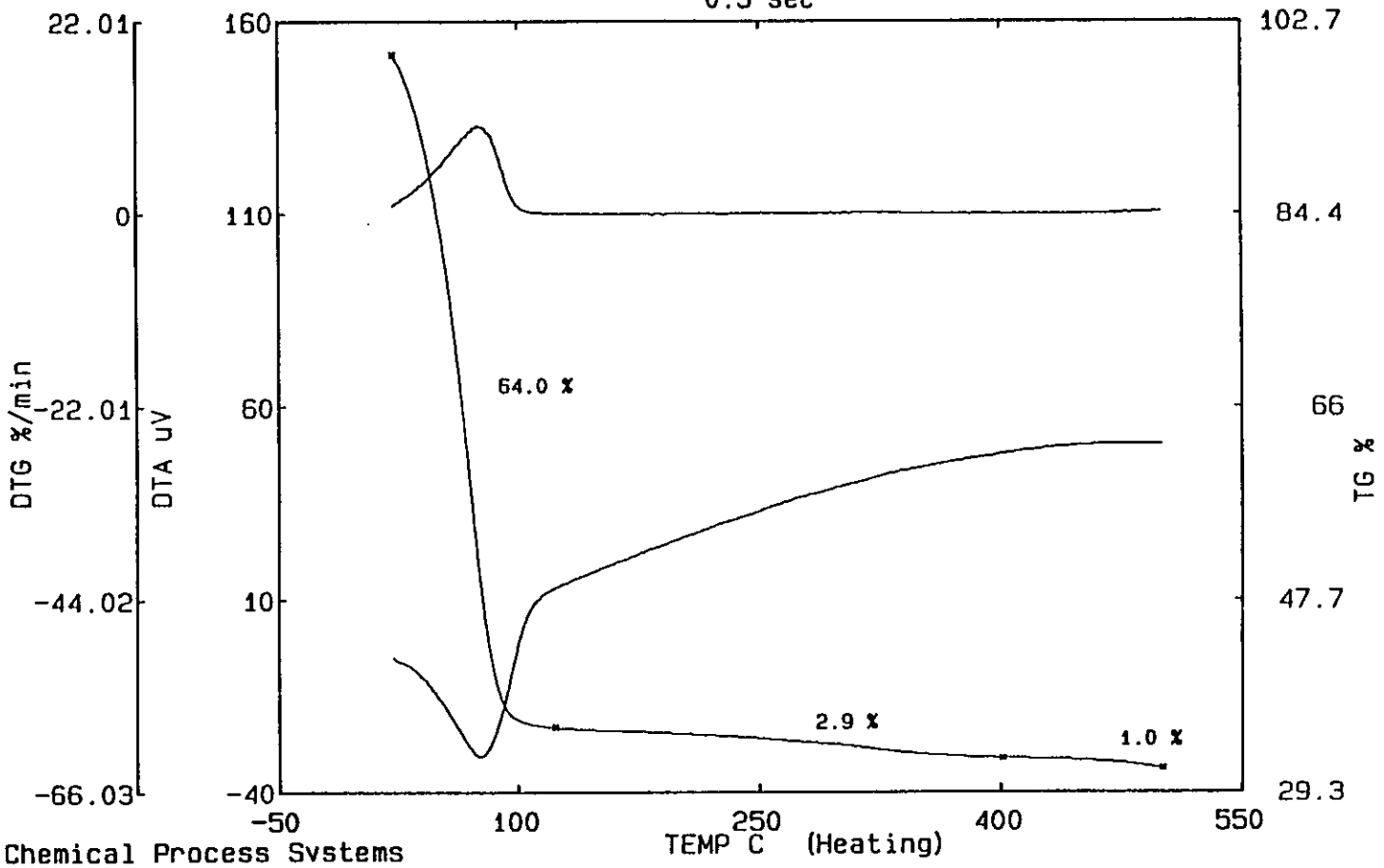
<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>

1*	30.0- 550.0	10.00	0.00
2	550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

TG/DTA

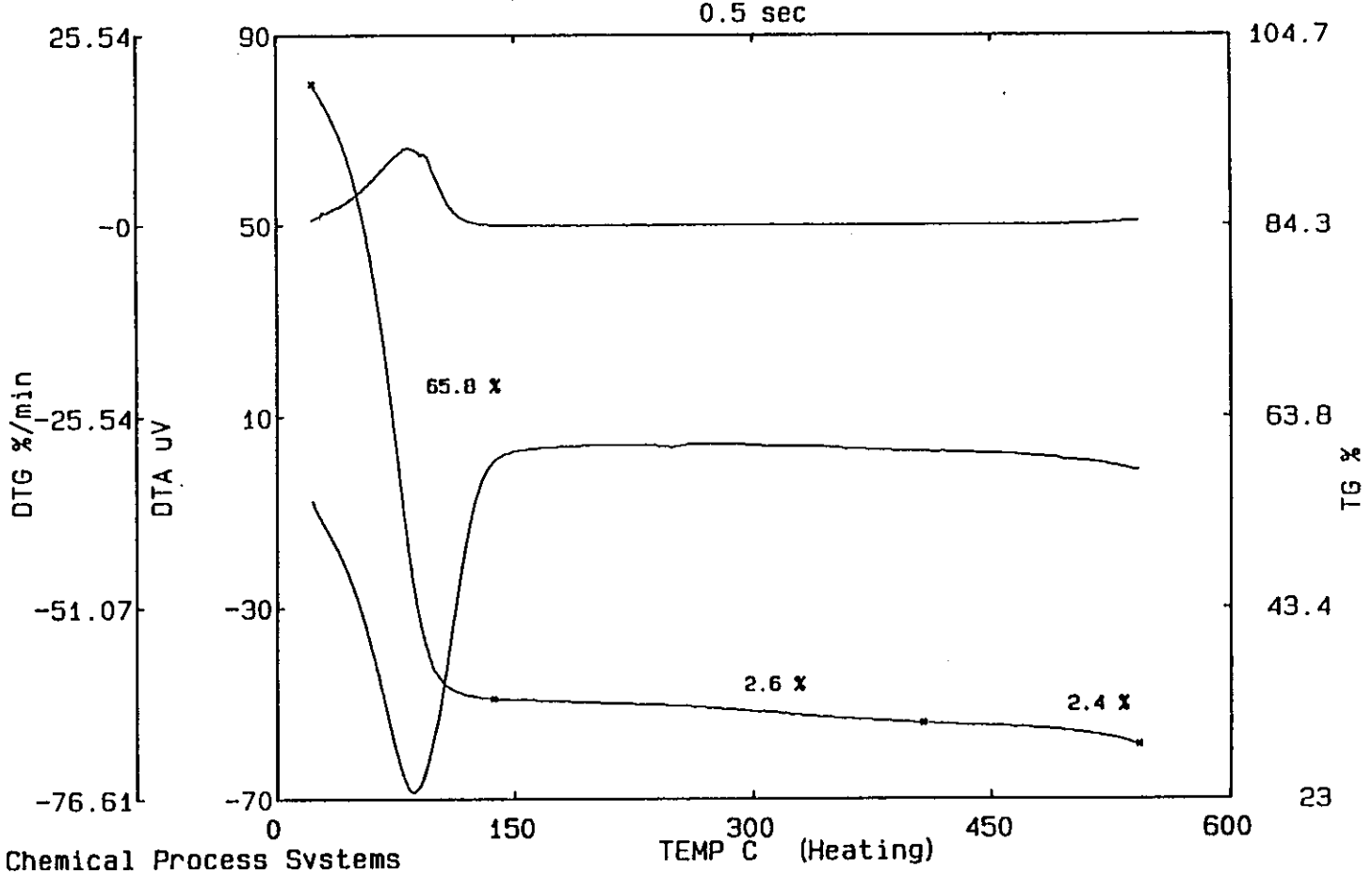
<Name>
13feb96c
<Date>
96/02/13 12:38

<Sample>
13feb96b
19.581 mg
(19.581 mg)
<Reference>
al pan & lid
0.000 mg

<Comment>
96-02615T

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

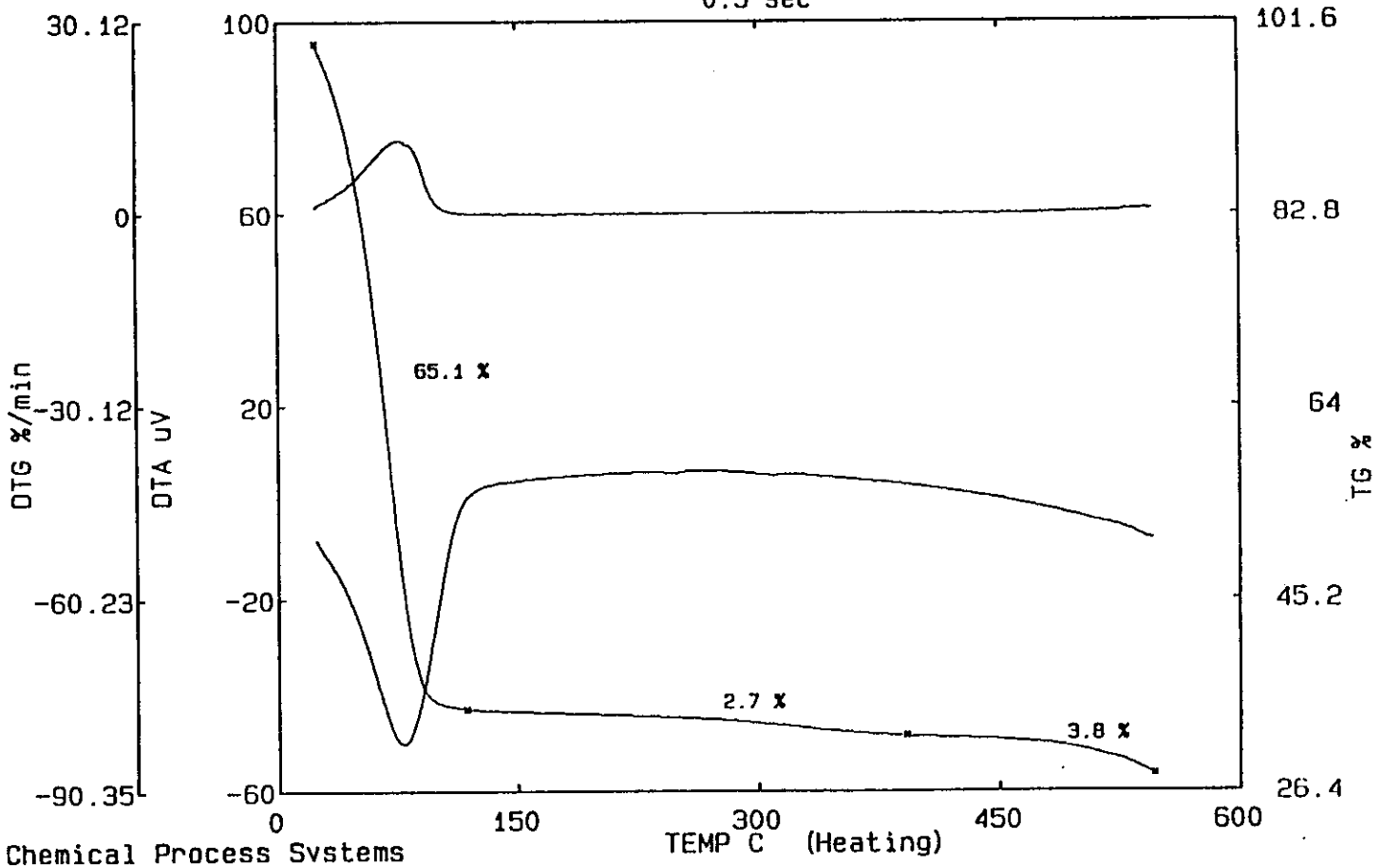
<Name>
6feb96d
<Date>
96/02/06 15:03

<Sample>
6feb96d
13.282 mg
(13.282 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02616

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

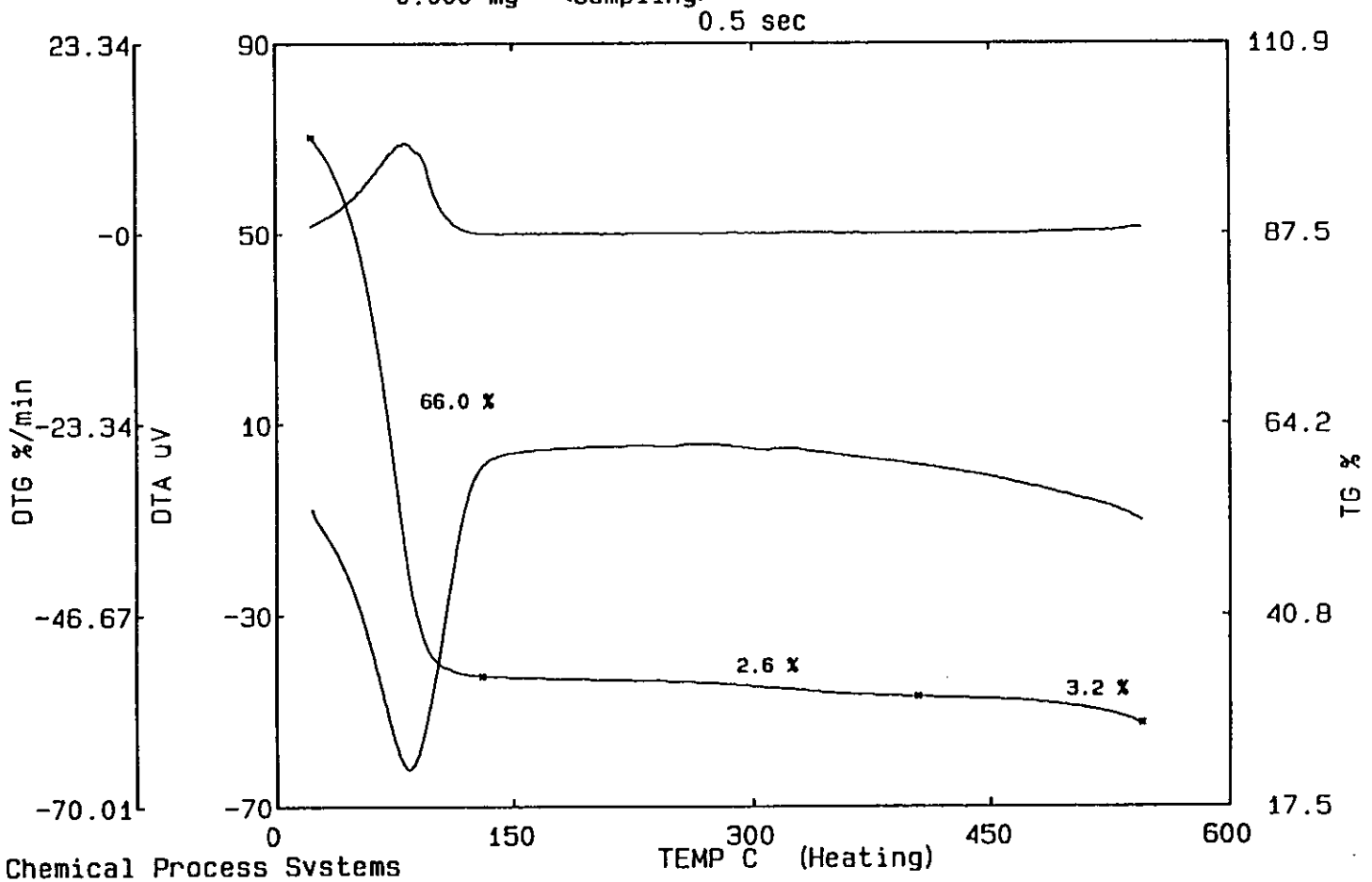
<Name>
6feb96f
<Date>
96/02/06 16:31

<Sample>
6feb96f
17.140 mg
(17.140 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-026160

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

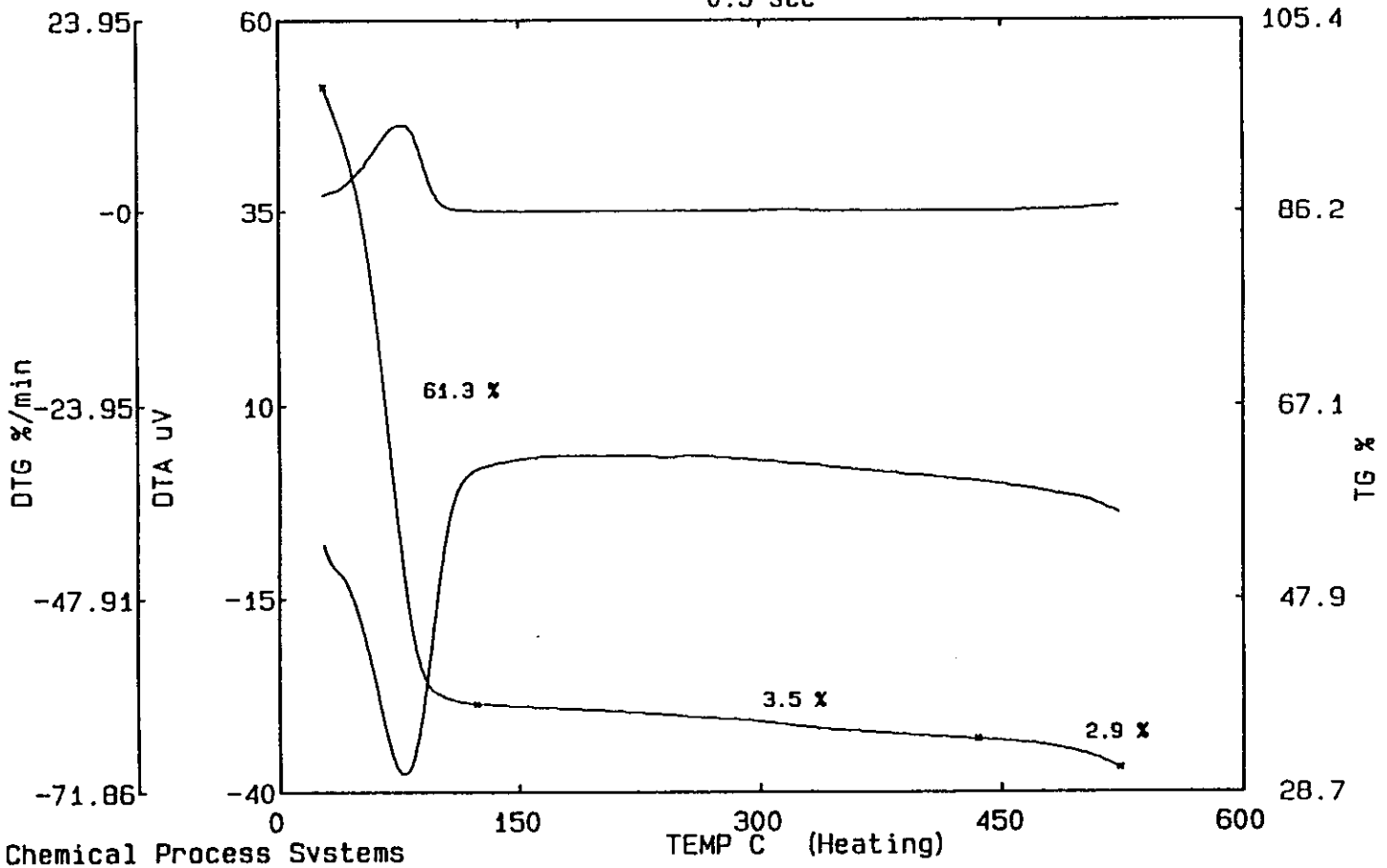
<Name>
6mar96g
<Date>
96/03/06 16:20

<Sample>
6mar96g
10.436 mg
(10.436 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-02617

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

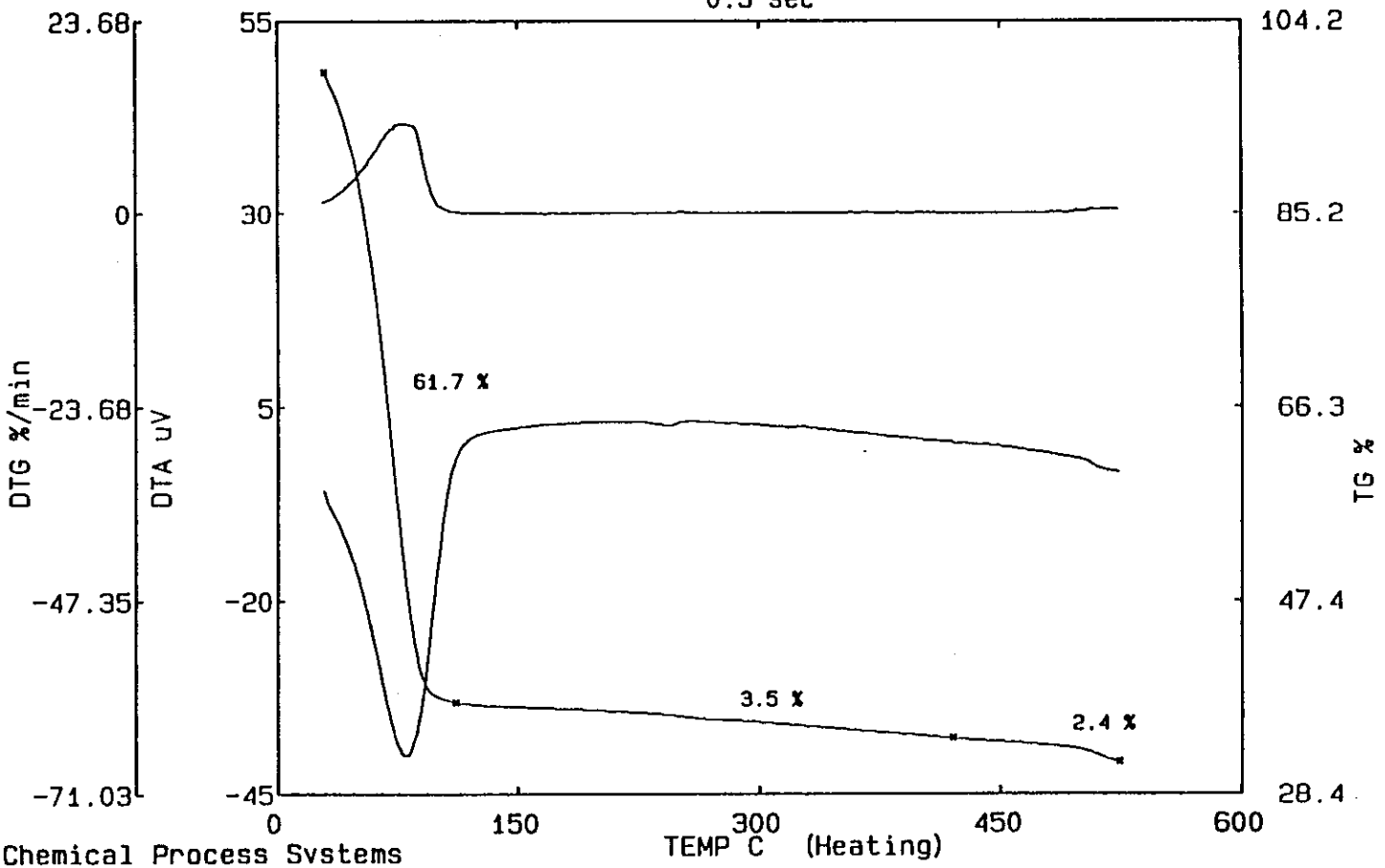
<Name>
7mar96b
<Date>
96/03/07 11:10

<Sample>
7mar96b
10.559 mg
(10.559 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-02617D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

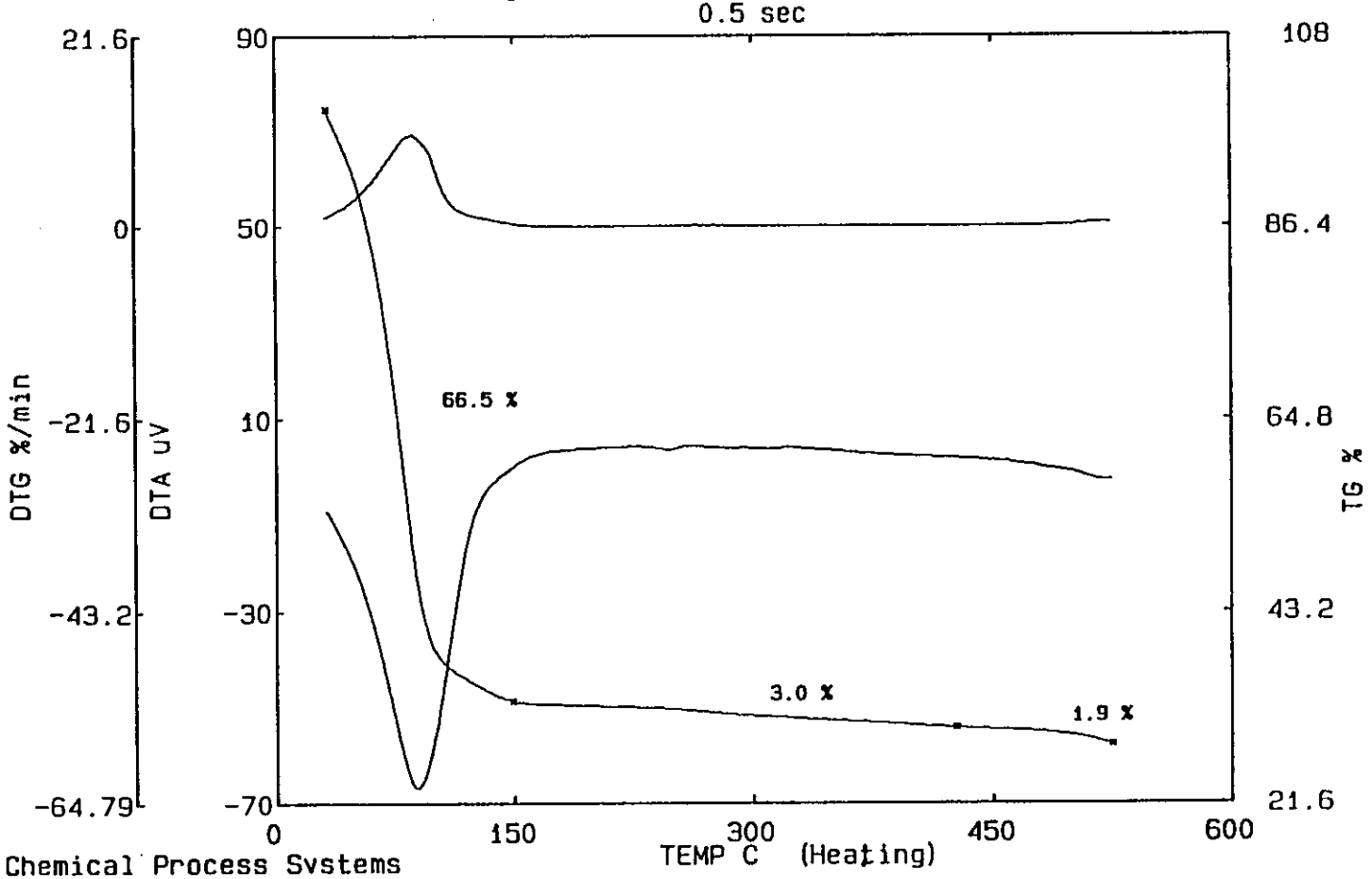
<Name>
6mar96c
<Date>
96/03/06 12:44

<Sample>
6mar96c
18.520 mg
(18.520 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-02618

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
6mar96e

<Date>
96/03/06 14:17

<Sample>
6mar96e
10.625 mg
(10.625 mg)

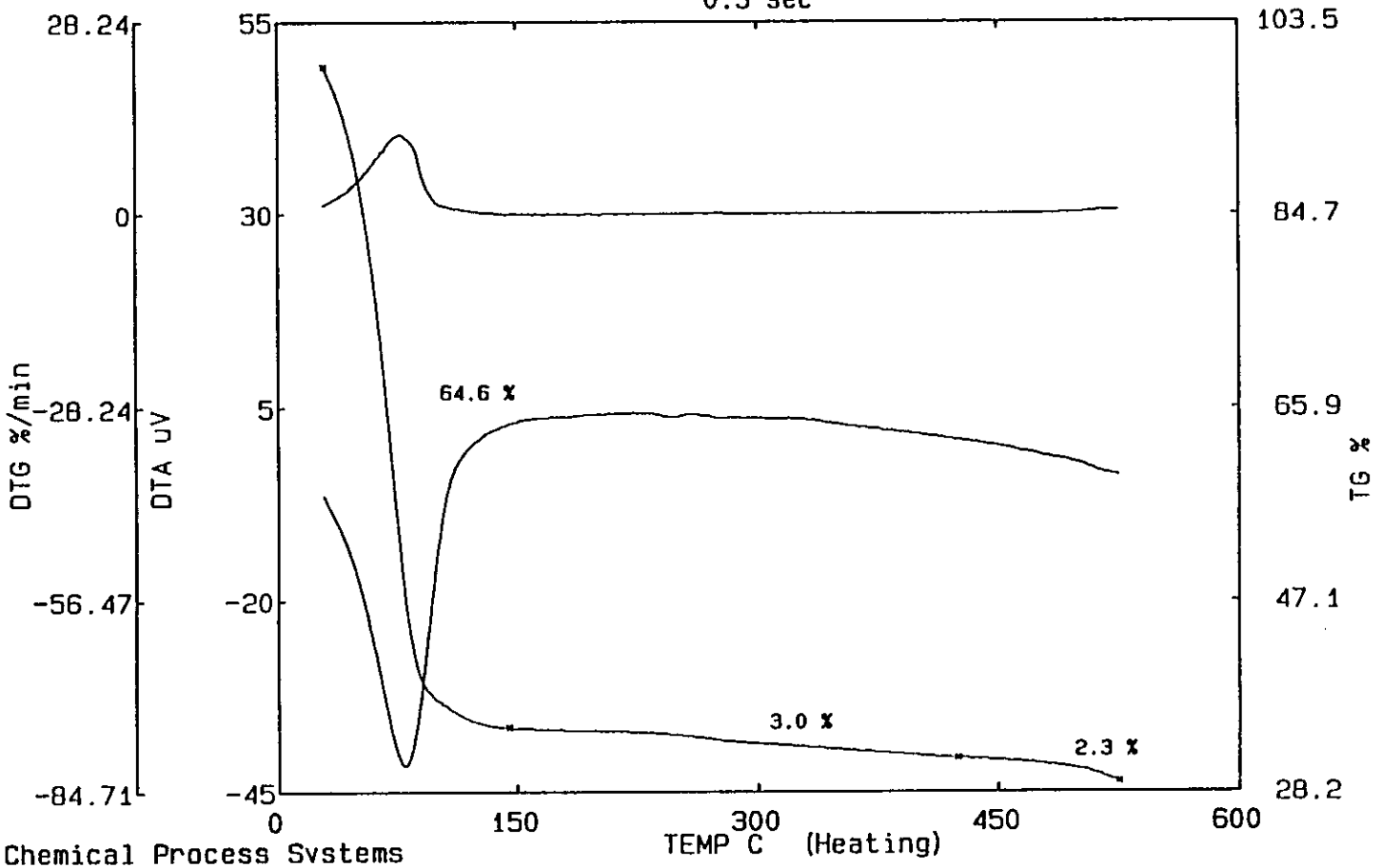
<Reference>
Pt pan
0.000 mg

<Comment>
96-02618D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
10feb96f

<Date>
96/02/10 11:44

<Sample>
10feb96f
14.228 mg
(14.228 mg)

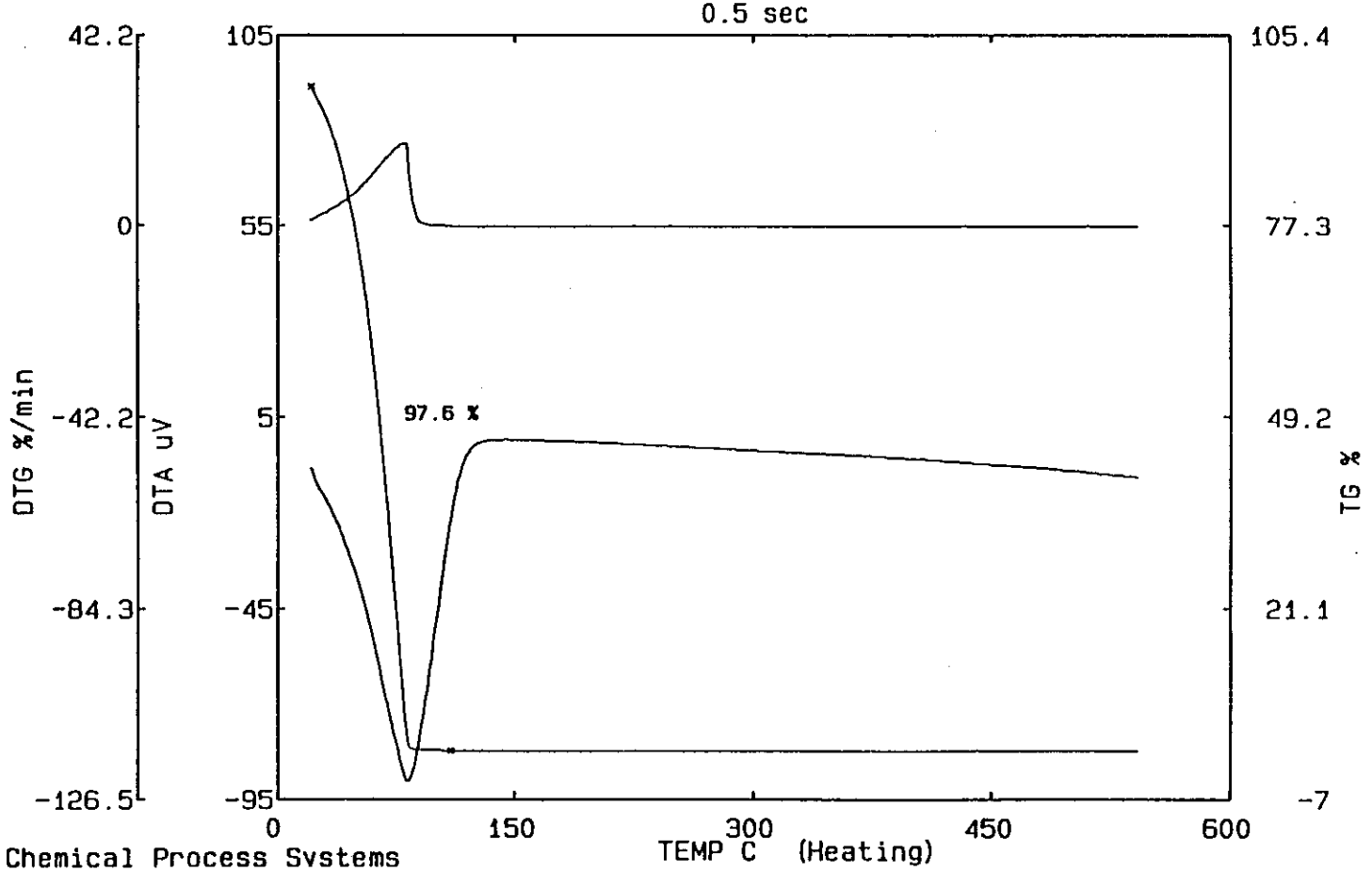
<Reference>
pt pan
0.000 mg

<Comment>
96-02619

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

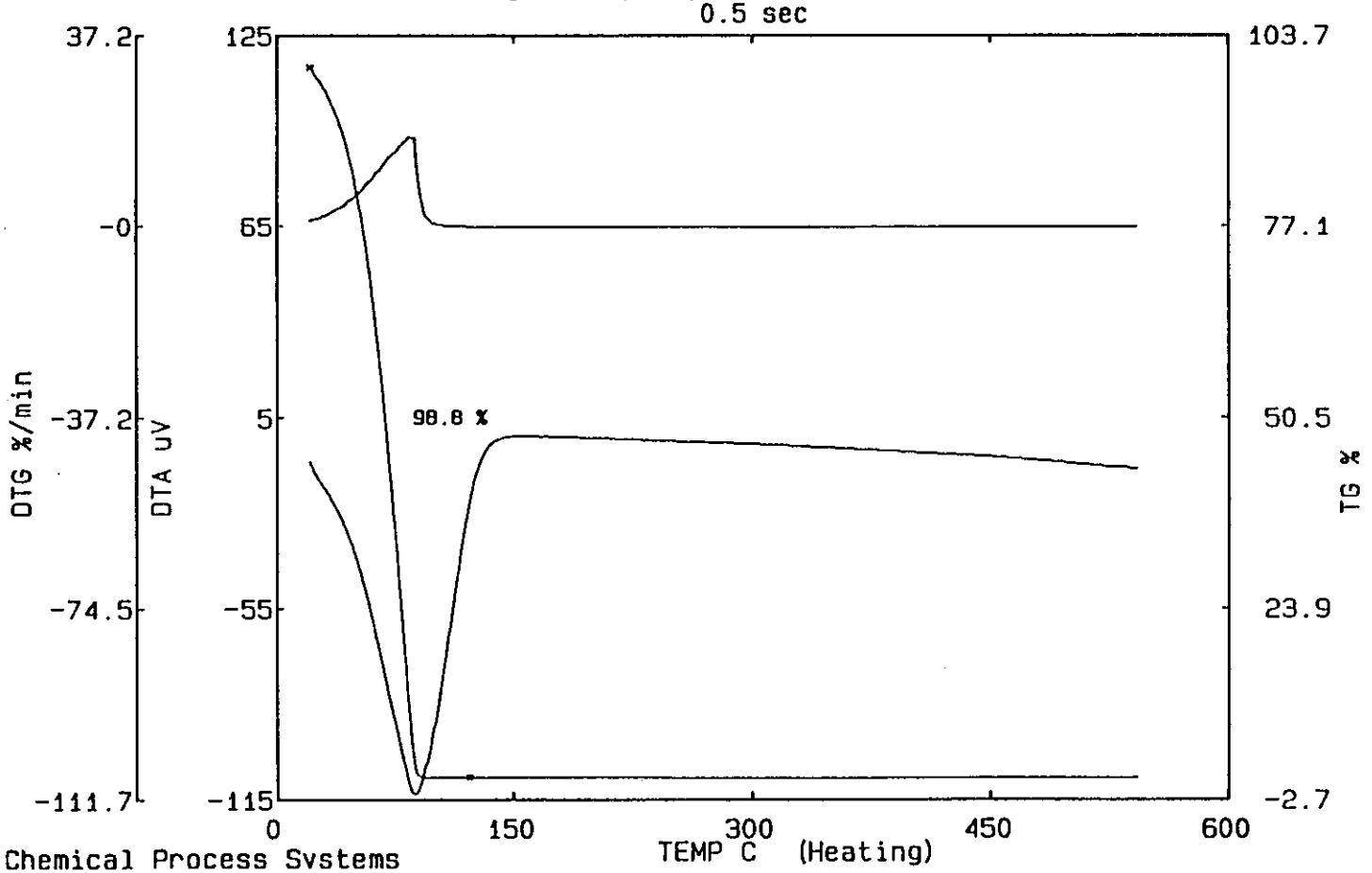
<Name>
10feb96h
<Date>
96/02/10 13:23

<Sample>
10feb96h
18.800 mg
(18.800 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02619D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
9feb96l

<Date>
96/02/09 20:02

<Sample>
9feb96l
15.494 mg
(15.494 mg)

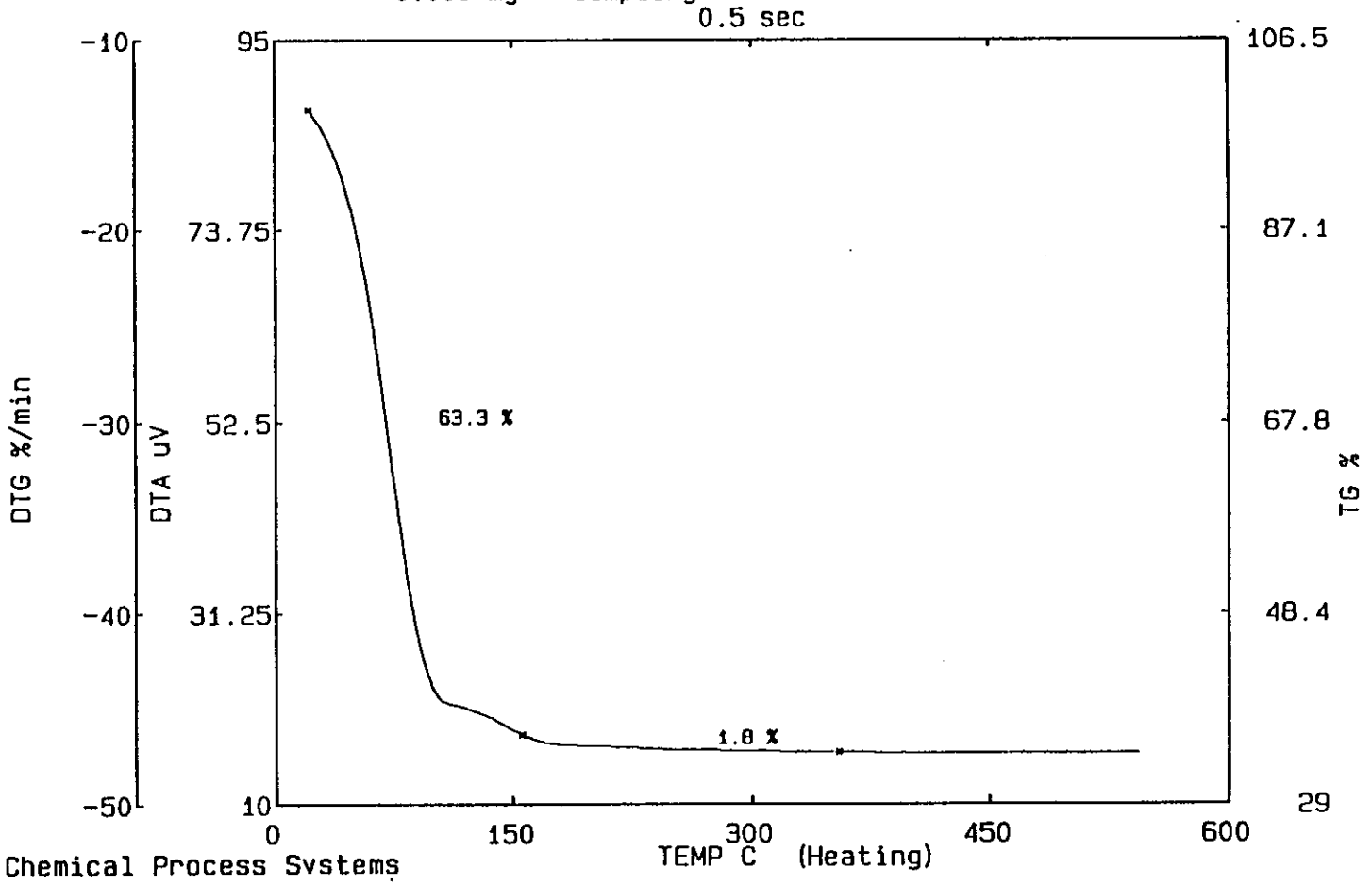
<Reference>
pt pan
0.000 mg

<Comment>
96-02848

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
9feb96n

<Date>
96/02/09 21:33

<Sample>
9feb96n
26.871 mg
(26.871 mg)

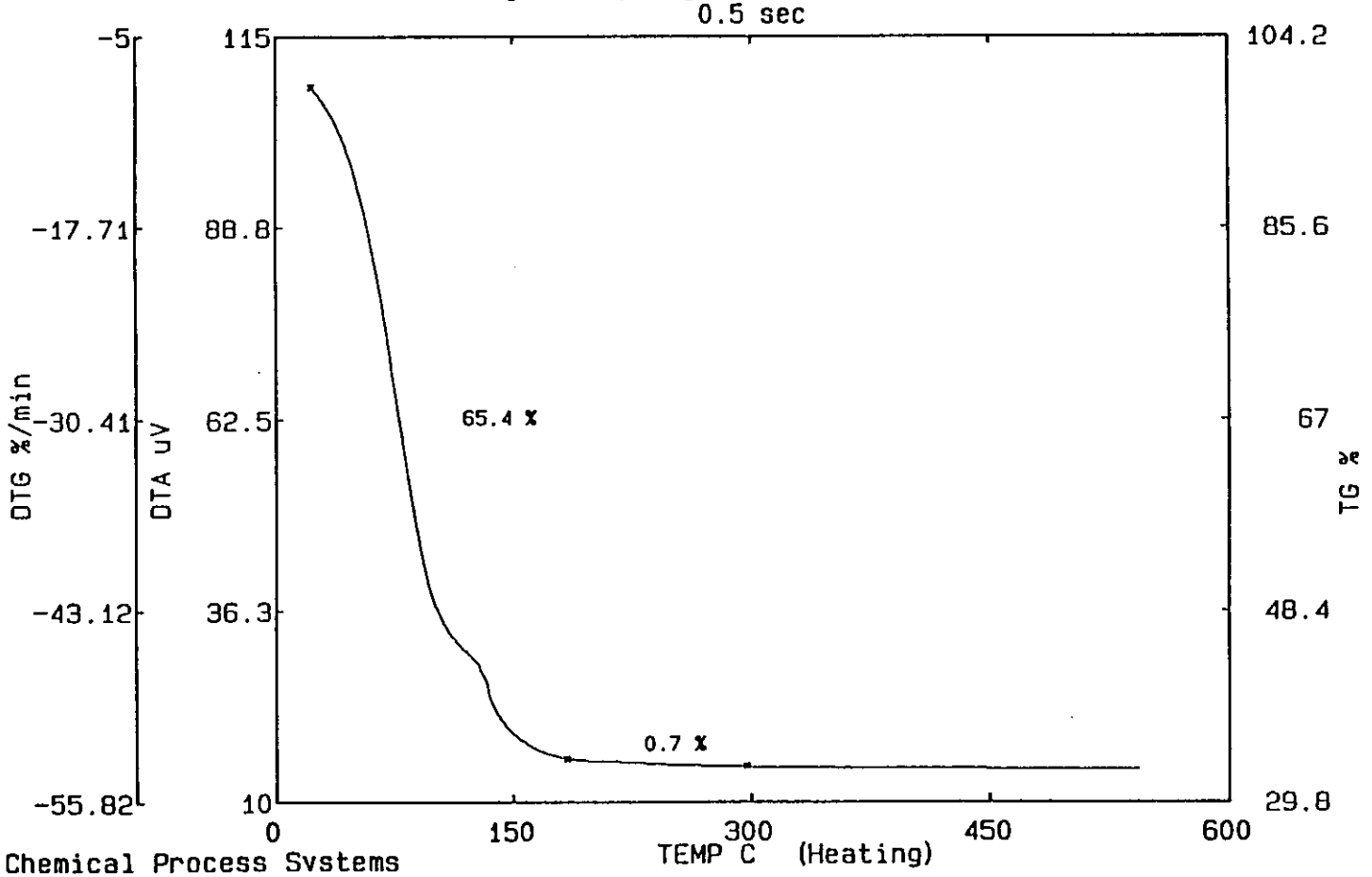
<Reference>
pt pan
0.000 mg

<Comment>
96-02848D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

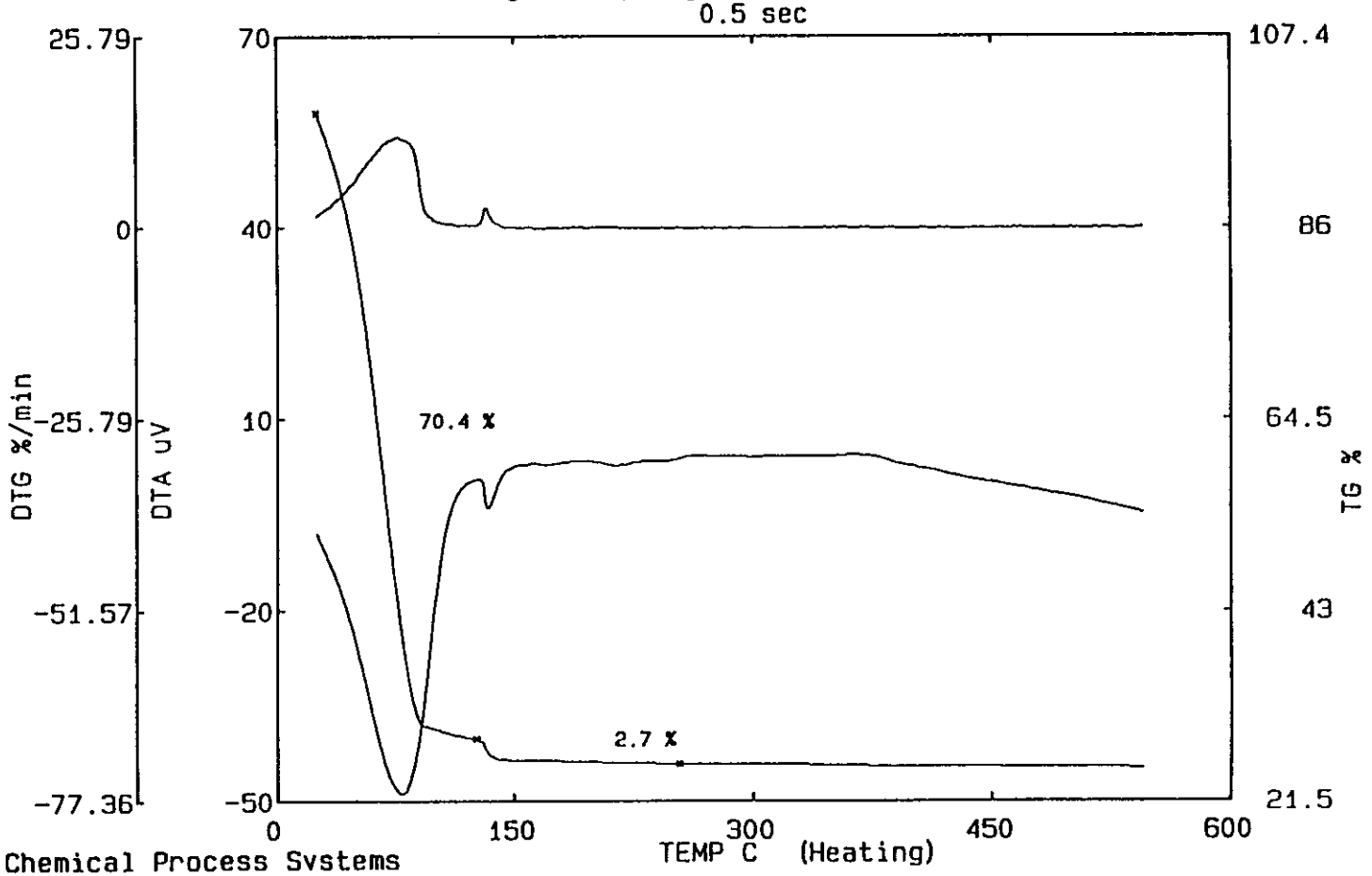
<Name>
10feb96b
<Date>
96/02/10 08:21

<Sample>
10feb96b
11.634 mg
(11.634 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02850

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
10feb96d

<Date>
96/02/10 10:18

<Sample>
10feb96d
17.497 mg
(17.497 mg)

<Reference>
pt pan
0.000 mg

<Comment>
96-02850D

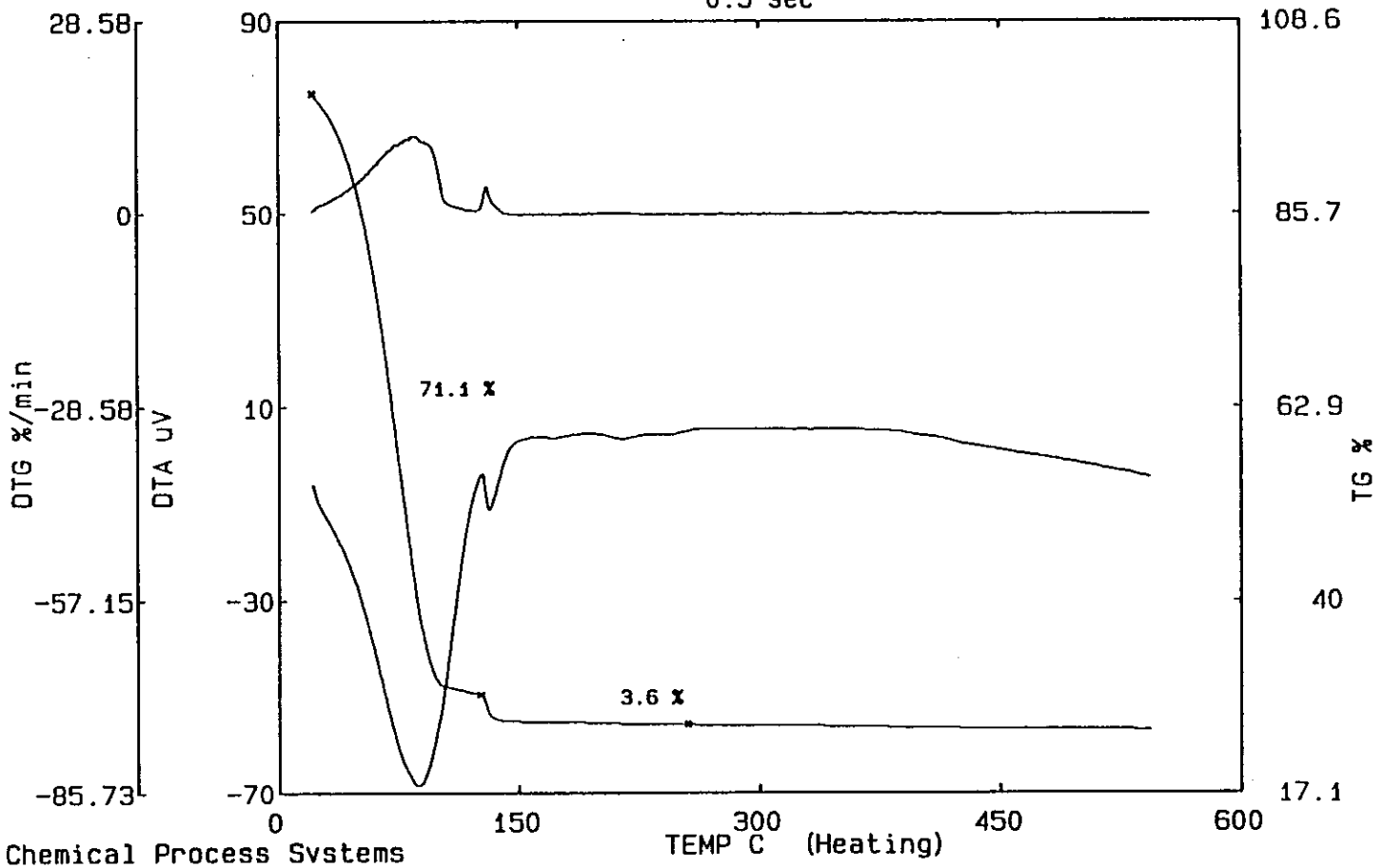
<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>

1*	30.0- 550.0	10.00	0.00
2	550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

TG/DTA

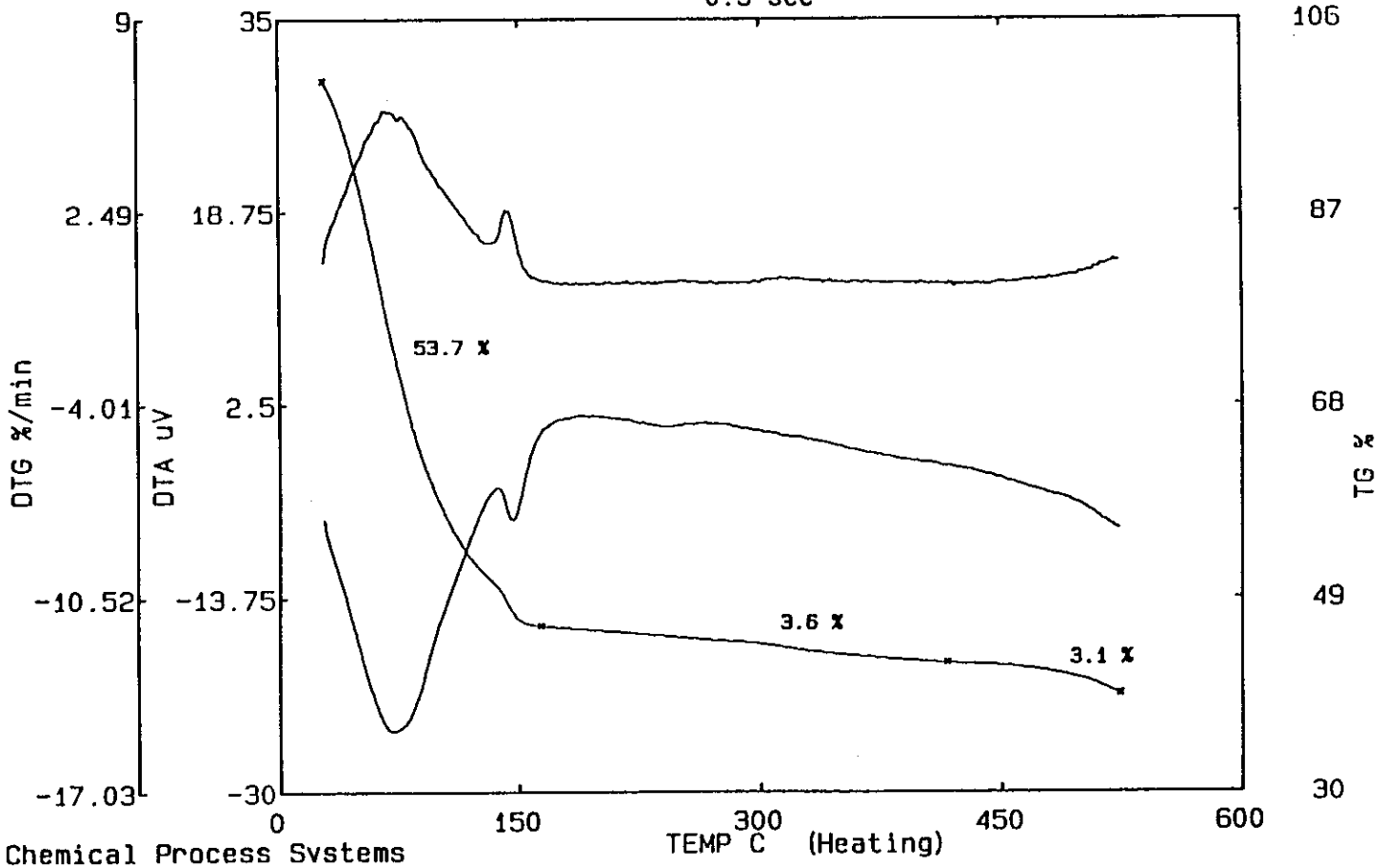
<Name>
7mar96d
<Date>
96/03/07 13:24

<Sample>
7mar96d
12.234 mg
(12.234 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-03365

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

<Name>
7mar96f

<Date>
96/03/07 16:11

<Sample>
7mar96f
22.307 mg
(22.307 mg)

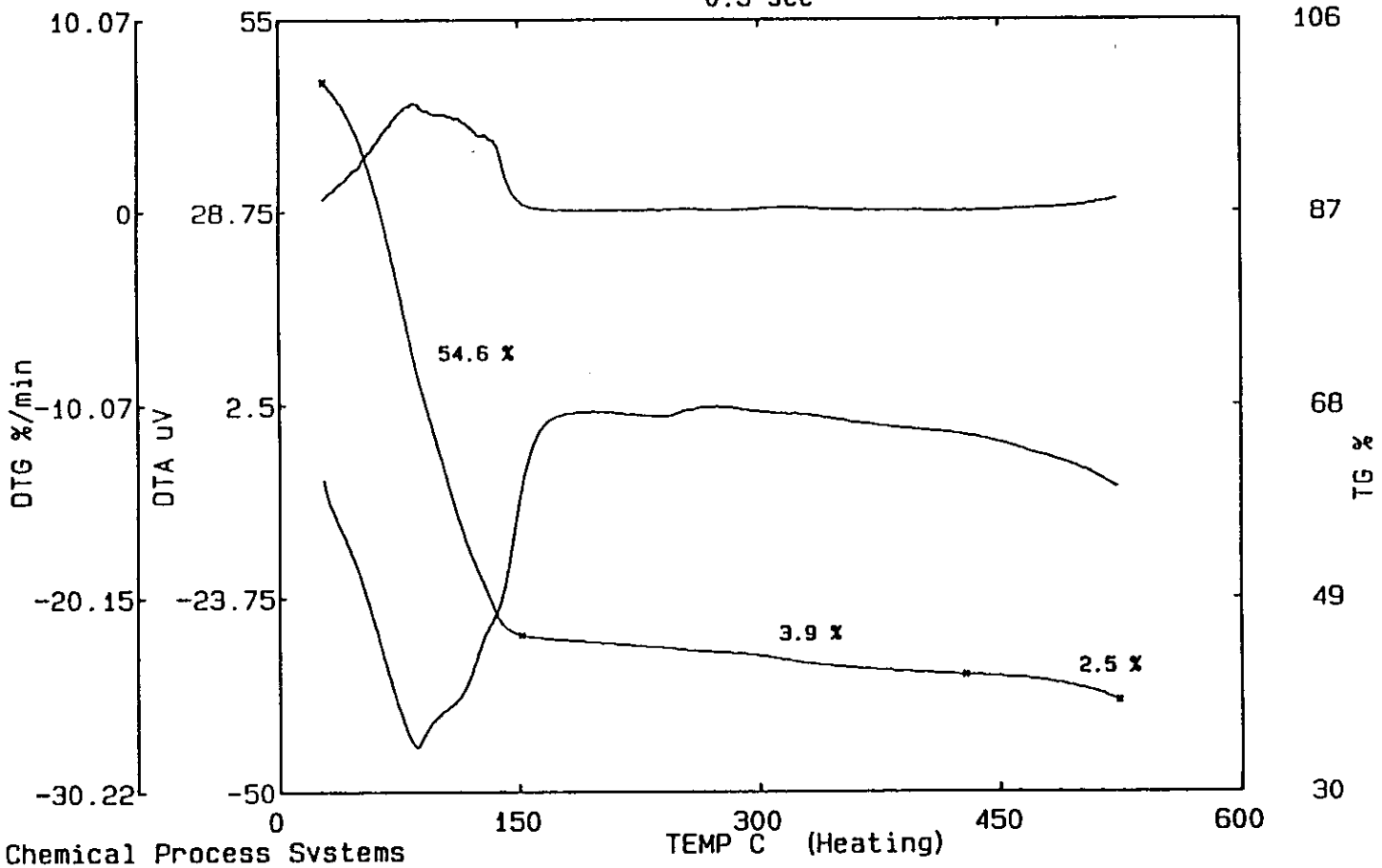
<Reference>
Pt pan
0.000 mg

<Comment>
96-03365D

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

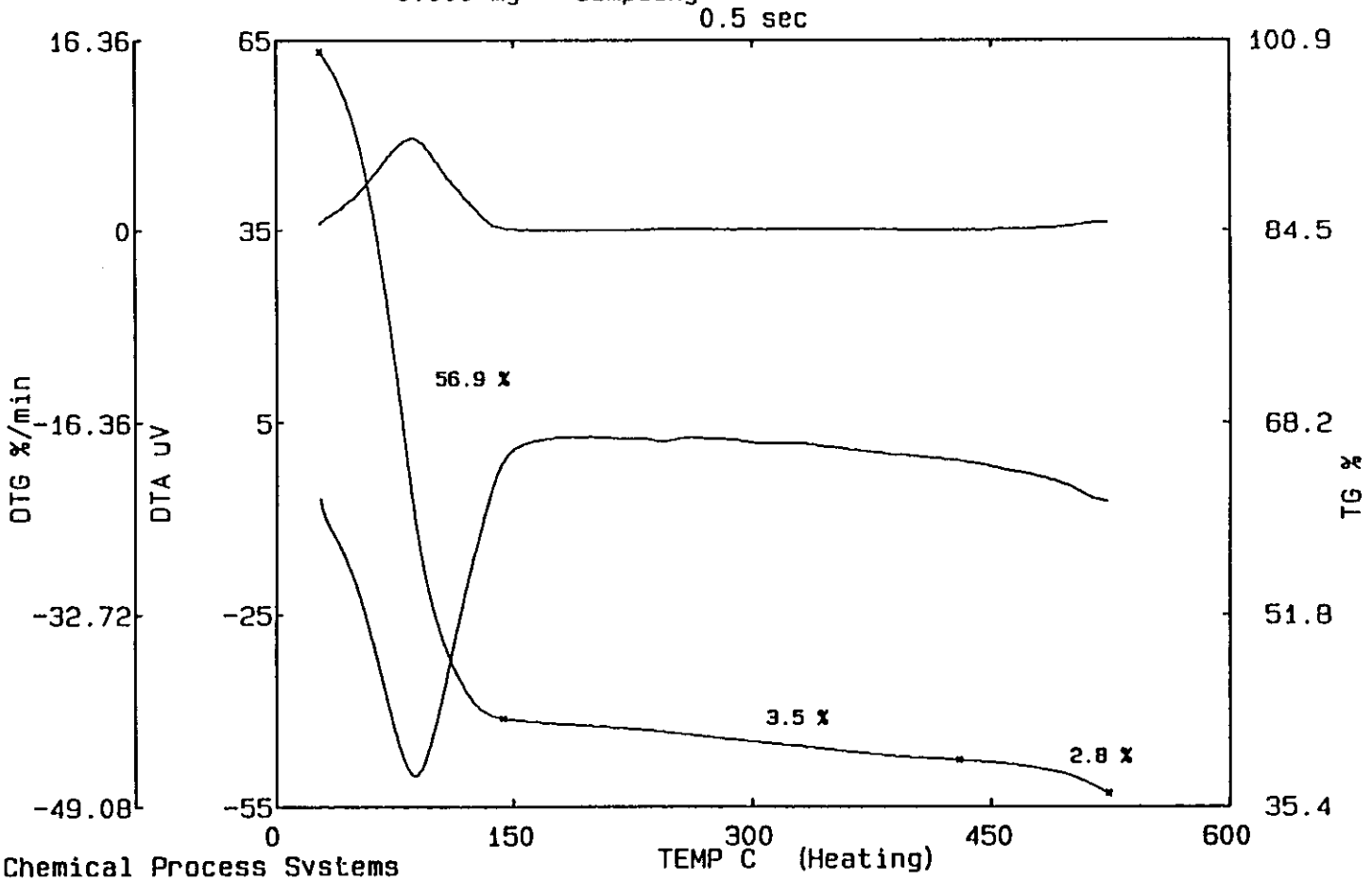
<Name>
8mar96b
<Date>
96/03/08 10:54

<Sample>
8mar96b
18.338 mg
(18.338 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-03366

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

TG/DTA

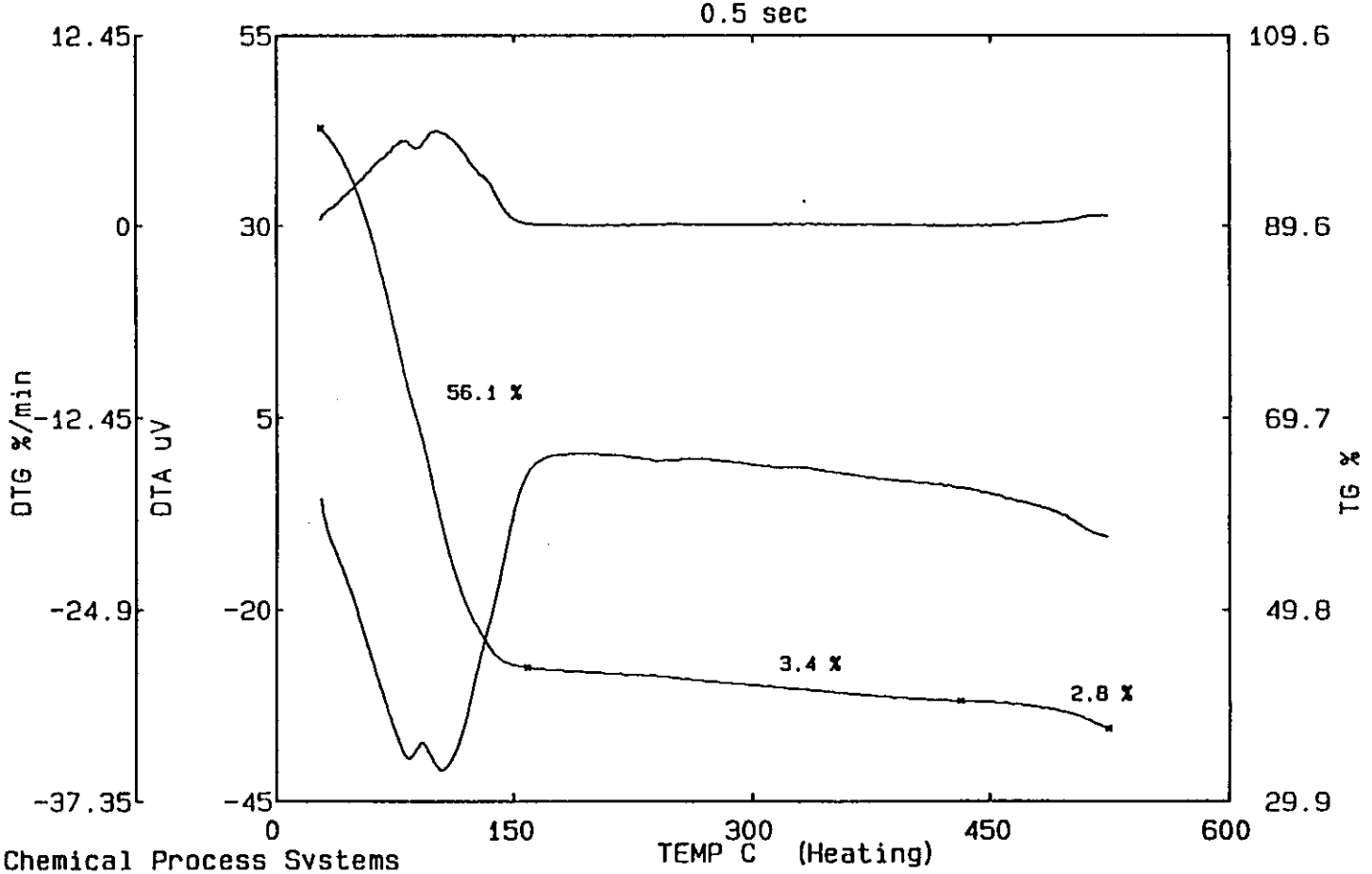
<Name>
8mar96d
<Date>
96/03/08 12:58

<Sample>
8mar96d
20.081 mg
(20.081 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-03366D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
7feb96m

<Date>
96/02/07 18:57

<Sample>
7feb96m
10.397 mg
(10.397 mg)

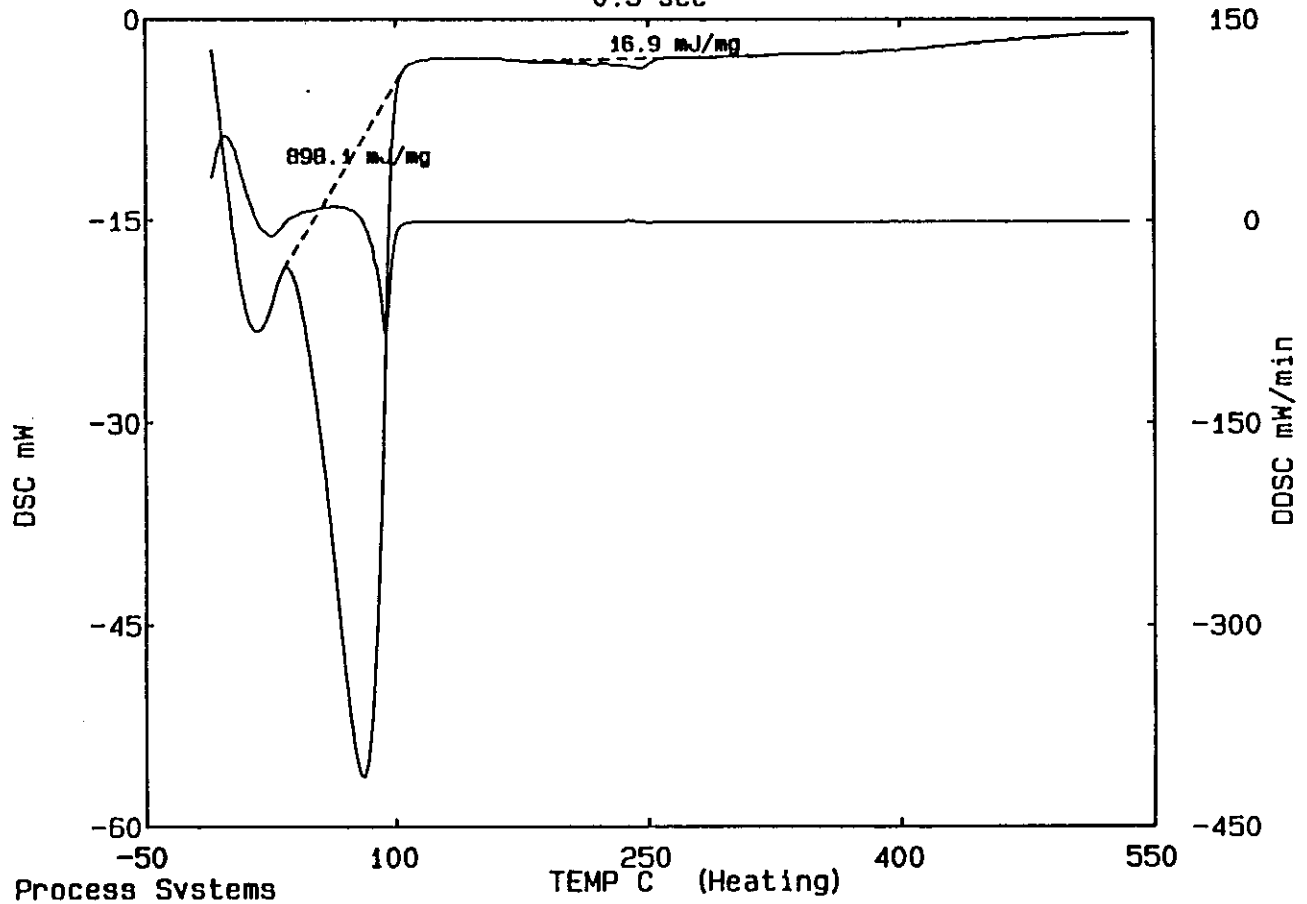
<Reference>
pt pan
0.000 mg

<Comment>
96-02605

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

<Name>
7feb96o

<Date>
96/02/07 22:48

<Sample>
7feb96o
24.718 mg
(24.718 mg)

<Reference>
pt pan
0.000 mg

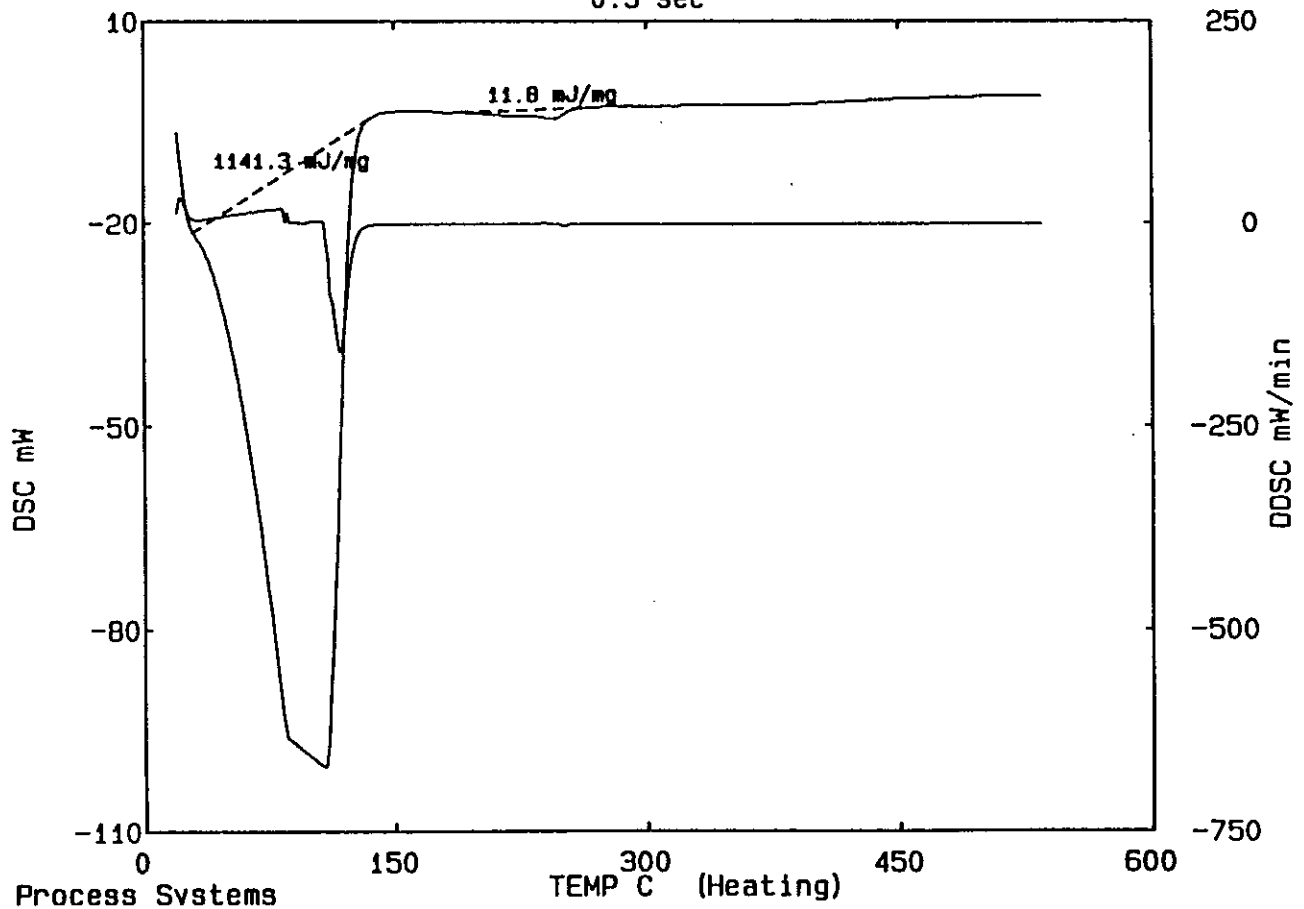
<Comment>
96-2605D

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

DSC

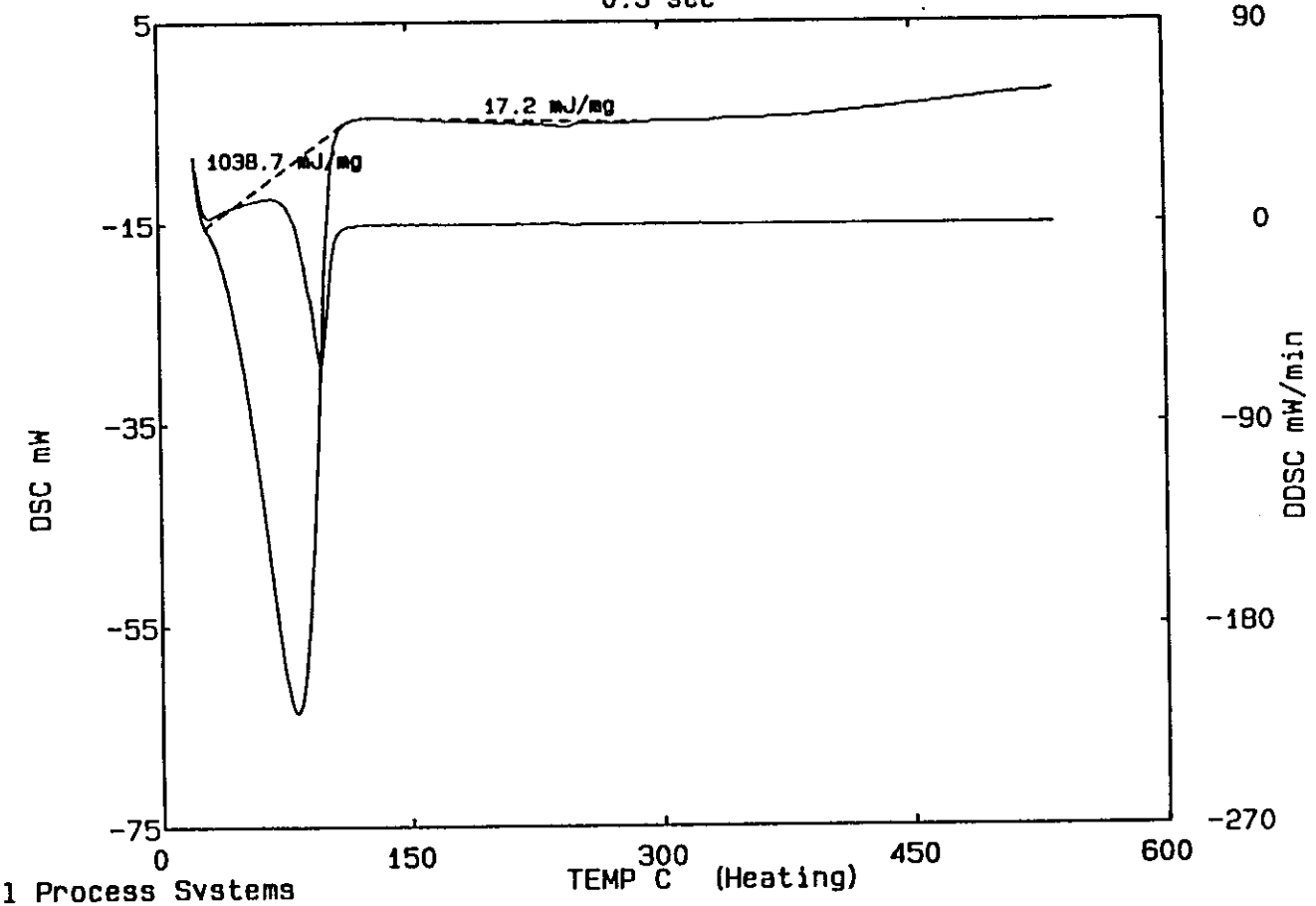
<Name>
9feb96g
<Date>
96/02/09 16:16

<Sample>
9feb96g
12.052 mg
(12.052 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02606

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

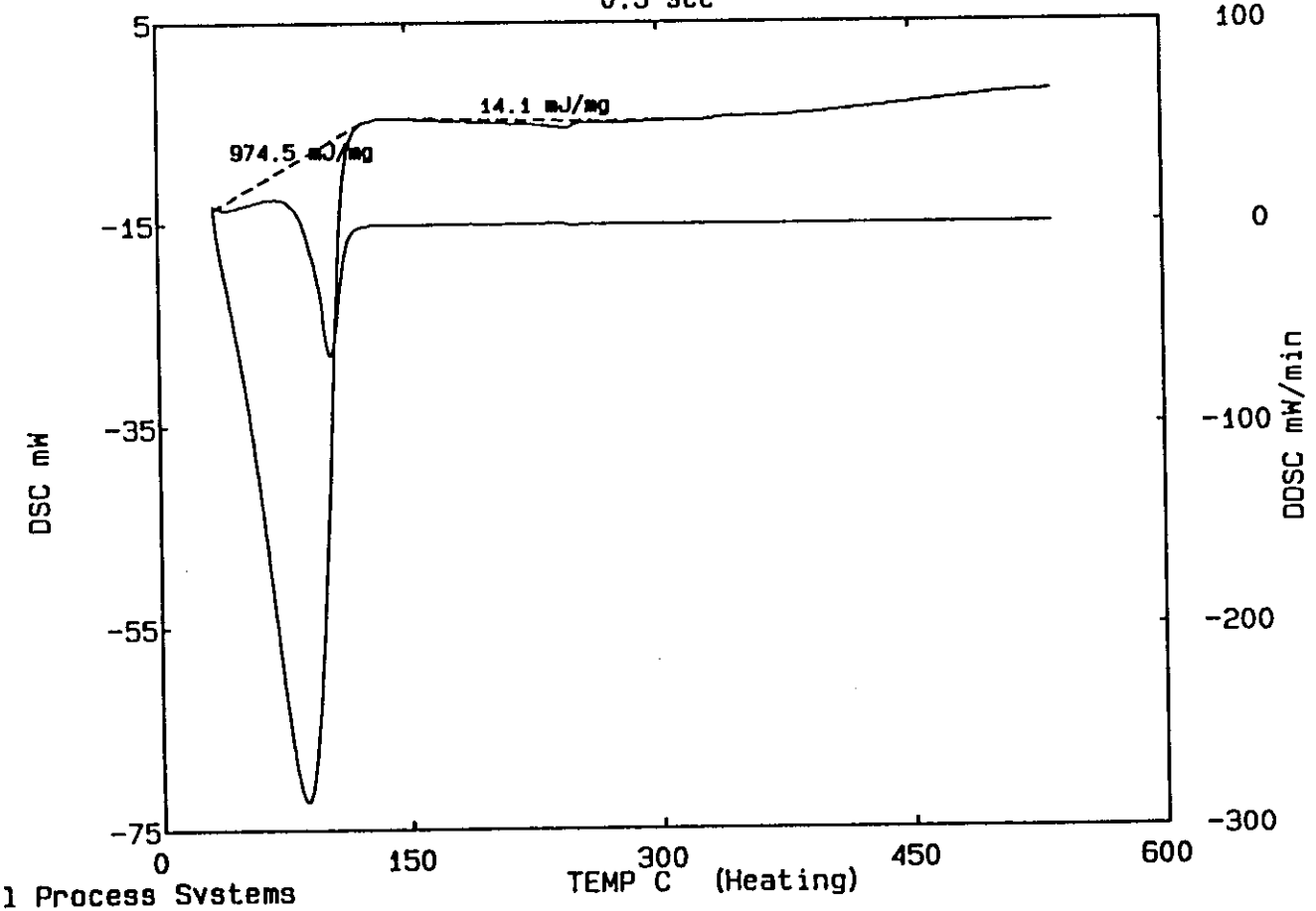
<Name>
9feb96i
<Date>
96/02/09 18:19

<Sample>
9feb96i
16.716 mg
(16.716 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02606D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

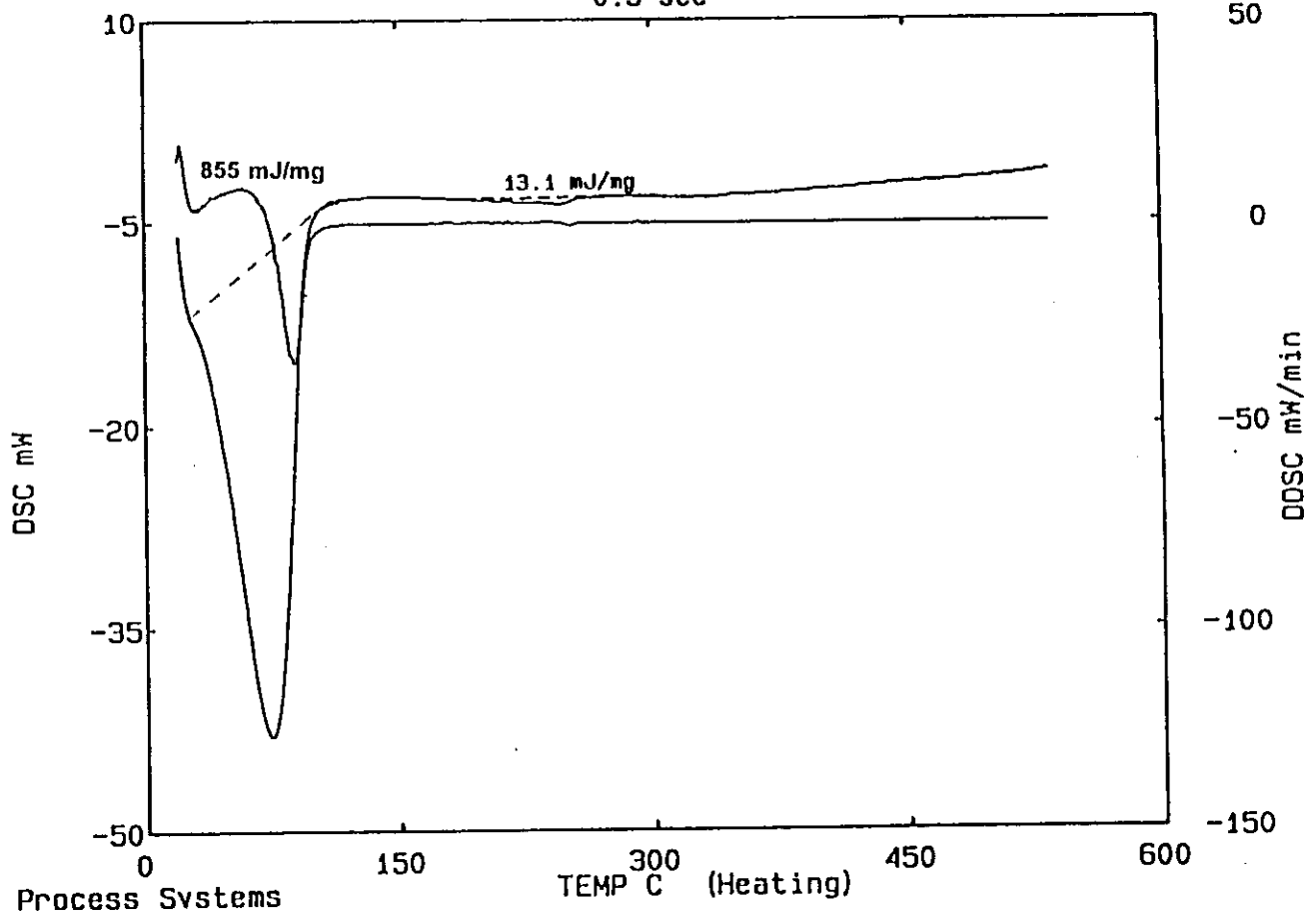
<Name>
8feb96m
<Date>
96/02/08 23:43

<Sample>
8feb96m
8.609 mg
(8.609 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02607

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
9feb96a

<Date>
96/02/09 09: 11

<Sample>
9feb96a
13.541 mg
(13.541 mg)

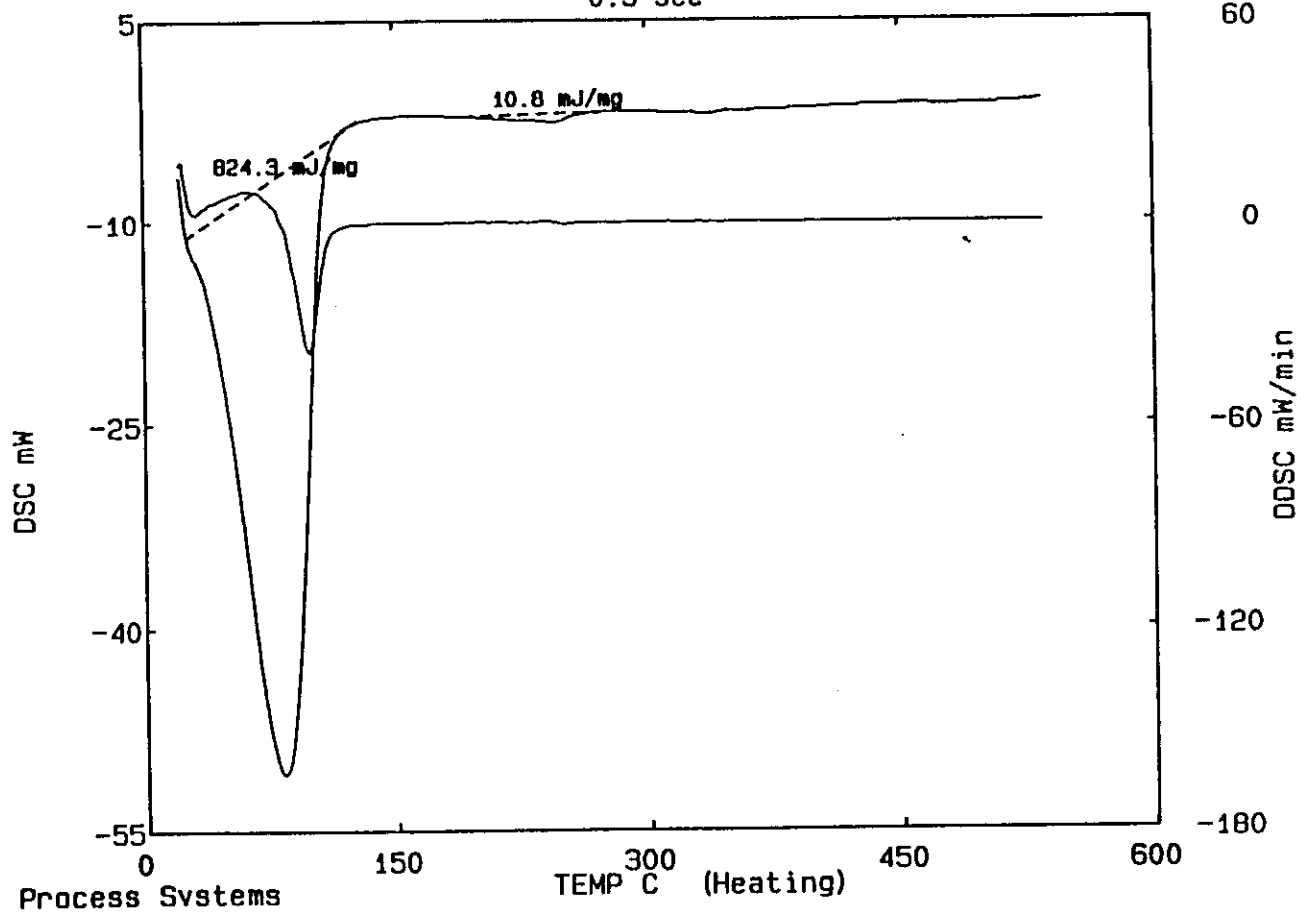
<Reference>
pt pan
0.000 mg

<Comment>
96-02607D

<Sampling>
0.5 sec

<Temp.program[C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

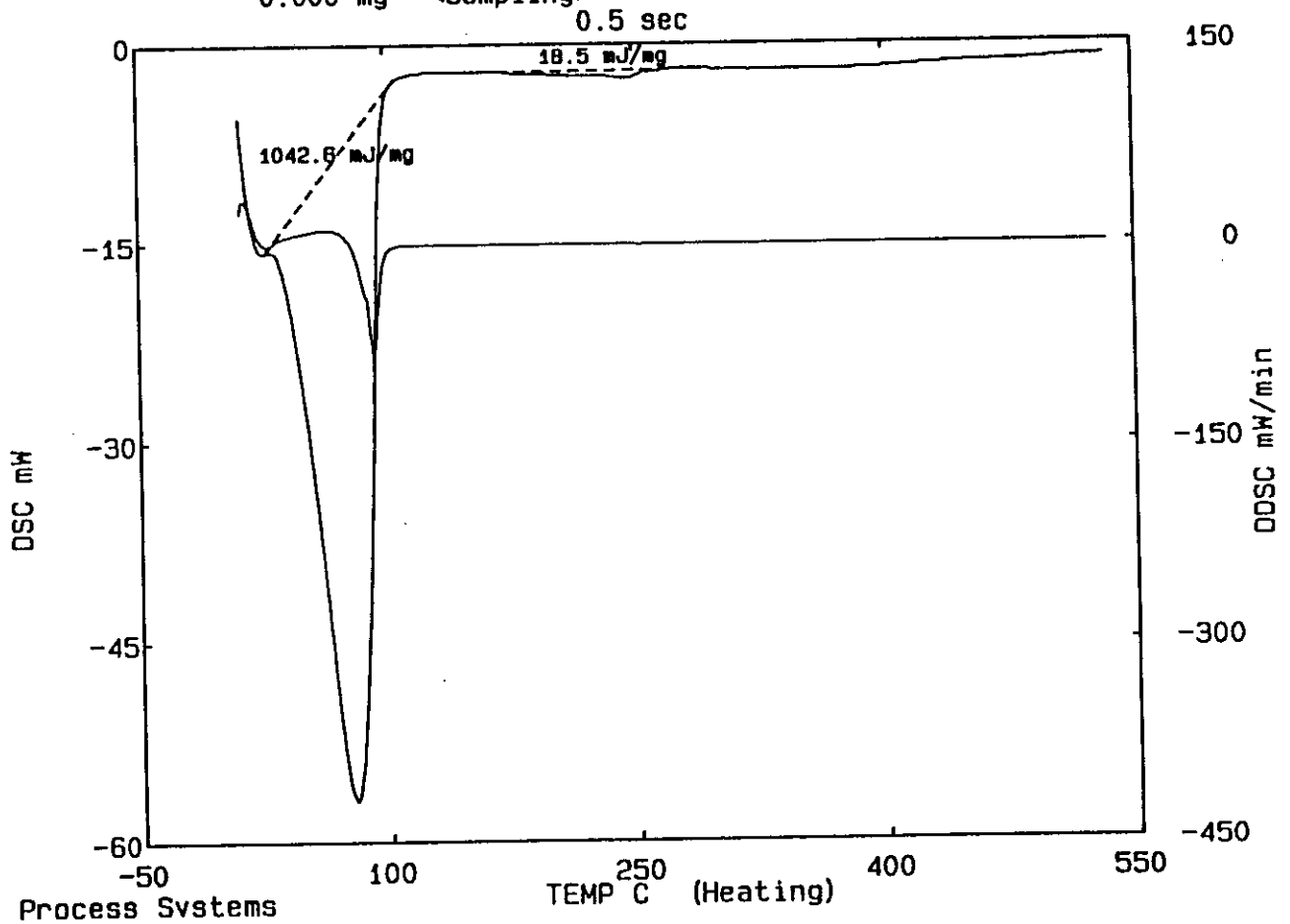
<Name>
8feb96i
<Date>
96/02/08 15:39

<Sample>
8feb96i
9.675 mg
(9.675 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02608

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
8feb96k

<Date>
96/02/08 17:40

<Sample>
8feb96k
16.861 mg
(16.861 mg)

<Reference>
pt pan
0.000 mg

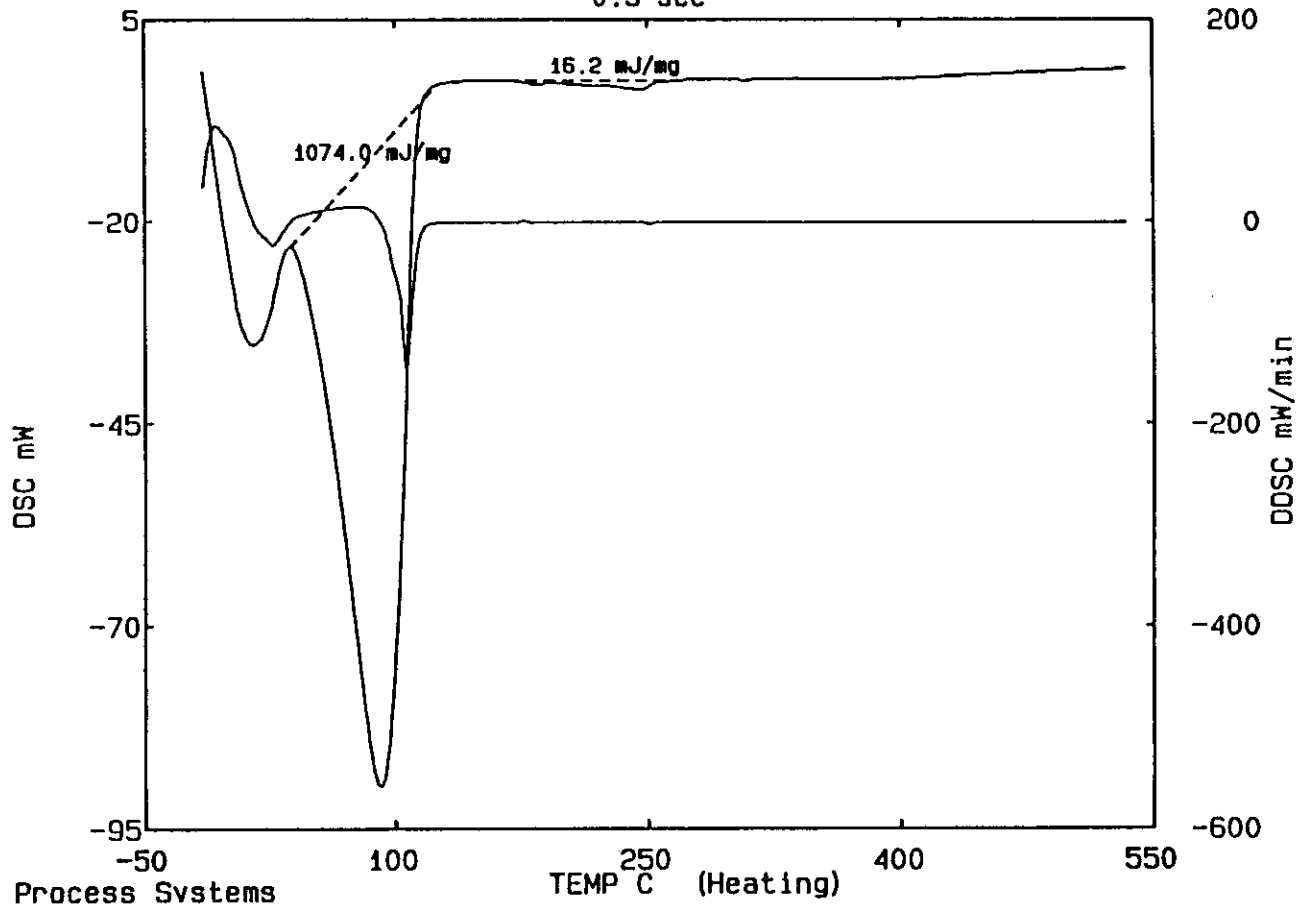
<Comment>
96-02608D

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

DSC

<Name>
96feb96c

<Date>
96/02/09 11:13

<Sample>
9feb96c
11.612 mg
(11.612 mg)

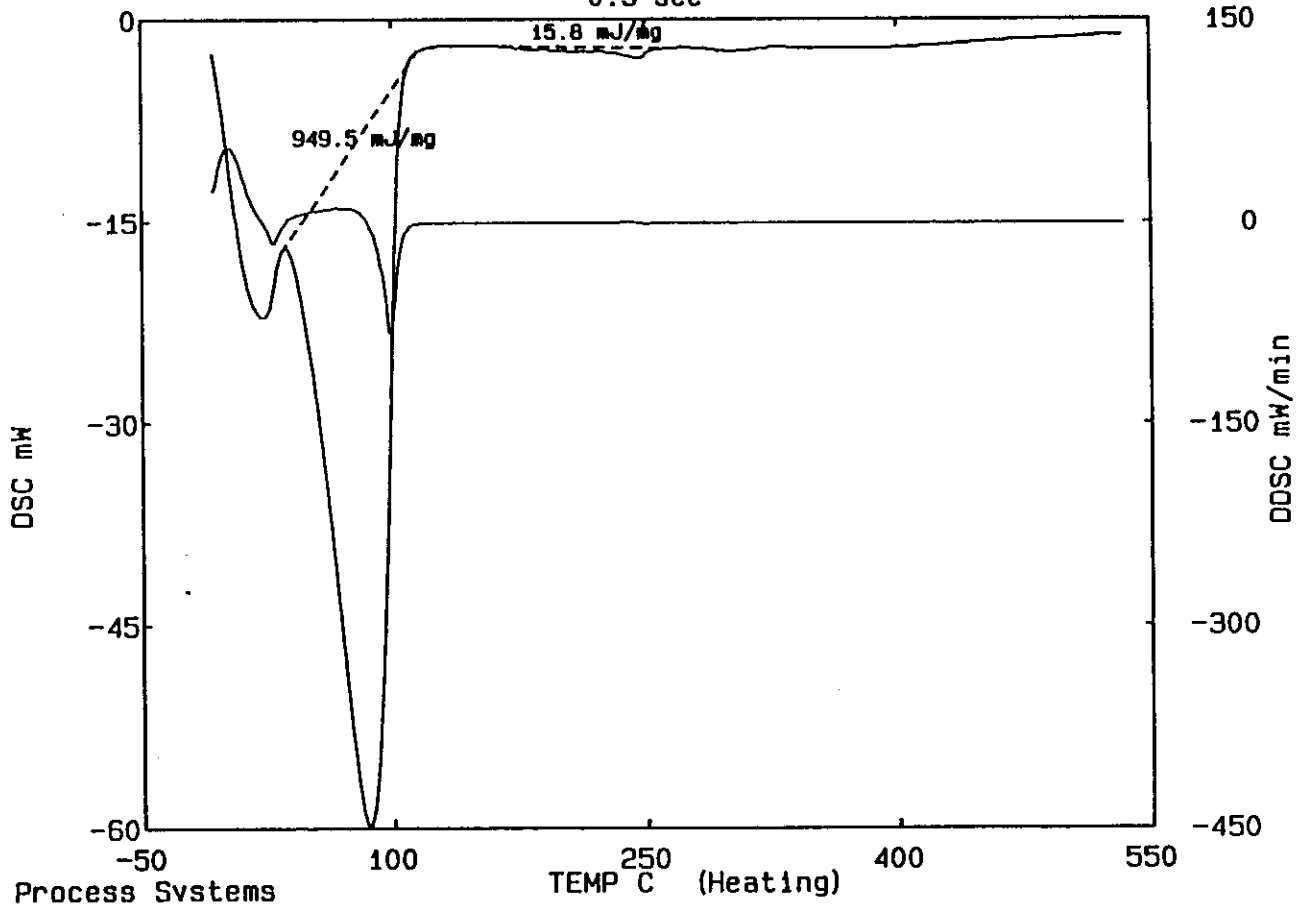
<Reference>
pt pan
0.000 mg

<Comment>
96-02609

<Sampling>
0.5 sec

<Temp.program [C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
9feb96e

<Date>
96/02/09 12:48

<Sample>
9feb96e
19.338 mg
(19.338 mg)

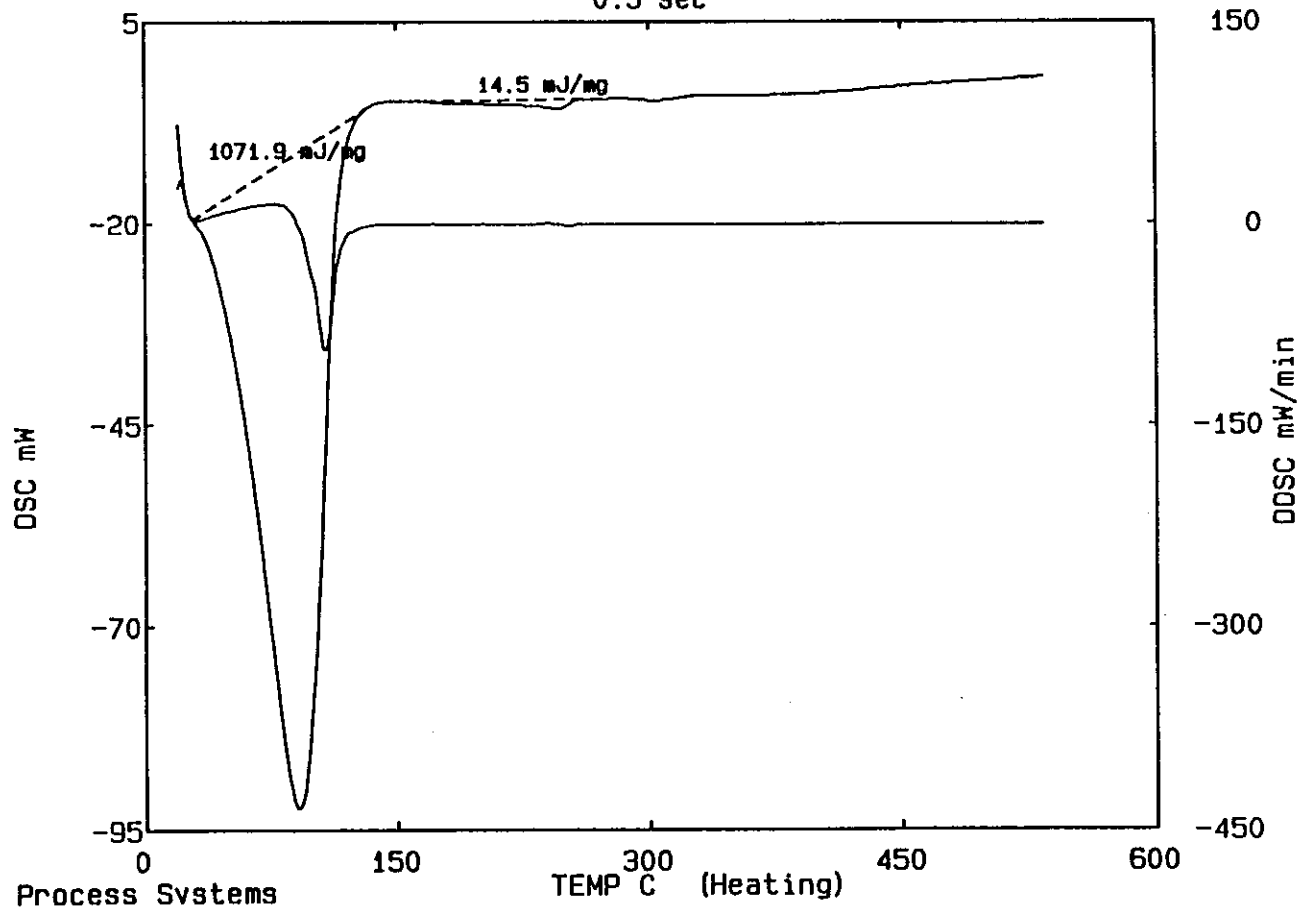
<Reference>
pt pan
0.000 mg

<Comment>
96-02609D

<Sampling>
0.5 sec

<Temp.program [C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

<Name>
7feb96i

<Date>
96/02/07 14:41

<Sample>
7feb96i
16.635 mg
(16.635 mg)

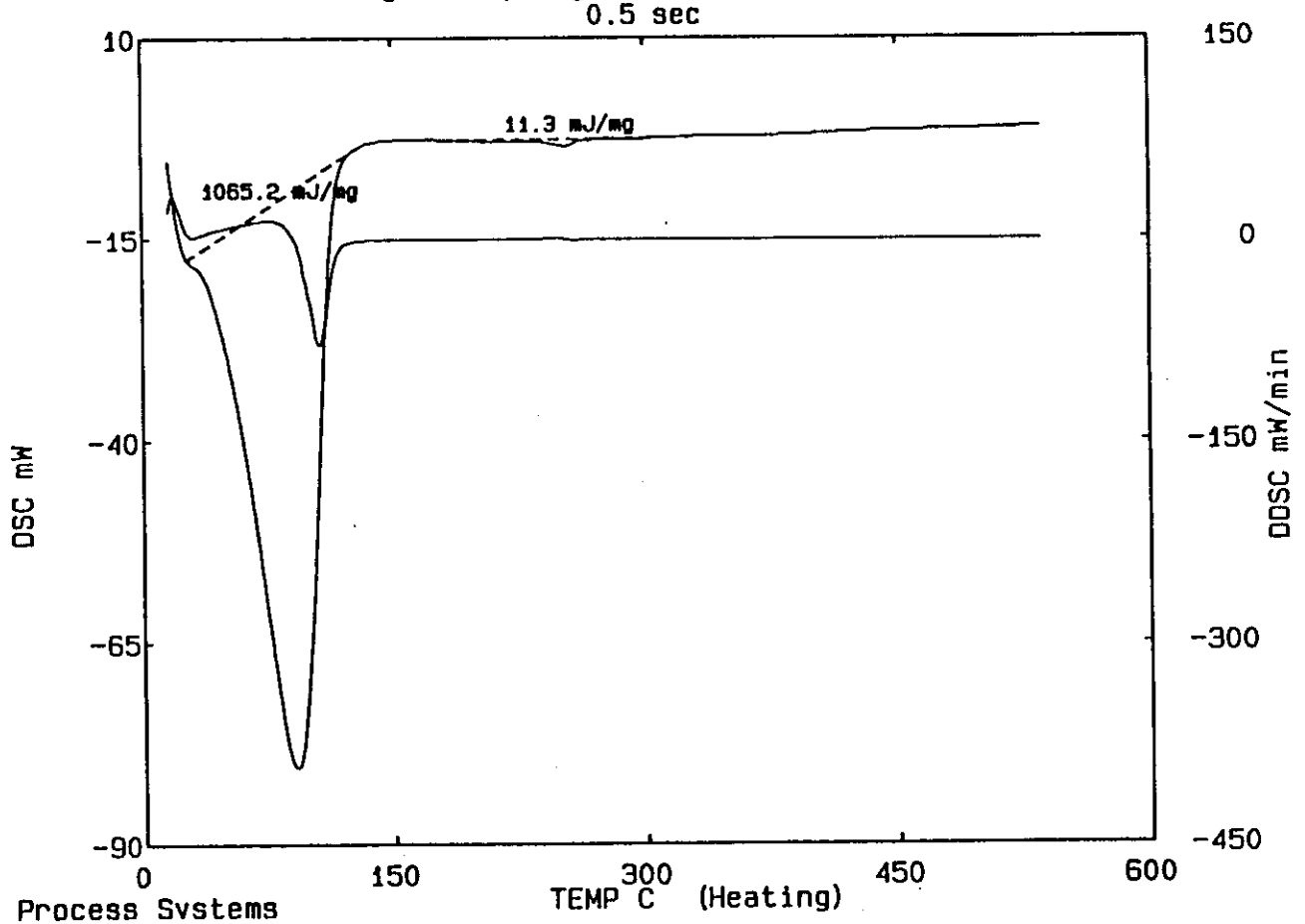
<Reference>
pt pan
0.000 mg

<Comment>
96-02611

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
7feb96k

<Date>
96/02/07 16:59

<Sample>
7feb96k
12.740 mg
(12.740 mg)

<Reference>
pt pan
0.000 mg

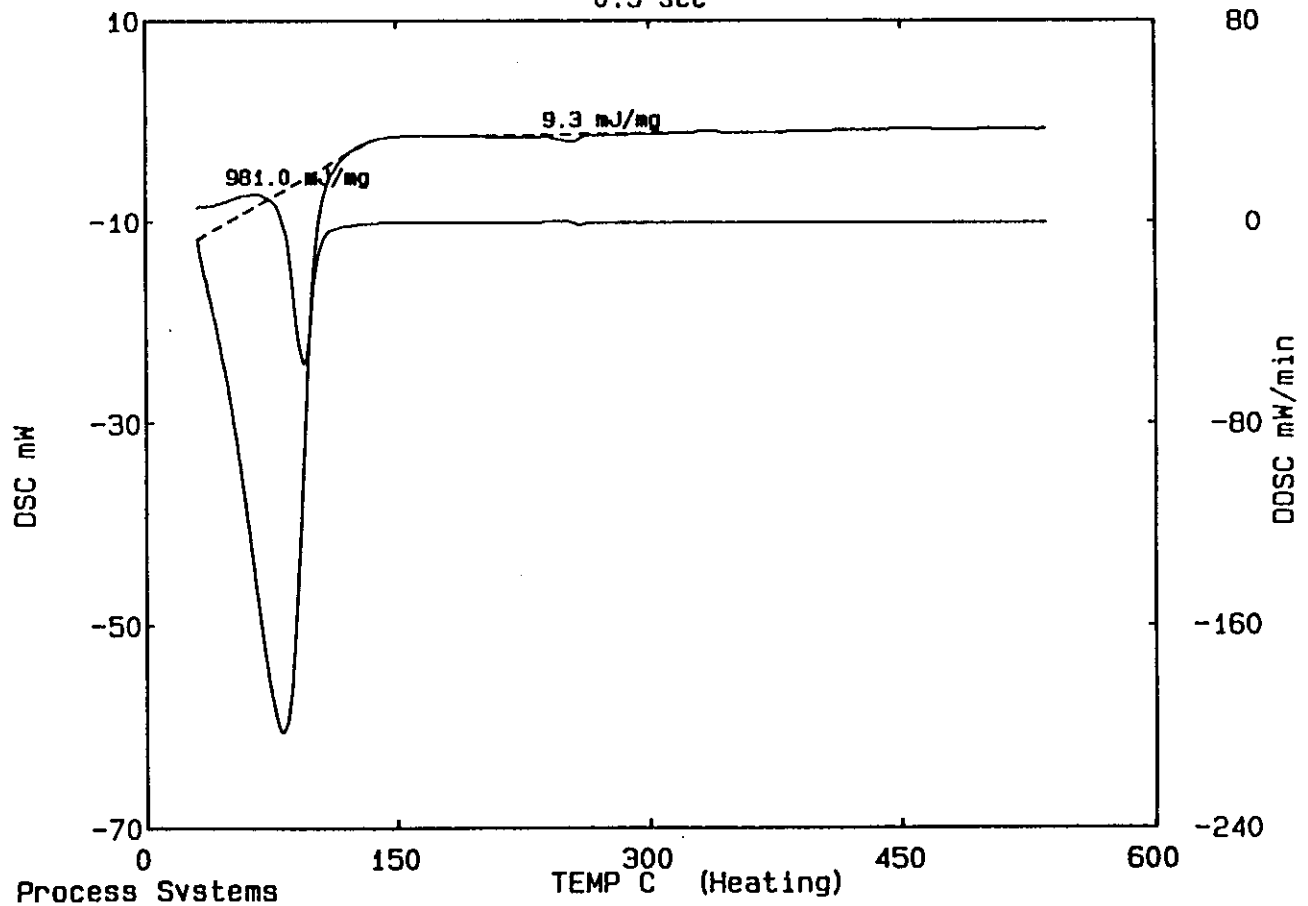
<Comment>
96-02611D

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

DSC

<Name>
7feb96a

<Date>
96/02/07 09:05

<Sample>
7feb96a
18.041 mg
(18.041 mg)

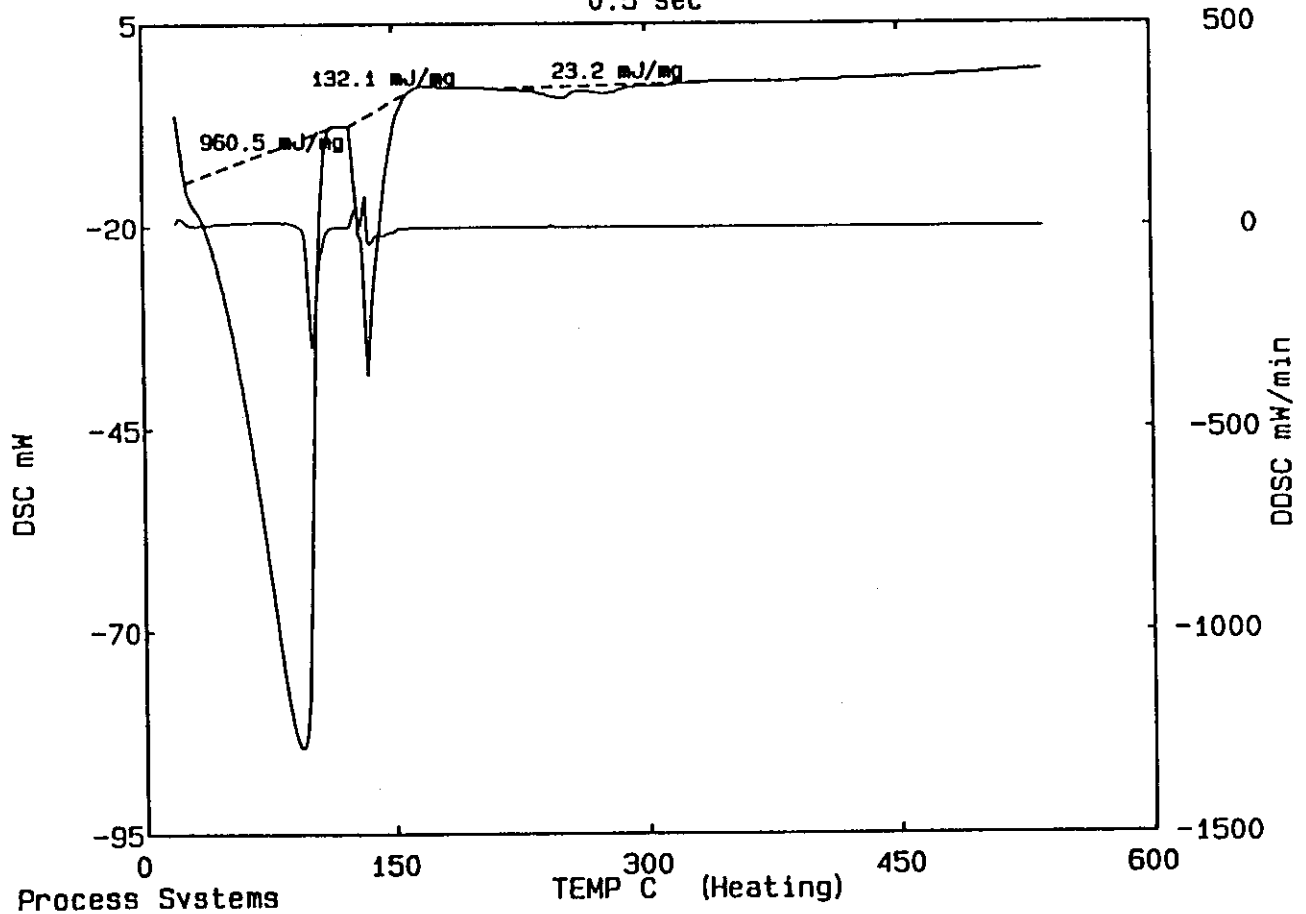
<Reference>
pt pan
0.000 mg

<Comment>
96-02612

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
7feb96g

<Date>
96/02/07 13:13

<Sample>
7feb96g
16.184 mg
(16.184 mg)

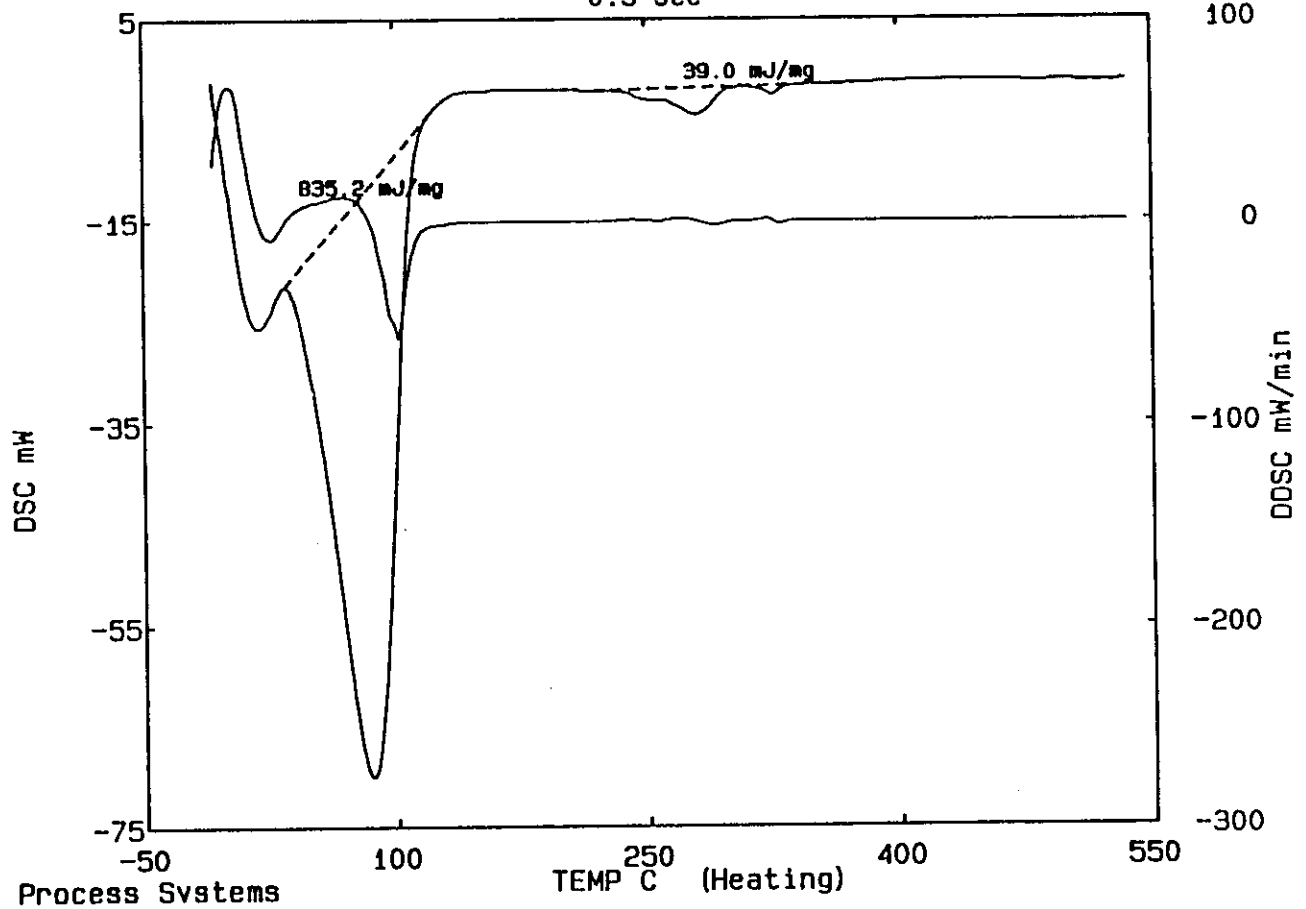
<Reference>
pt pan
0.000 mg

<Comment>
96-02612D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

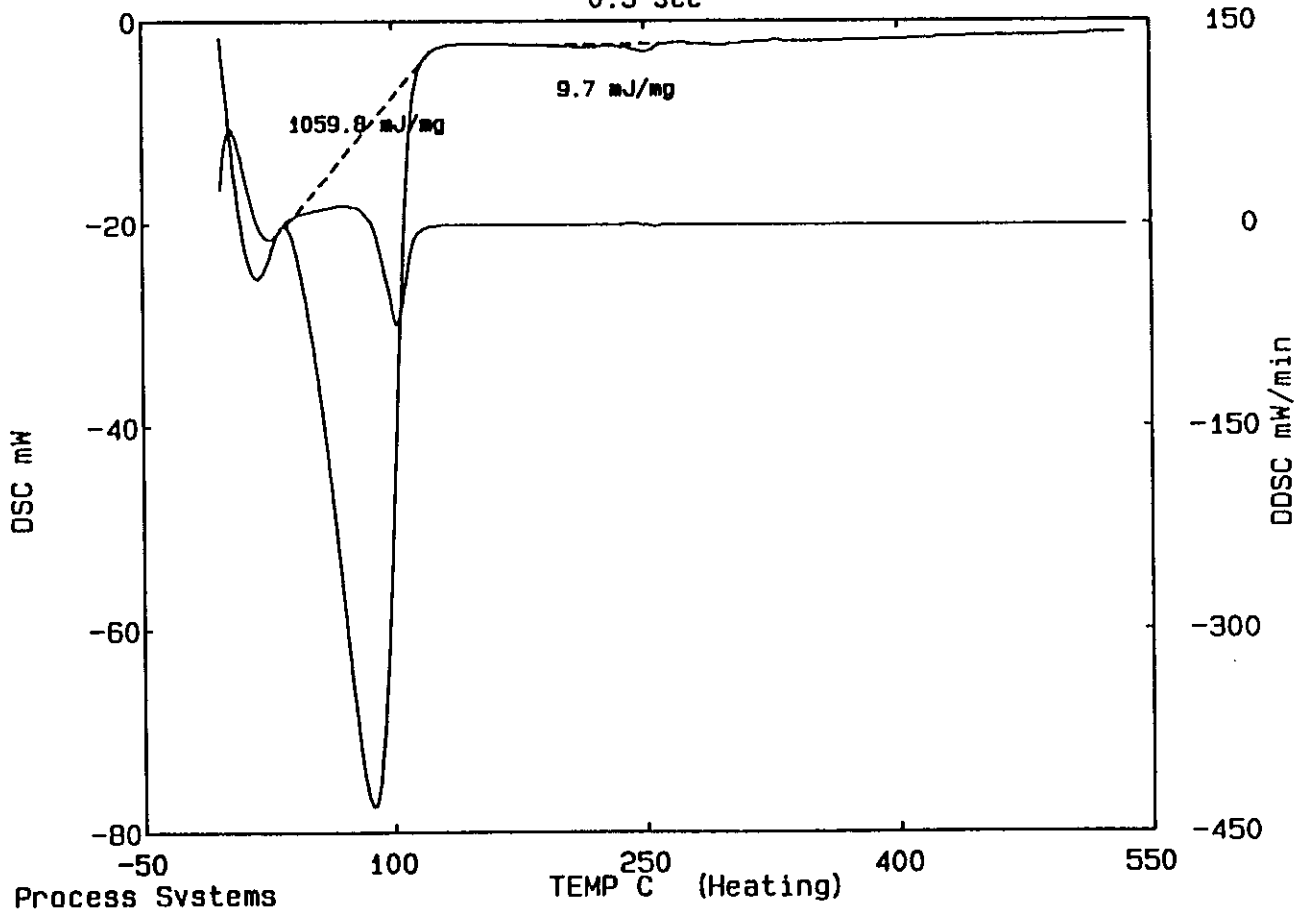
<Name>
8feb96e
<Date>
96/02/08 13:03

<Sample>
8feb96e
14.550 mg
(14.550 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02613

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
8feg96g

<Date>
96/02/08 14:16

<Sample>
8feb96g
15.752 mg
(15.752 mg)

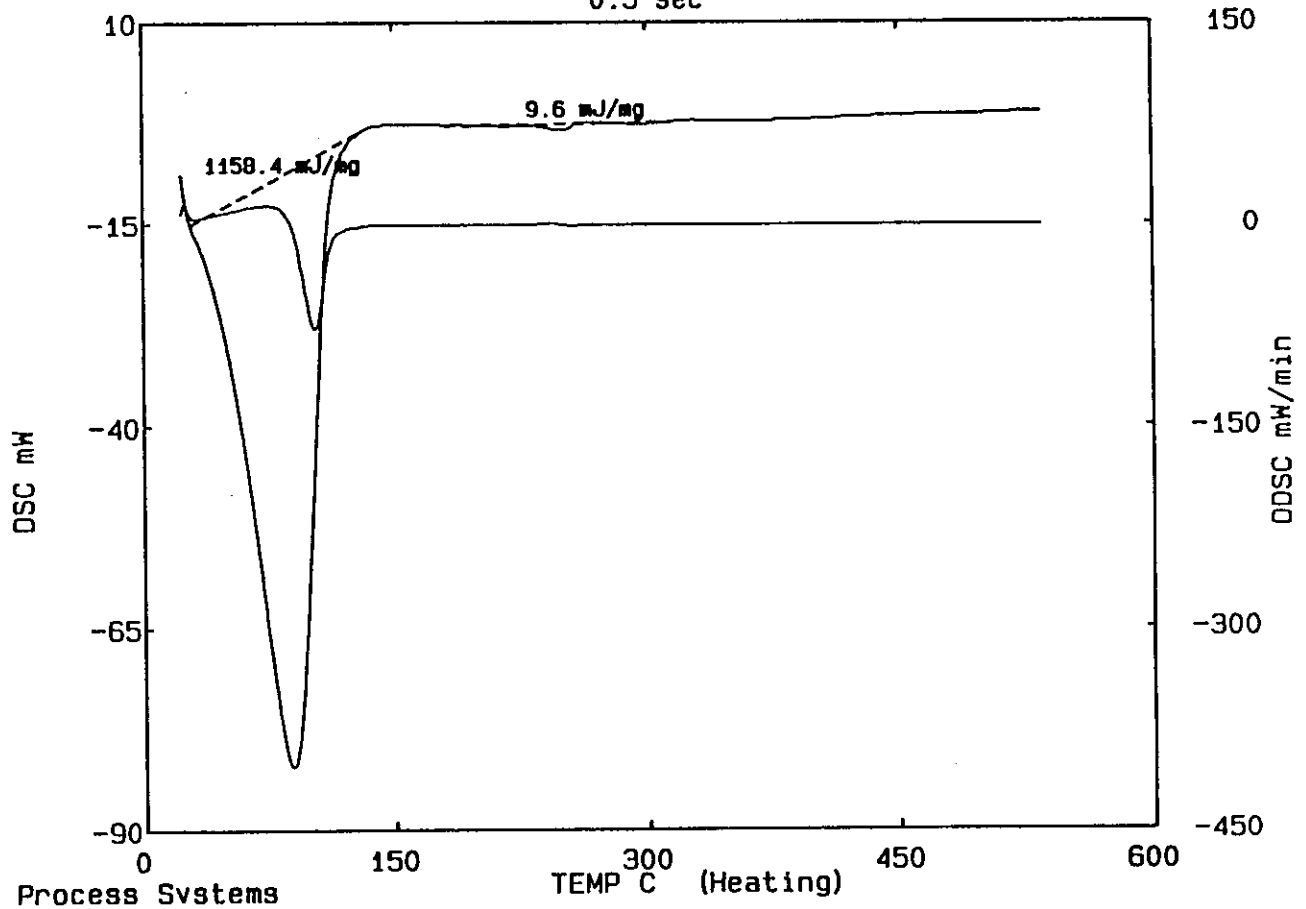
<Reference>
pt pan
0.000 mg

<Comment>
96-02613D

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

<Name>
6feb96g
<Date>
96/02/06 18:33

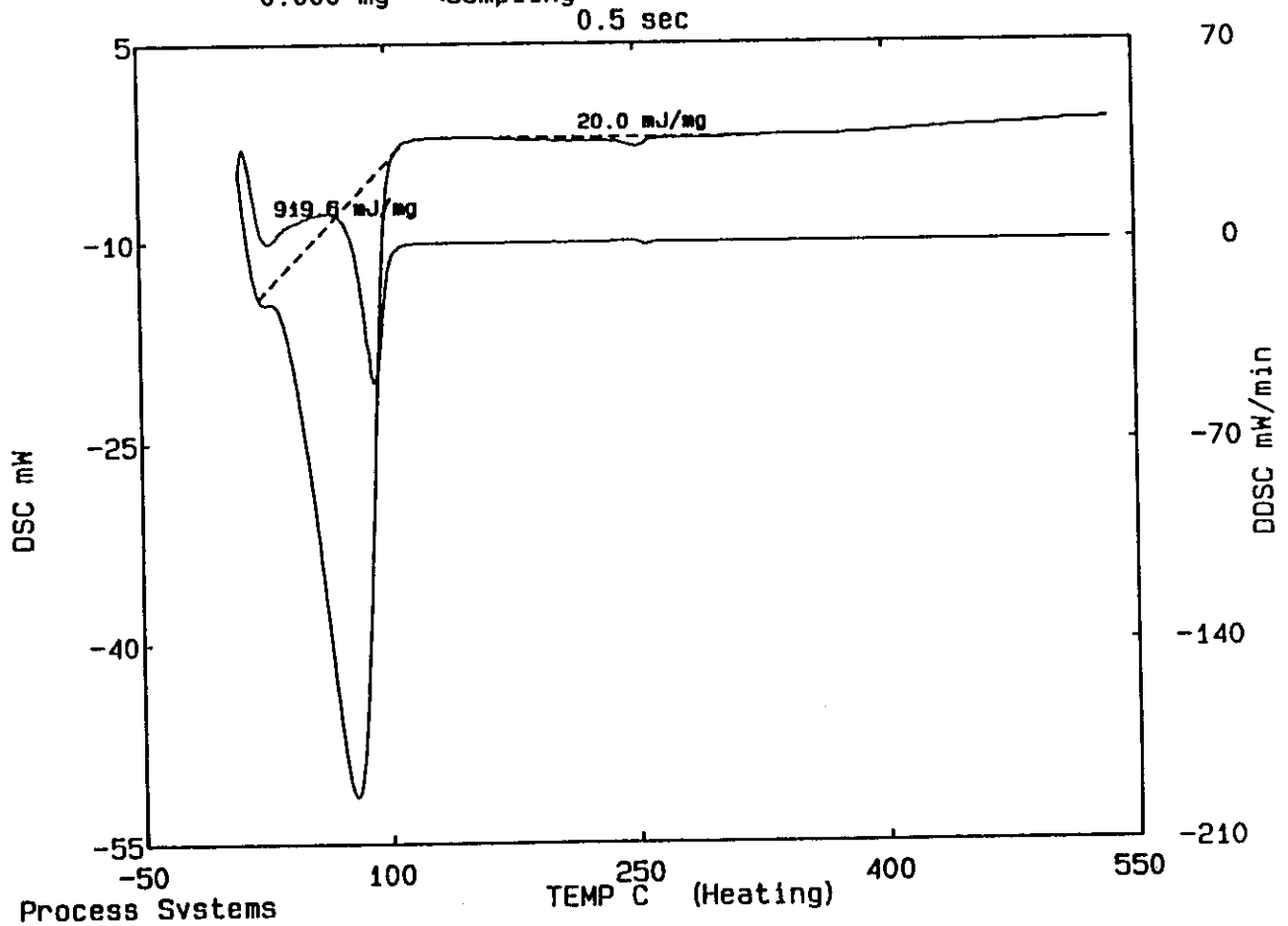
<Sample>
6feb96g
10.100 mg
(10.100 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02614

<Sampling>
0.5 sec

<Temp.program [C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
8feb96a

<Date>
96/02/08 09:29

<Sample>
7feb96o
15.297 mg
(15.297 mg)

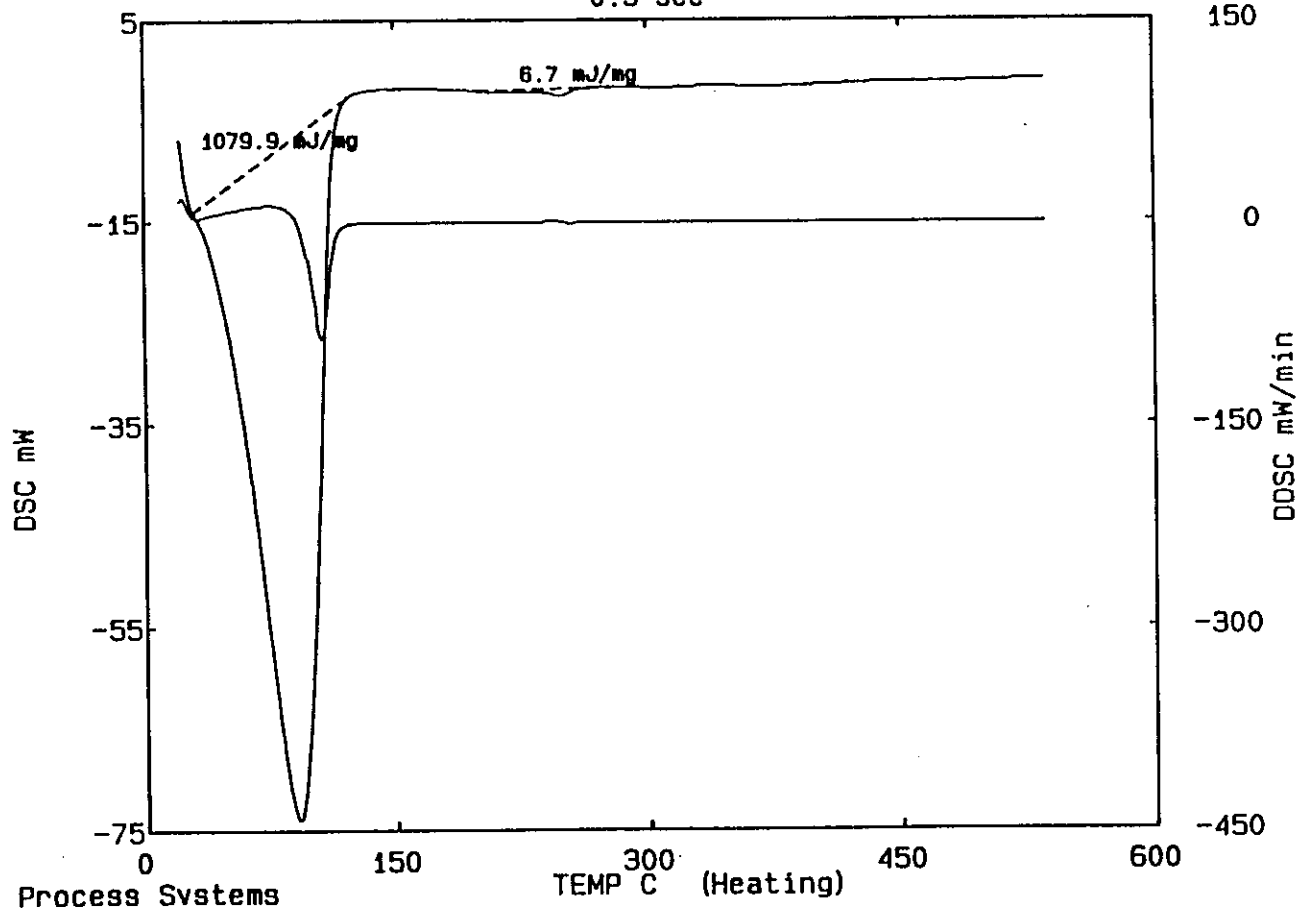
<Reference>
pt pan
0.000 mg

<Comment>
96-2615

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
6feb96i

<Date>
96/02/06 21:41

<Sample>
6feb96i
13.747 mg
(13.747 mg)

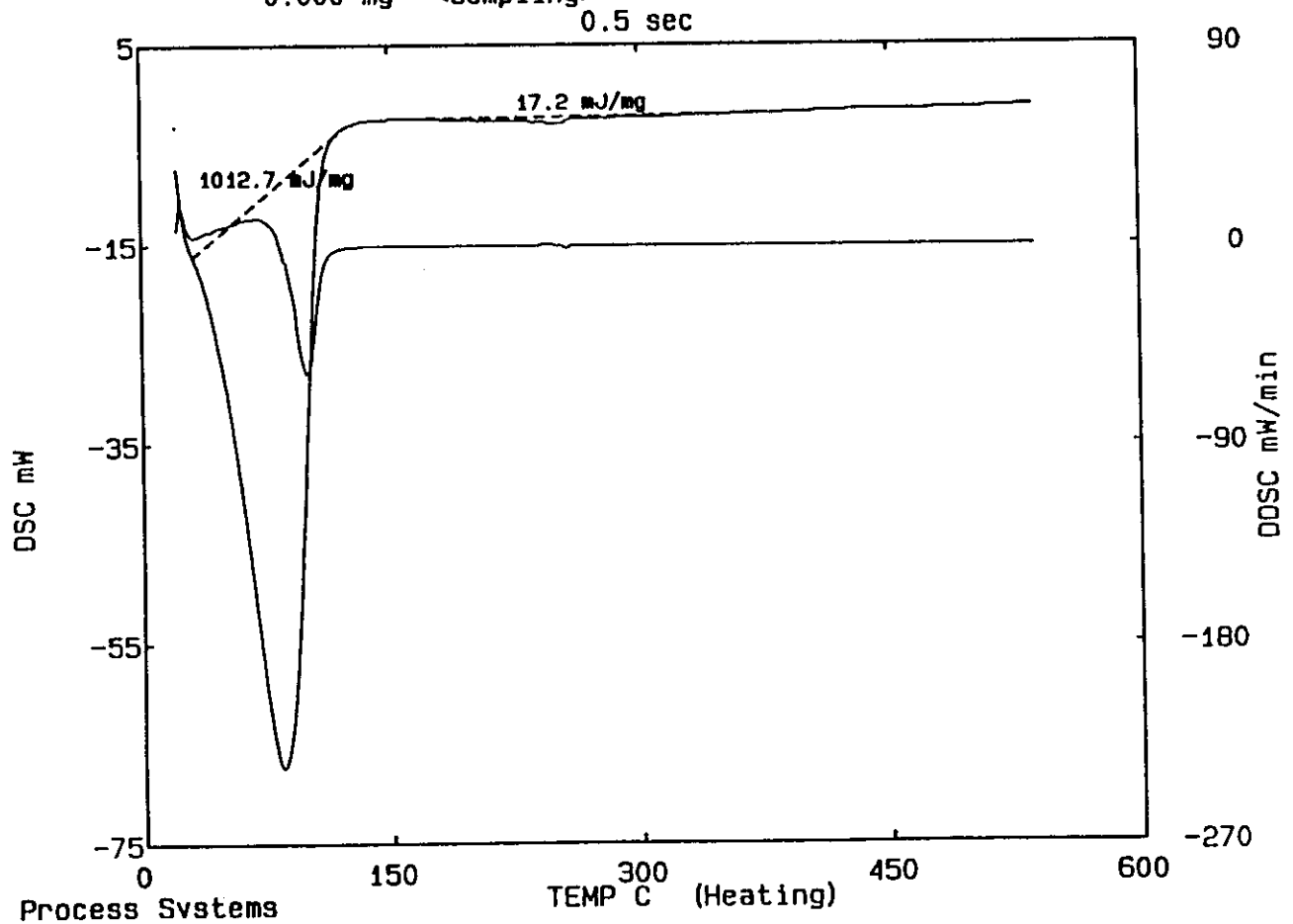
<Reference>
pt pan
0.000 mg

<Comment>
96-02614D

<Sampling>
0.5 sec

<Temp.program [C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

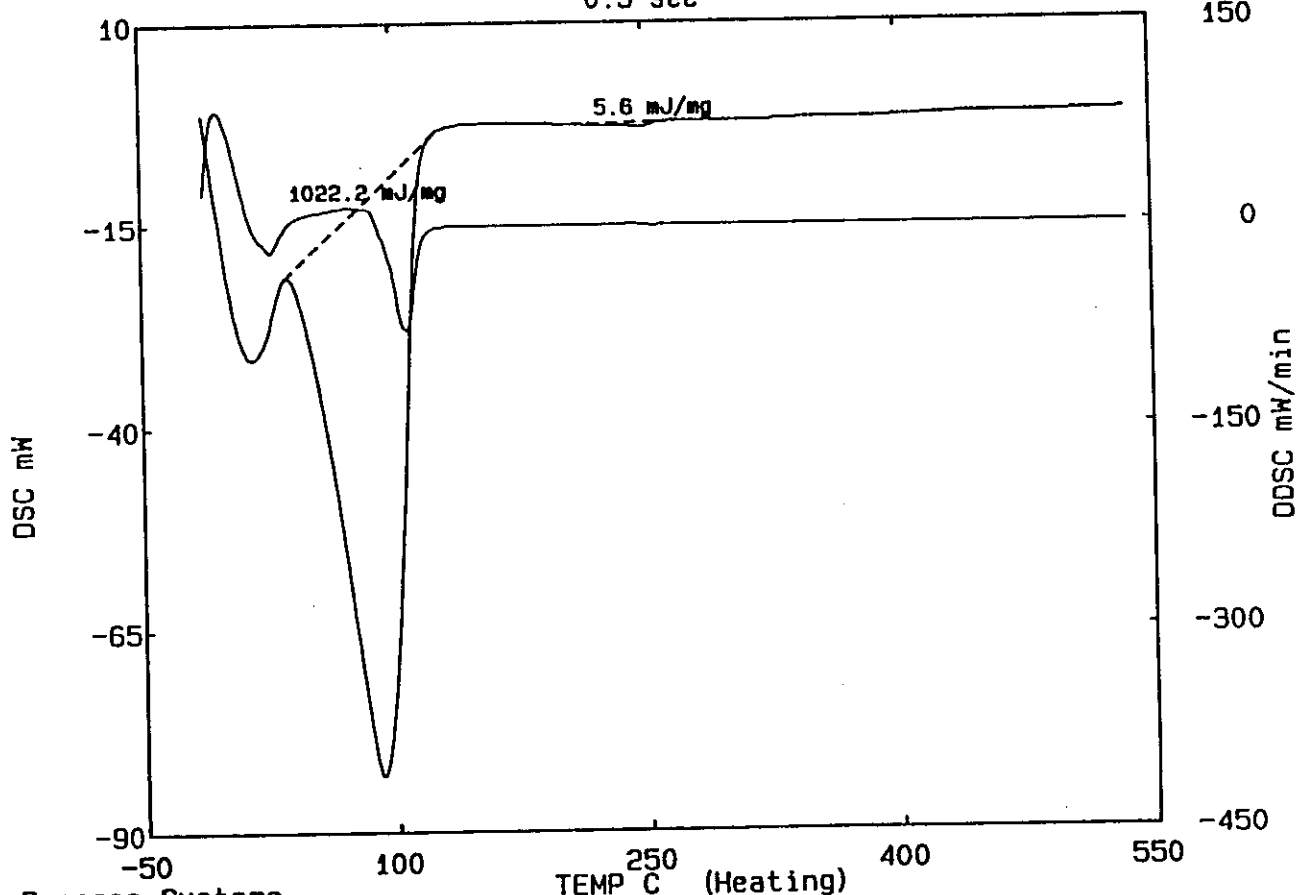
<Name>
8feb96c
<Date>
96/02/08 11:13

<Sample>
8feb96c
16.878 mg
(16.878 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02615D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
6feb96c
<Date>
96/02/06 15:01

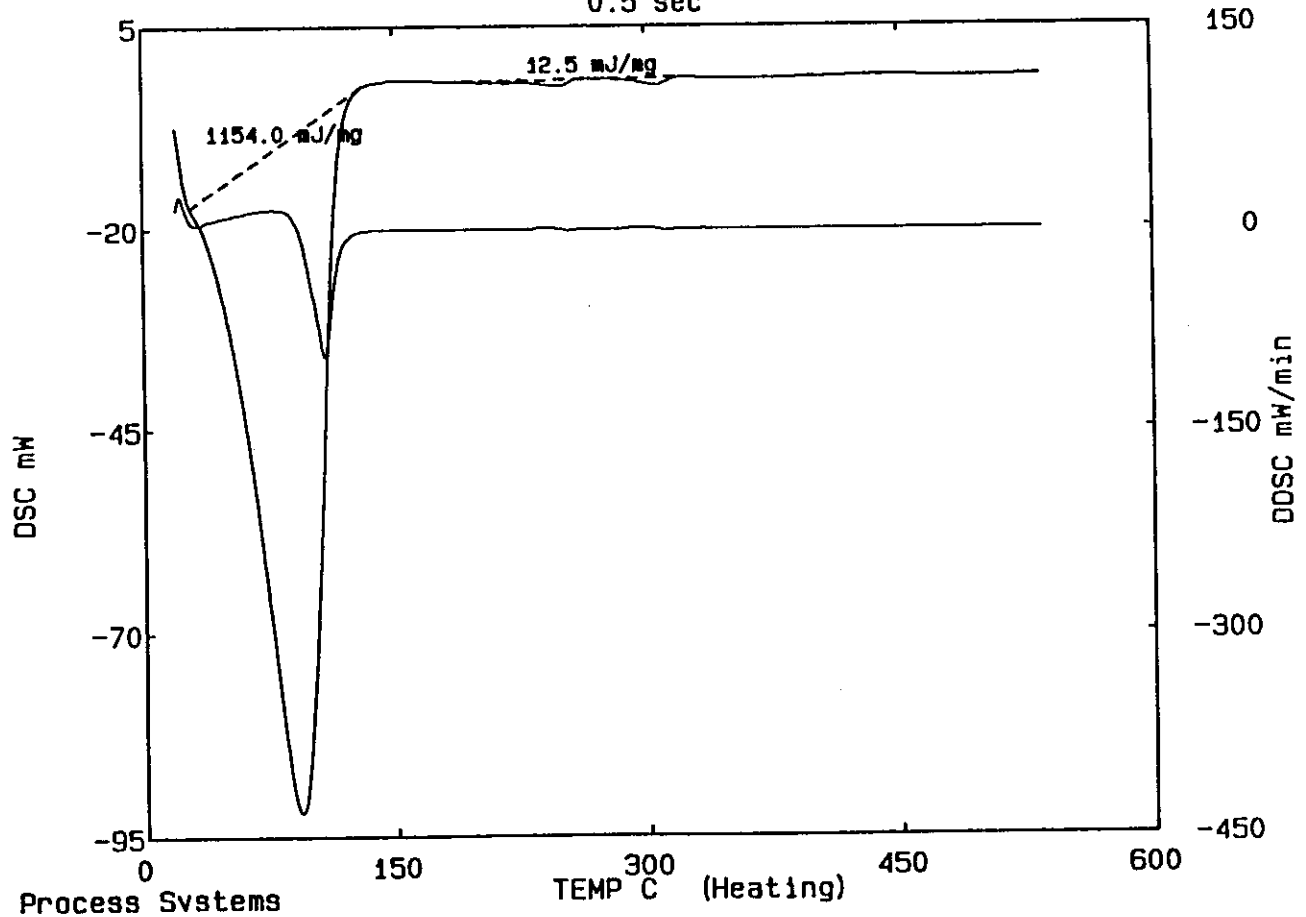
<Sample>
6feb96c
18.618 mg
(18.618 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02616

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
6feb96e

<Date>
96/02/06 16:28

<Sample>
6feb96e
11.910 mg
(11.910 mg)

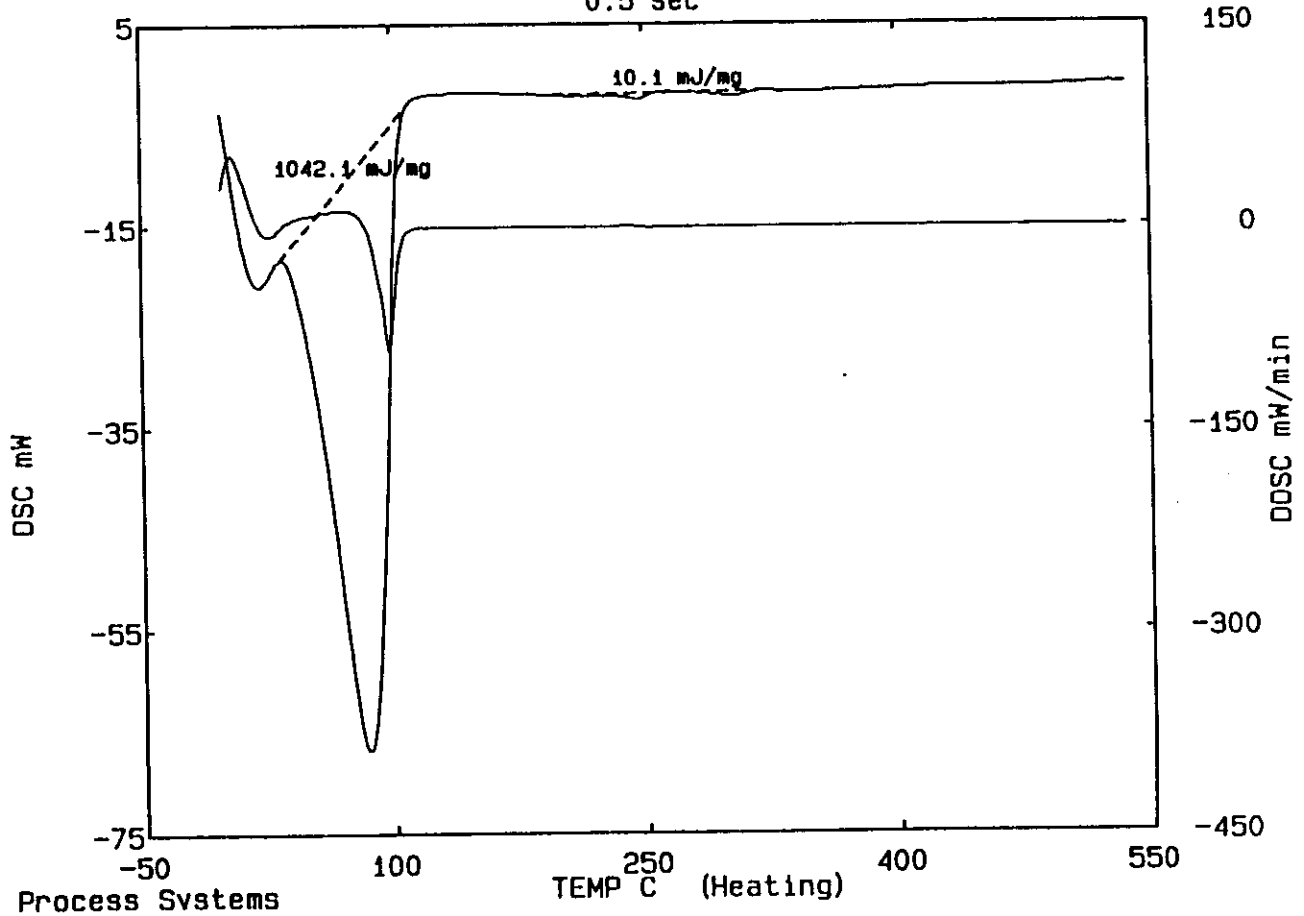
<Reference>
pt pan
0.000 mg

<Comment>
96-02616D

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

<Name>
6mar96f

<Date>
96/03/06 16:19

<Sample>
6mar96f
8.845 mg
(8.845 mg)

<Reference>
Pt pan
0.000 mg

<Comment>
96-02617

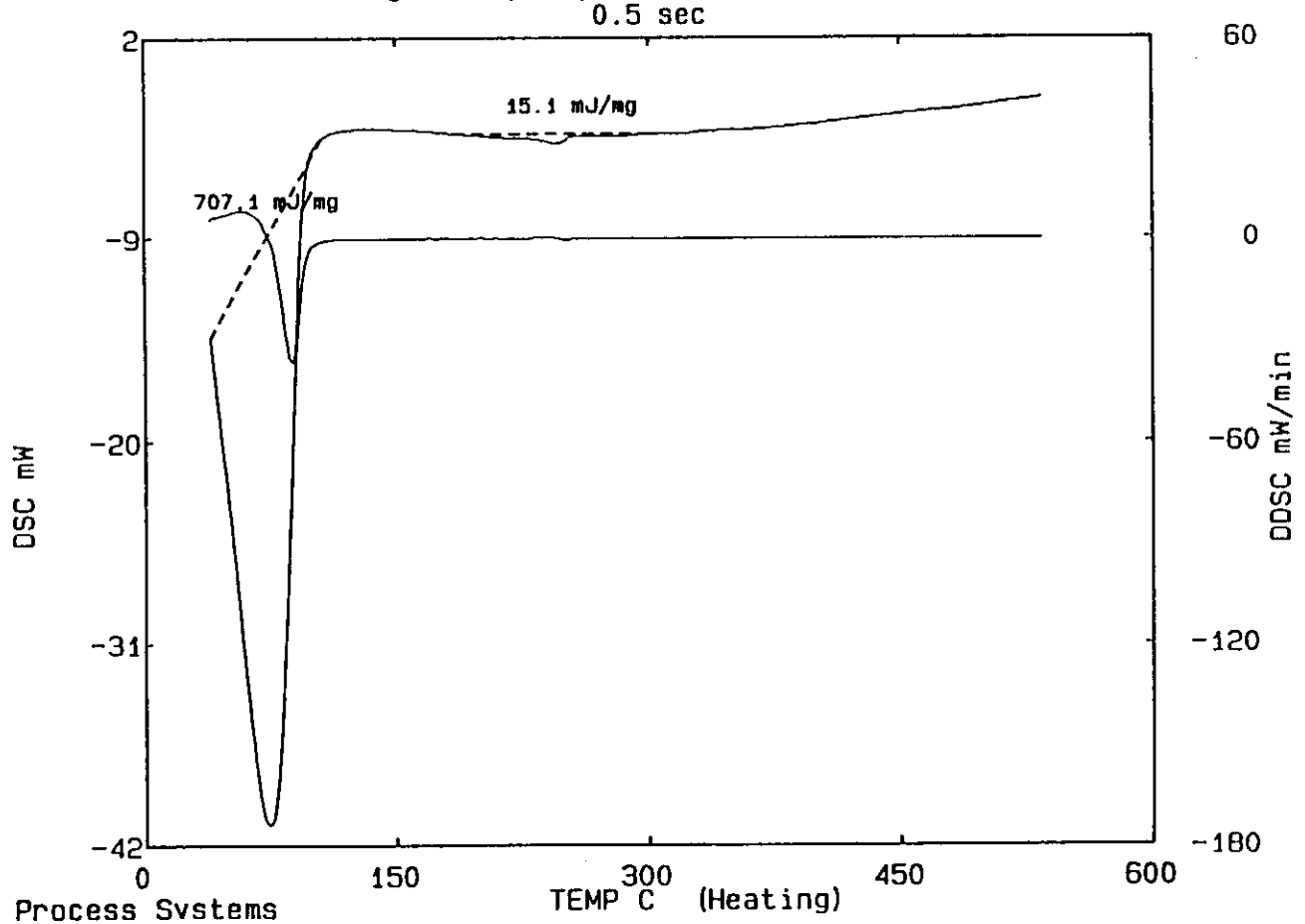
<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>

1*	30.0- 550.0	10.00	0.00
2	550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

DSC

<Name>
7mar96a

<Date>
96/03/07 11:09

<Sample>
7mar96a
12.719 mg
(12.719 mg)

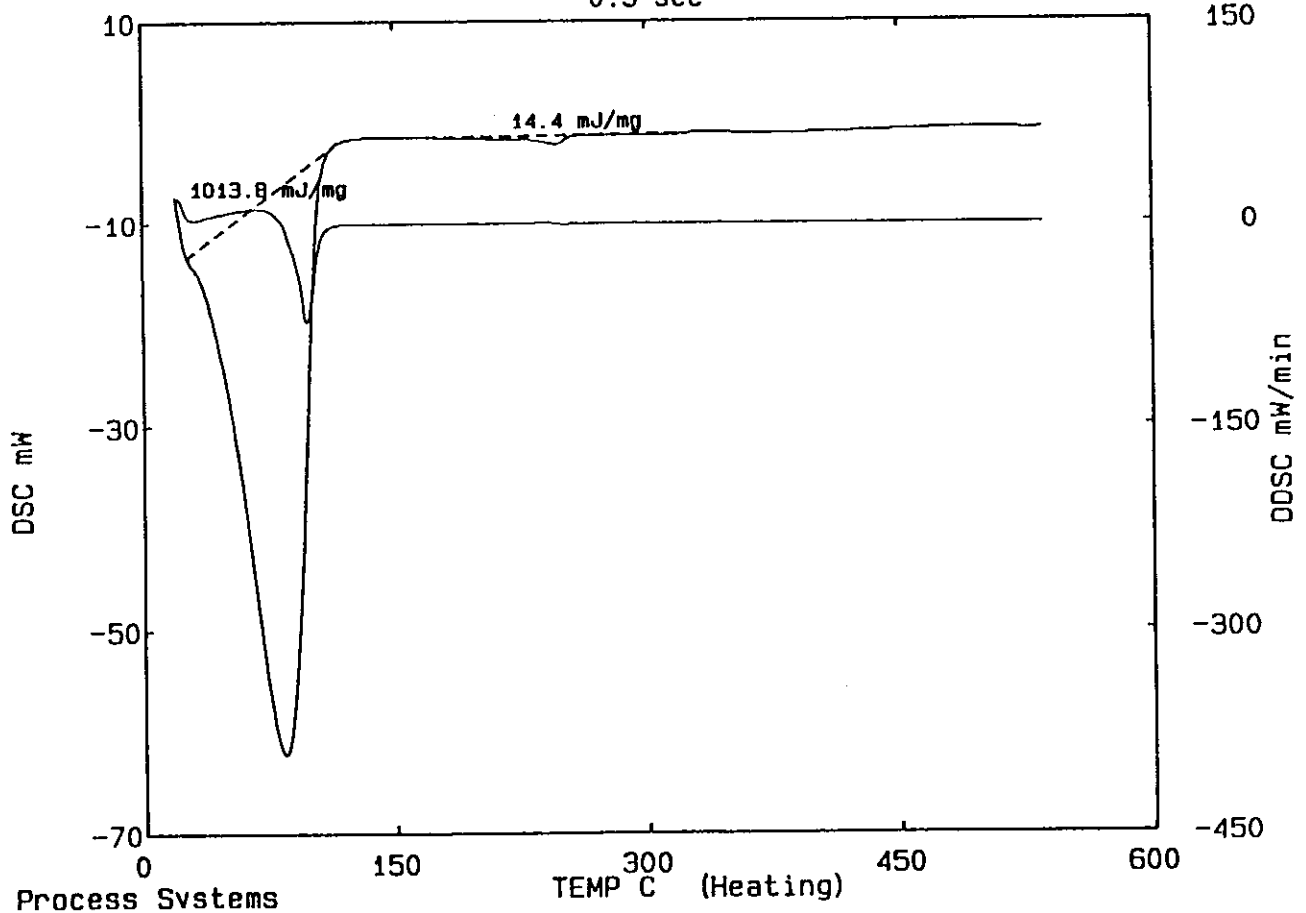
<Reference>
Pt pan
0.000 mg

<Comment>
96-02617D

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

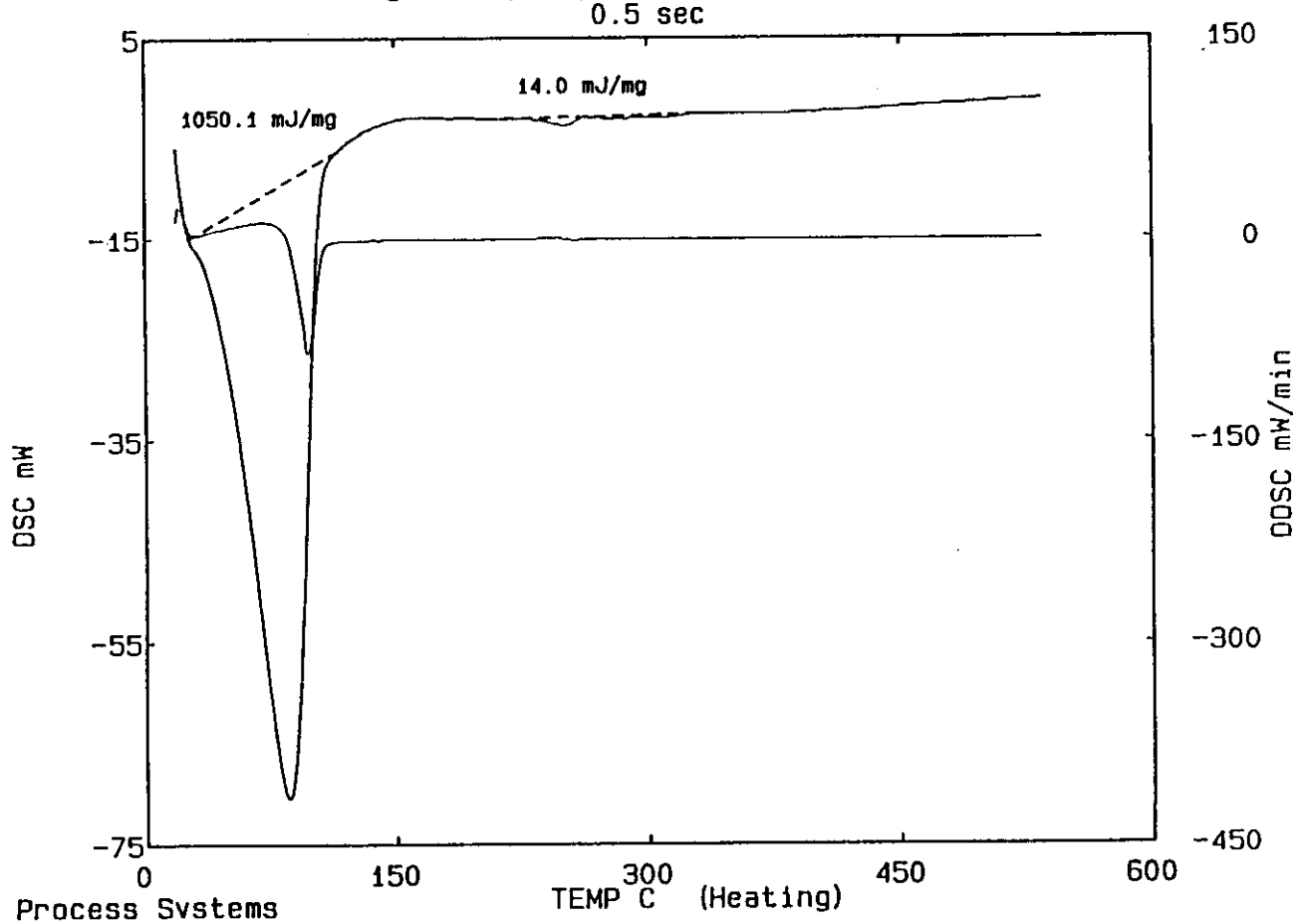
<Name>
6mar96b
<Date>
96/03/06 12:43

<Sample>
6mar96b
12.895 mg
(12.895 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-02618

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
11mar96a

<Date>
96/03/11 12:37

<Sample>
11mar96a
10.156 mg
(10.156 mg)

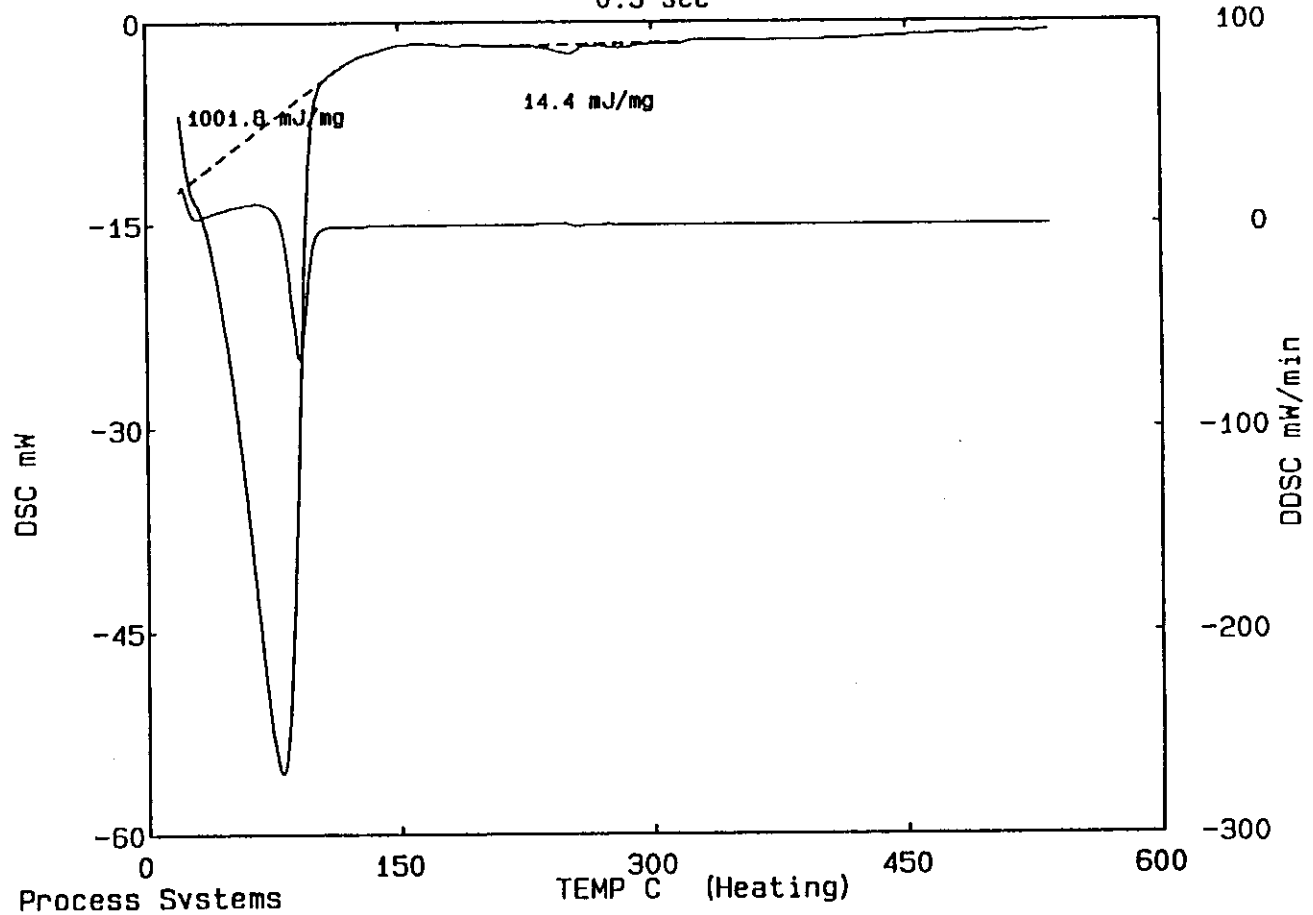
<Reference>
pt pan
0.000 mg

<Comment>
96-02618T

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
10feb96e

<Date>
96/02/10 11:41

<Sample>
10feb96e
14.228 mg
(14.228 mg)

<Reference>
pt pan
0.000 mg

<Comment>
96-02619

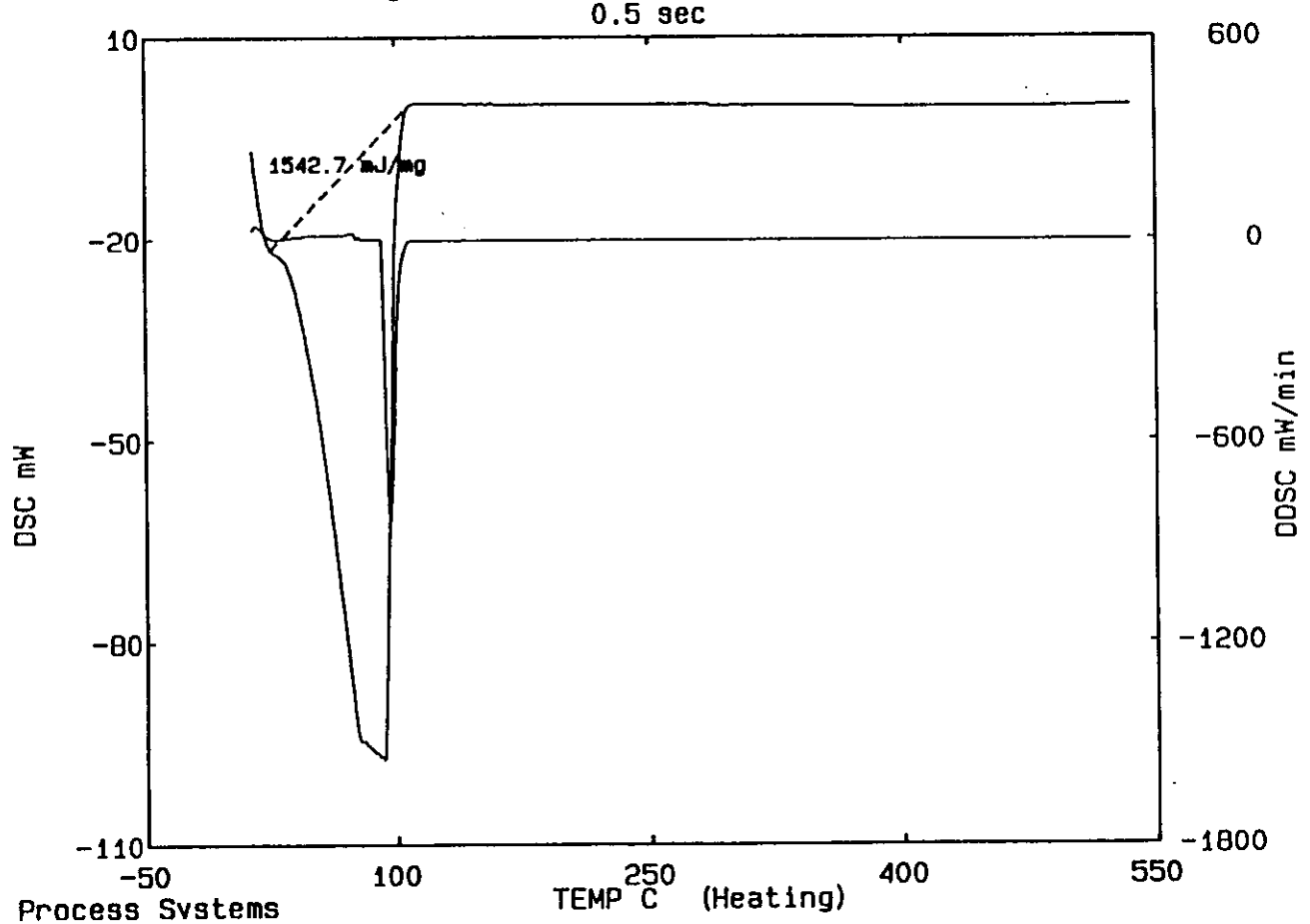
<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>

1*	30.0- 550.0	10.00	0.00
2	550.0- 30.0	100.00	0.00

<Gas>

nitrogen	300.0 ml/min
---	0.0 ml/min



Chemical Process Systems

DSC

<Name>
10feb96g

<Date>
96/02/10 13:23

<Sample>
10feb96g
13.912 mg
(13.912 mg)

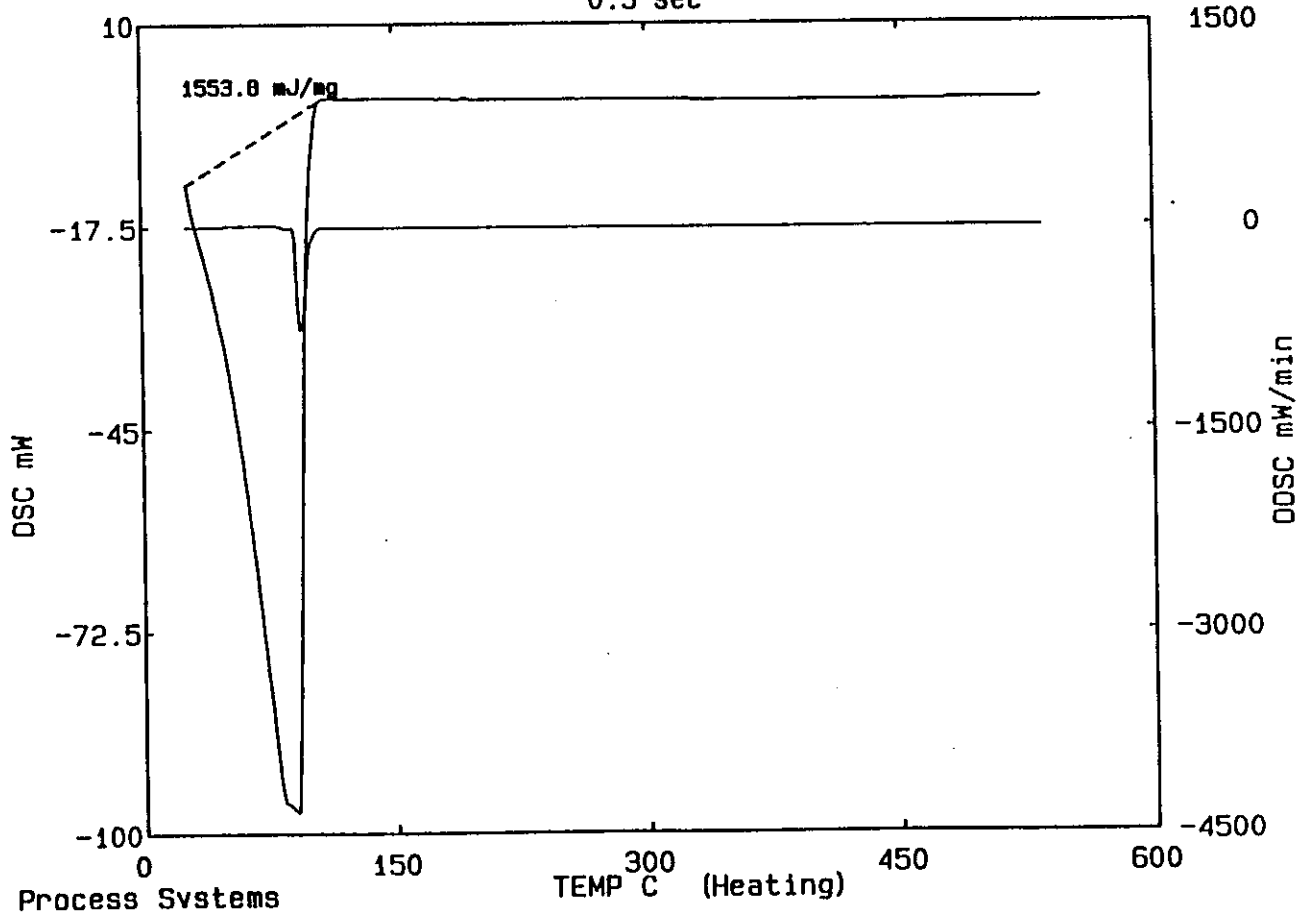
<Reference>
pt pan
0.000 mg

<Comment>
96-02619

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

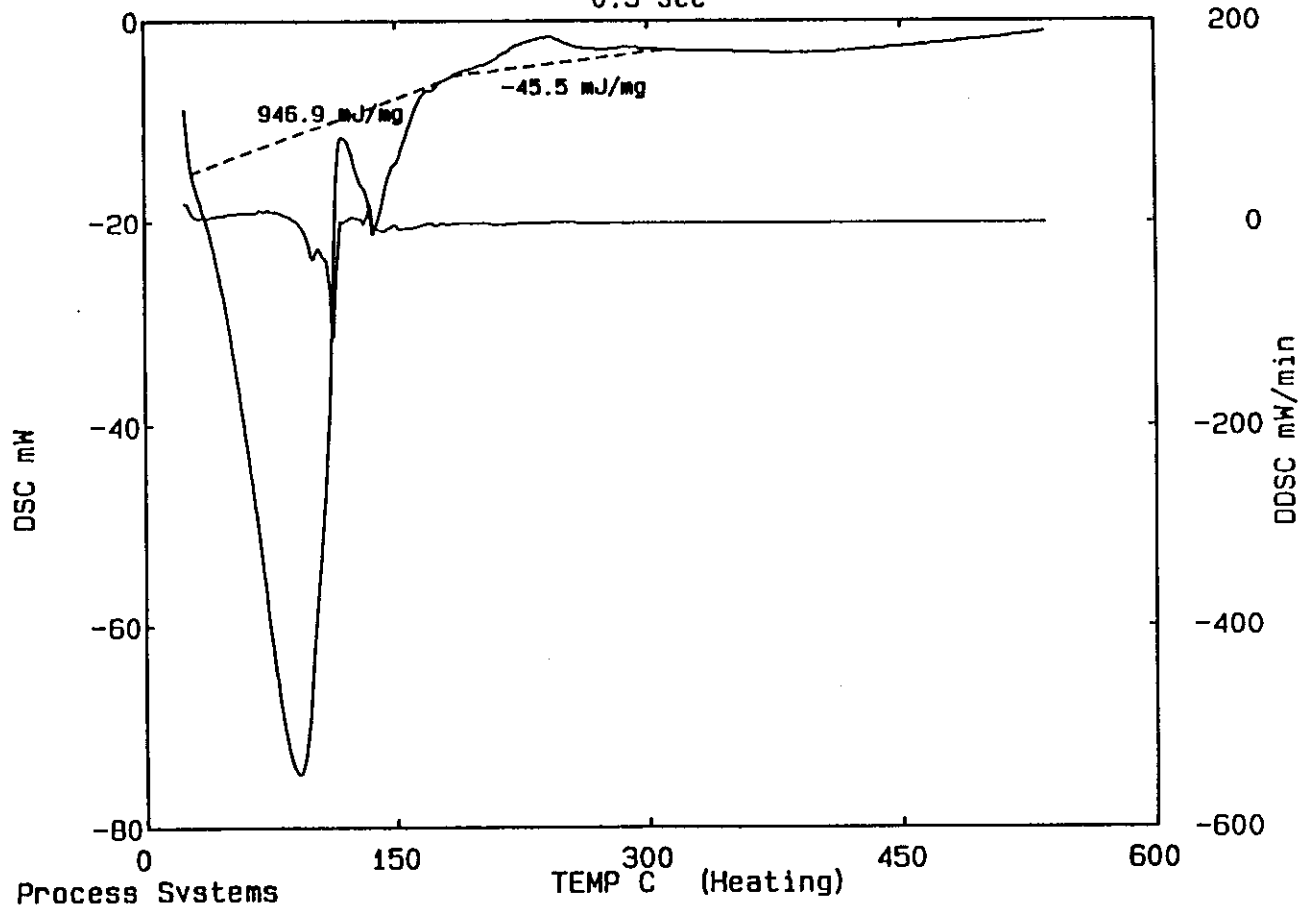
<Name>
9feb96k
<Date>
96/02/09 20:02

<Sample>
9feb96k
20.200 mg
(20.200 mg)
<Reference>
pt pan
0.000 mg

<Comment>
96-02848

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
9feb96m

<Date>
96/02/09 21:33

<Sample>
9feb96m
26.540 mg
(26.540 mg)

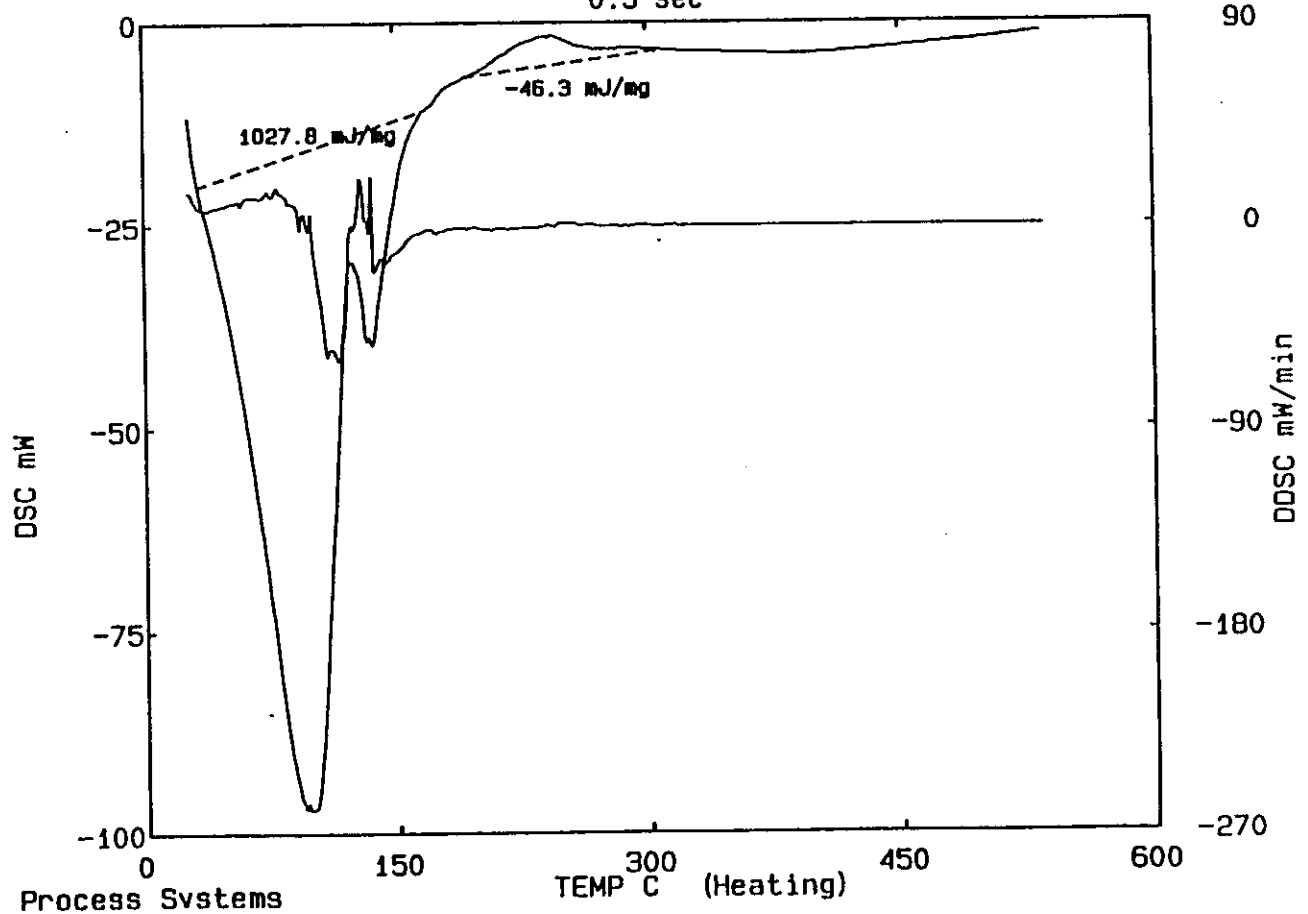
<Reference>
pt pan
0.000 mg

<Comment>
96-028480

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

<Name>
10feb96a

<Date>
96/02/10 08:21

<Sample>
10feb96a
11.505 mg
(11.505 mg)

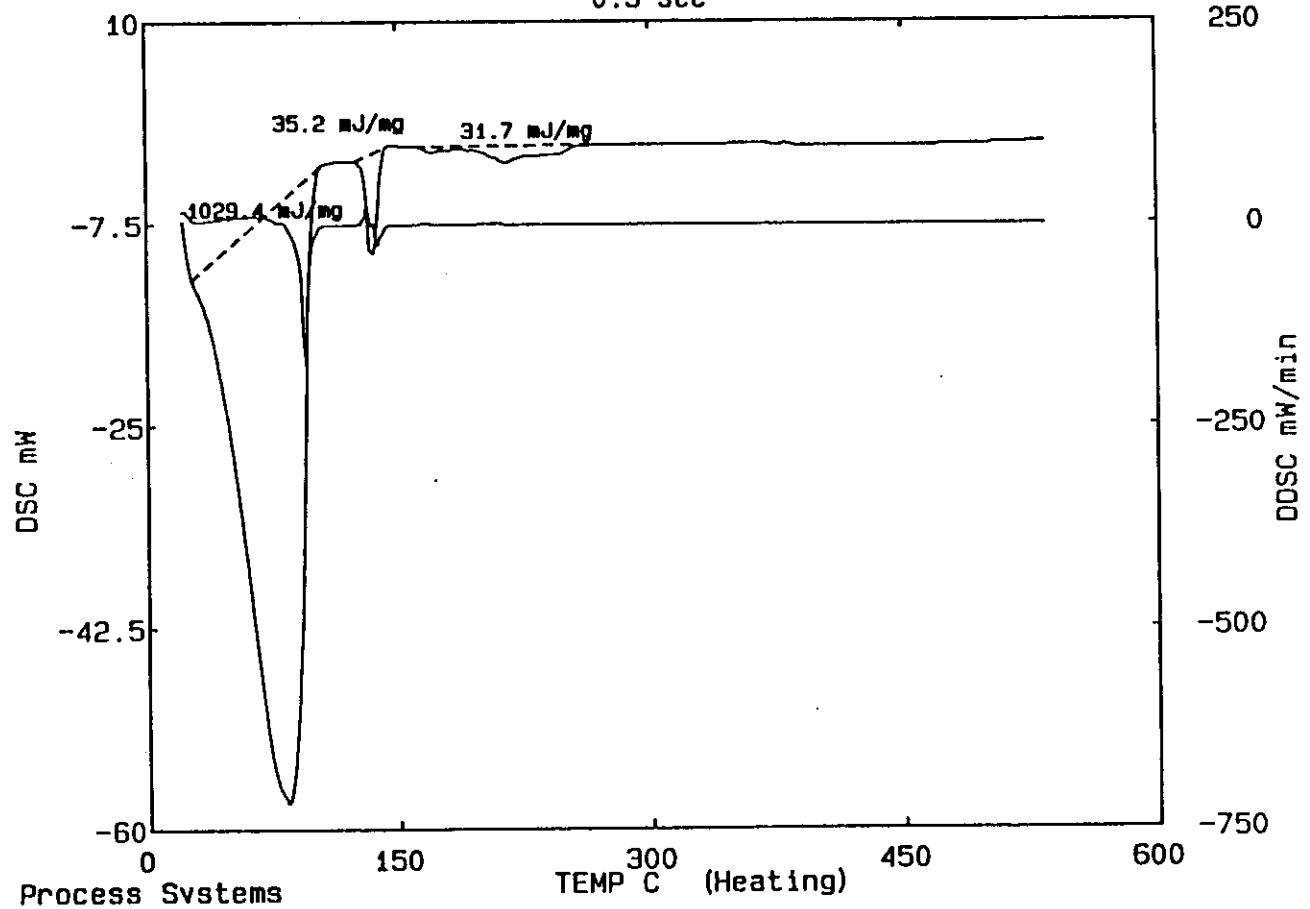
<Reference>
pt pan
0.000 mg

<Comment>
96-02850

<Sampling>
0.5 sec

<Temp.program [C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
10feb96c

<Date>
96/02/10 10:18

<Sample>
10feb96c
18.036 mg
(18.036 mg)

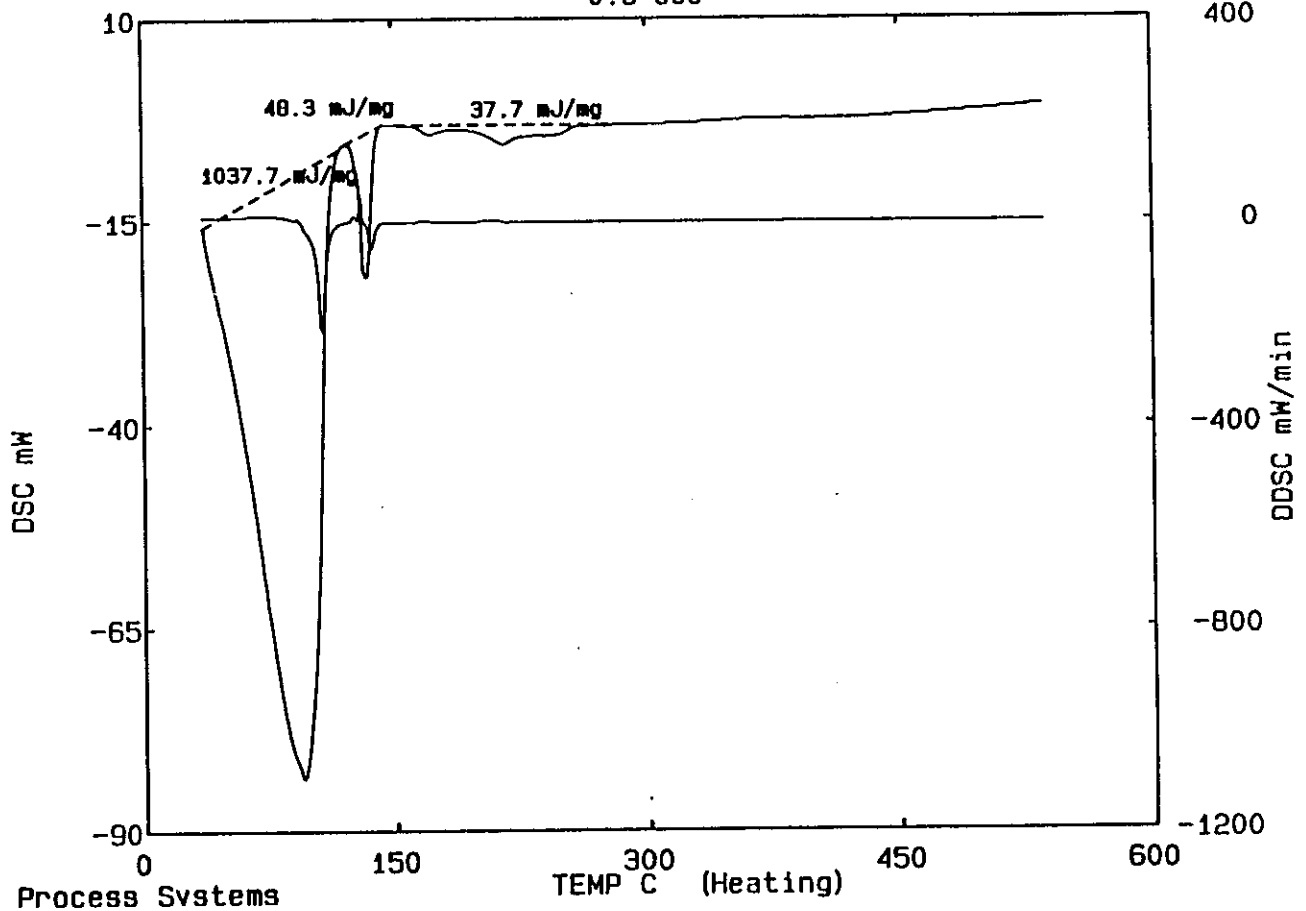
<Reference>
pt pan
0.000 mg

<Comment>
96-02850D

<Sampling>
0.5 sec

<Temp.program[C]	[C/min]	[min]>
1* 30.0- 550.0	10.00	0.00
2 550.0- 30.0	100.00	0.00

<Gas>
nitrogen 300.0 ml/min
0.0 ml/min



Chemical Process Systems

DSC

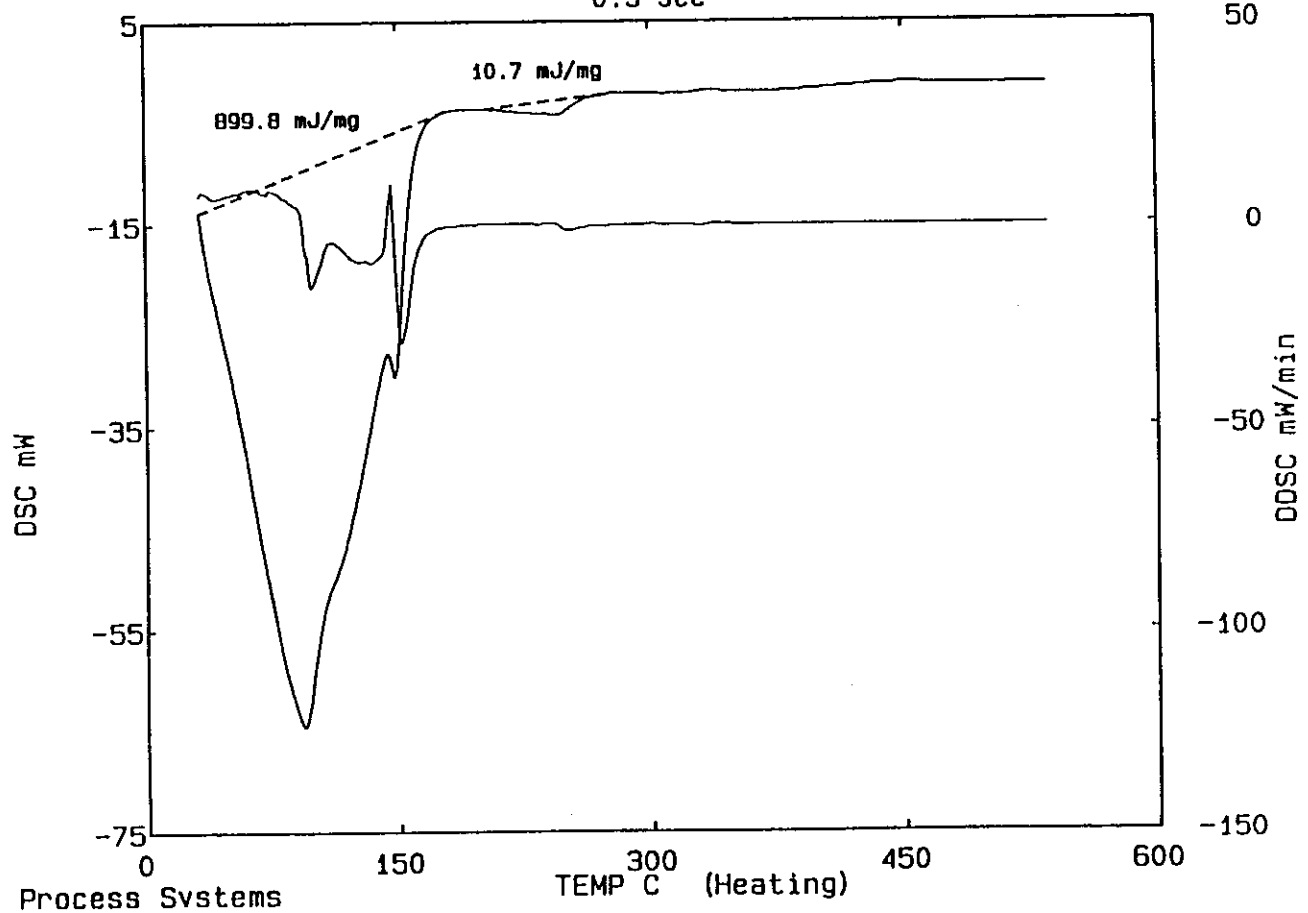
<Name>
7mar96c
<Date>
96/03/07 13:23

<Sample>
7mar96c
26.430 mg
(26.430 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-03365

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
7mar96e

<Date>
96/03/07 16:11

<Sample>
7mar96e
29.778 mg
(29.778 mg)

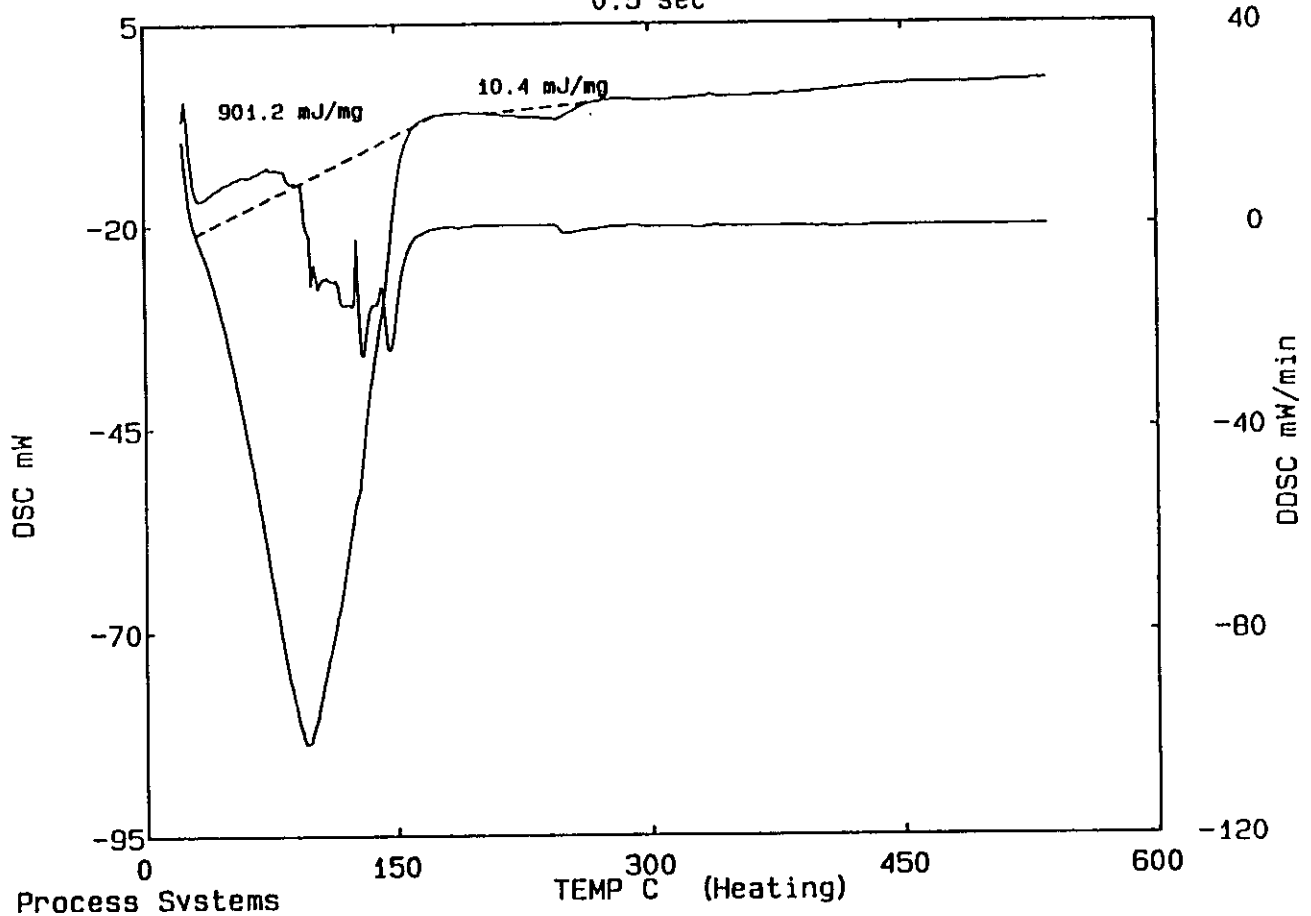
<Reference>
Pt pan
0.000 mg

<Comment>
96-03365D

<Sampling>
0.5 sec

<Temp.program[C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00

<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

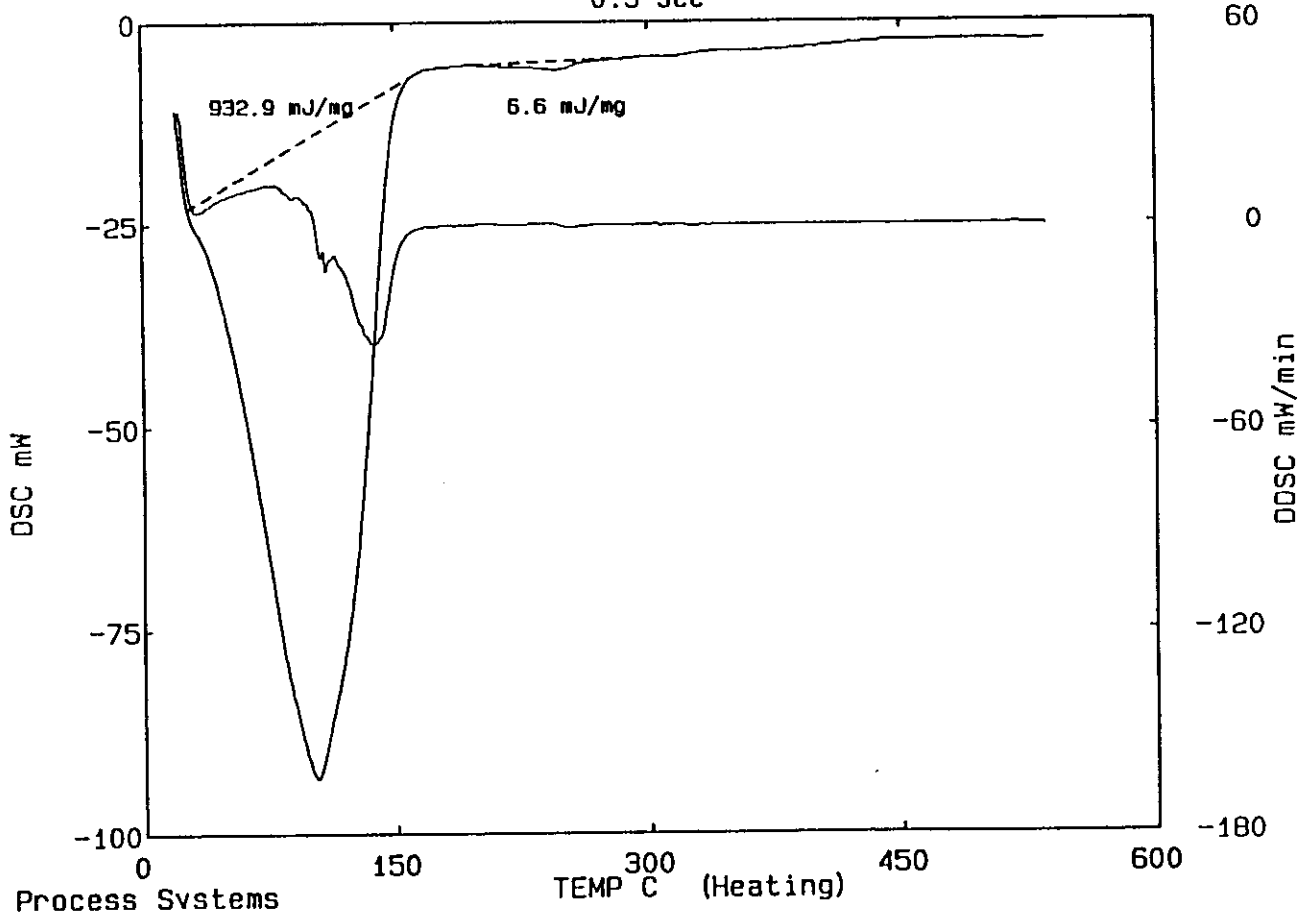
<Name>
8mar96a
<Date>
96/03/08 10:54

<Sample>
8mar96a
33.083 mg
(33.083 mg)
<Reference>
Pt pan
0.000 mg

<Comment>
96-03366

<Sampling>
0.5 sec

<Temp.program [C] [C/min] [min]>
1* 30.0- 550.0 10.00 0.00
2 550.0- 30.0 100.00 0.00
<Gas>
nitrogen 300.0 ml/min
--- 0.0 ml/min



Chemical Process Systems

DSC

<Name>
8mar96c

<Date>
96/03/08 12:58

<Sample>
8mar96c
28.947 mg
(28.947 mg)

<Reference>
Pt pan
0.000 mg

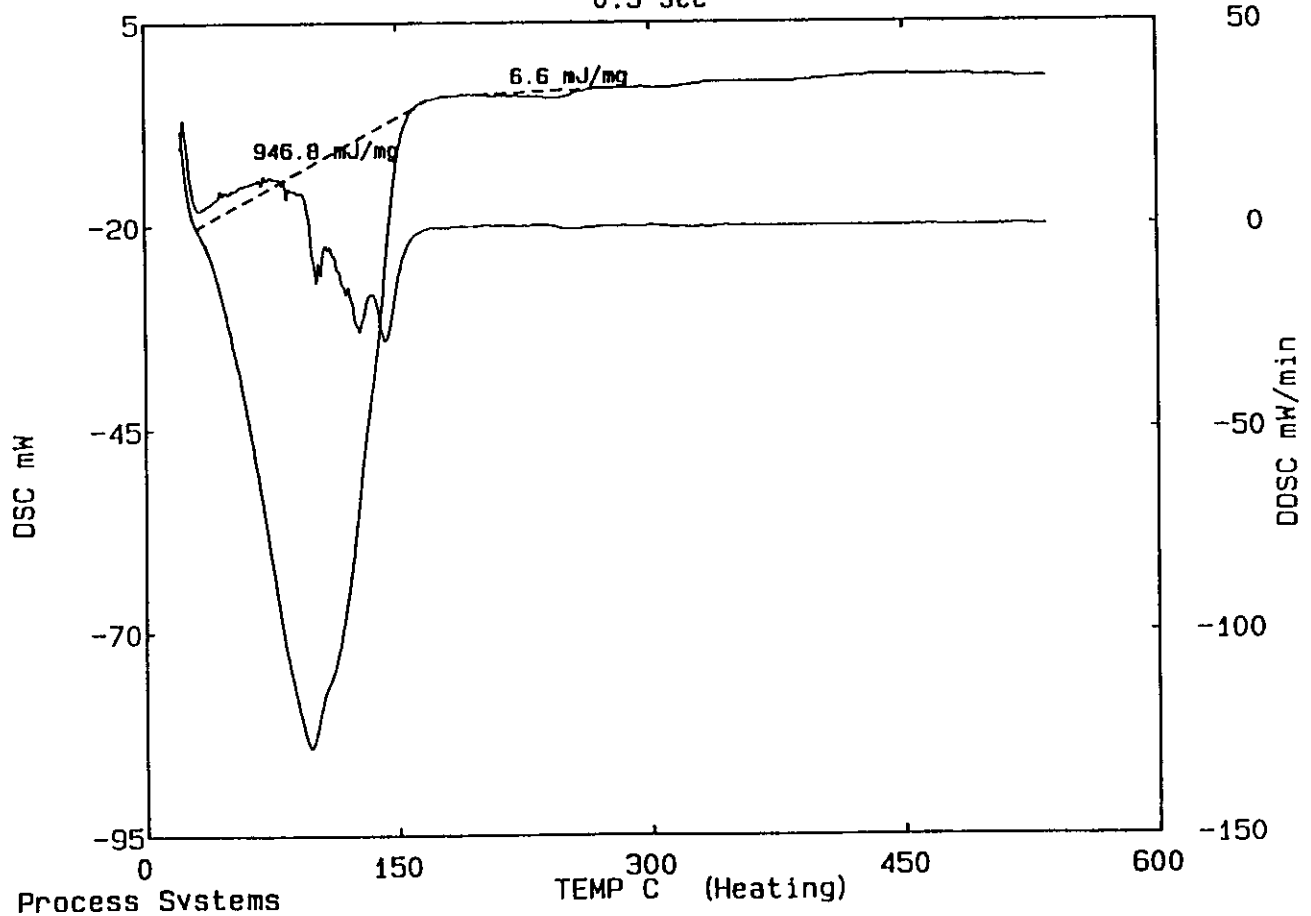
<Comment>
96-033660

<Sampling>
0.5 sec

<Temp.program [C]			[C/min]	[min]>
1*	30.0-	550.0	10.00	0.00
2	550.0-	30.0	100.00	0.00

<Gas>

nitrogen	300 0	ml/min
	0 0	ml/min



Chemical Process Systems

B3 - BULK DENSITY ANALYSIS

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DATE TO QC: 03/28/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - Bulk Density

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2605, 96-2607, 96-2609, 96-2611, 96-2613, 96-2615 96-2617, 96-2618, 96-2619, 96-2848, 96-2850, 96-3365 96-3366

PNL ACL Quality Representative

3/28/96

Date

3/28/96

February 1, 1996
Tank: 241-BX-112
Procedure: PNL-ALO-501

Balance check OK 2-13-96

Density Data Sheet

Core 118

96-03366

Total Mass	11.076	g	Total Mass	11.260	g
Tare	5.584	g	Tare	5.642	g
Sample Mass		g	Sample Mass		g
Volume	4.1	ml	Volume	4.2	ml

96-02605

Total Mass	11.164	g	Total Mass	10.815	g
Tare	5.646	g	Tare	5.547	g
Sample Mass		g	Sample Mass		g
Volume	4.4	ml	Volume	4.1	ml

96-02607

Total Mass	10.927	g	Total Mass	11.117	g
Tare	5.555	g	Tare	5.152	g
Sample Mass		g	Sample Mass		g
Volume	~~4.4~~ 4.1 SMT	ml	Volume	4.2	ml

96-02609

Total Mass	11.874	g	Total Mass	11.774	g
Tare	5.64	g	Tare	5.746	g
Sample Mass		g	Sample Mass		g
Volume	4.9	ml	Volume	4.5	ml

96-02848

Total Mass	~~15.358~~ 20.350	g	Total Mass	21.2[illegible]	g
Tare	15.358	g	Tare	15.358	g
Sample Mass		g	Sample Mass		g
Volume	4.3	ml	Volume	5.1	ml

96-02850

Total Mass	20.468	g	Total Mass	20.862	g
Tare	15.245	g	Tare	15.245	g
Sample Mass		g	Sample Mass		g
Volume	4.4	ml	Volume	4.6	ml

Scott [illegible] 2-13-96

February 21, 1996
Core 118 and 119
Tank 241-BX-112

Density Data Sheet

Core 118 Composite

96-02617

Total Mass	~~4.848~~ 10.636	g
Tare	4.848	g
Sample Mass	5.788	g
Volume	4.4	ml

96-02617 dup

Total Mass	10.686	g
Tare	5.574	g
Sample Mass	5.108	g
Volume	3.9	ml

Balance check ok

Core 119 Composite

96-02618

Total Mass	10.611	g
Tare	5.641	g
Sample Mass	4.97	g
Volume	3.8	ml

96-02618 dup

Total Mass	10.654	g
Tare	5.647	g
Sample Mass	5.007	g
Volume	3.4	ml

February 1, 1996
Tank: 241-BX-112
Procedure: PNL-ALO-501

Balance check ok 2-13-96

Core 119

96-02611

Total Mass	11.957	g	Total Mass	11.771	g
Tare	5.642	g	Tare	5.746	g
Sample Mass		g	Sample Mass		g
Volume	4.7	ml	Volume	4.5	ml

96-02613

Total Mass	11.202	g	Total Mass	11.423	g
Tare	5.699	g	Tare	5.723	g
Sample Mass		g	Sample Mass		g
Volume	4.4	ml	Volume	4.3	ml

96-02615

Total Mass	11.506	g	Total Mass	11.266	g
Tare	5.742	g	Tare	5.709	g
Sample Mass		g	Sample Mass		g
Volume	4.5	ml	Volume	4.3	ml

96-02619

Total Mass	19.646	g	Total Mass	20.239	g
Tare	15.376	g	Tare	15.376	g
Sample Mass		g	Sample Mass		g
Volume	4.4	ml	Volume	4.7	ml

2-13-96

Balance check ok

February 27, 1996
PR Bredt

Reference Test Instruction: T196-PM-09
Data Sheet: BX118-DEN

DENSITY OF SEMI SEGMENTS

__1. Measure the density of sample 96-03365 in duplicate according to technical procedure PNL-20-501. Record the density data below.

Core 118 Segment 1

96-03365

Total Mass	11.074	g
Tare	5.591	g
Sample Mass		g
Volume	4.2	ml

96-03365 dup

Total Mass	11.110	g
Tare	5.537	g
Sample Mass		g
Volume	4.4	ml

Signature _____ Date _____ LRB _____ Page _____

C-SD-WM-DP-170, REV. 1

SINGLE SHELL TANK

WASTE CHARACTERIZATION PROJECT

APPENDIX C

INORGANIC

TANK BX-112 CORES 118 & 119

March 1996

Pacific Northwest National Laboratory

C1 NTRODUCTION

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Introduction to Inorganic Primary Data Package

This section of the X 112 Cores 118 and 119 Primary Data Package contains primary or "raw" a a collected during preparation and analysis of inorganic samples. All an l ical information is tracked by the laboratory sample number. Assessment o the primary analytical data will require in-depth knowledge of the met o logy.

C2 - ICP ANALYSIS

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DATE TO QC: 03/13/96

DATA (UALITY REVIEW

I have reviewed the following dat for completeness and for compliance with project requirements.

Analyte - Fusion

Data Package/Report - BX-112

Project No. - 22762

ACL Numbers - 96-2605, ~~96-2606~~ 96-2607, 9 -2609, 96-2611, 96-2613, 96-2615

PNL ACL Quality Representative

3/19/96
Date

F ›ject: TWRS
Prc :dure: PNL-AL0-211

File: m020796a
Analyzed: 02/07/96

BX-112 Core 118

		1/2 Segment 1AA			1/2 Segment 2A				
Sam	.og#:	96-02605	96-02605		96-02607	96-02607		96-02605	
S	it#:	118.1AA.F	118.1AA.F		118.2A.F	118.2A.F		Blank	
IC	Dil:	1.00	1.00		1.00	1.00		1.00	
Dil	:ctr:	3962.0	2927.4		2962.1	3164.7		3211.3	

Est. IDL ug/mL	ıalyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Post Spike Recoveries Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	96.9%	
0.060	Al	11,261	11,379	1	12,745	12,628	1	(273)	101.5%	
0.080	As	ND	ND		ND	ND		ND	106.5%	
0.050	B	ND	ND		ND	ND		ND	106.5%	
0.010	Ba	ND	ND		ND	ND		ND	100.8%	
0.005	Be	ND	ND		ND	ND		ND	100.6%	
0.100	Bi	14,085	13,993	1	16,220	15,386	5	ND	98.7%	
0.250	Ca	(2,026)	(2,934)		(1,378)	(6,763)		(1,194)	104.3%	
0.015	Cd	ND	ND		ND	ND		ND	104.3%	
0.100	Ce	ND	ND		ND	ND		ND		101.9%
0.050	Co	ND	ND		ND	ND		ND	107.5%	
0.020	Cr	1,216	1,185	2	1,361	1,326	3	ND	105.1%	
0.050	Cu	ND	ND		ND	ND		ND	102.3%	
0.050	Dy	ND	ND		ND	ND		ND		96.1%
0.100	Eu	ND	ND		ND	ND		ND		96.2%
0.050	Fe	7,411	7,044	5	7,351	7,538	3	ND	105.5%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		99.3%
0.030	Li	(202)	(188)		ND	ND		ND	97.6%	
0.100	Mg	ND	ND		ND	ND		ND	106.7%	
0.050	Mn	(331)	(294)		(259)	(379)		(209)	105.9%	
0.030	Mo	ND	ND		ND	ND		ND	107.7%	
0.250	Na	79,354	78,946	1	86,635	85,146	2	(3,689)	101.7%	
0.100	Nd	ND	ND		ND	ND		ND		100.0%
0.100	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	17,884	17,889	0	21,799	21,473	2	ND	103.5%	
0.100	Pb	ND	ND		ND	ND		ND	111.1%	
0.300	Rh	ND	ND		ND	ND		ND		104.9%
0.100	Ru	ND	ND		ND	ND		ND		101.2%
0.100	Se	ND	ND		ND	ND		ND	108.3%	
0.500	Si	(5,217)	(5,443)		(5,613)	(5,615)		ND	97.4%	
0.015	Sr	(110)	(111)		(110)	(120)		ND	101.7%	
0.500	Te	ND	ND		ND	ND		ND		105.5%
0.025	Ti	ND	ND		ND	ND		ND	102.9%	
0.500	Tl	ND	ND		ND	ND		ND	101.7%	
2.000	U	ND	ND		ND	ND		ND		100.2%
0.015	V	ND	ND		ND	ND		ND	99.8%	
0.500	W	ND	ND		ND	ND		ND		102.0%
0.010	Y	ND	ND		ND	ND		ND		96.0%
0.020	Zn	ND	ND		ND	ND		ND	106.9%	
0.025	Zr	ND	ND		ND	ND		ND	102.6%	

Note: 1) :thod Detecion Limit (MDL) = 10x IDL; "( )" results <MDL but =>IDL.
2) ›ove 5 times MDL, results reportable to 2 1/2 significant digits.
3) ank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) ıe process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) ›ove 5 times the MDL, precision is estimated at +/-10% and accuracy at +/-25%.
6) ID" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) RPD flagged with "*", then RPD >20% and sample & duplicate results >MDL.
8) ›ike recovery "n/a/" = spike concentration <25% of sample concentration.
ıta, including calibration/QC, archived File ICP-325-405-1/96A0068

Analyzed Date: 02/07/96
Project: TWRS
Procedure: L-ALO-211
ICP Data Name: 96A0068
Tank ID: -112 Core 118

File: m020796a
Reported: 03/12/96
Data Page 1 of 2

Segment ID: 1/2 Segment 1AA 1/2 Segment 2A

Sample Log#	Sample 96-02605 18.1AA.F	Duplicate 96-02605 118.1AA.F	Sample 96-02607 118.2A.F	Duplicate 96-02607 118.2A.F	96-02605 Blank	96-02605 P.S. "A"	96-02605 P.S. "B"	96-02605 PS Base
Prep Type	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g	0.1262	0.1708	0.1688	0.1570	0.1557	0.1262	0.1262	0.1262
Makeup Vol-mL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dil: Smpl-mL	1	1	1	1	1	1	1	1
Dil: Vol-mL	5	5	5	5	5	5	5	5
Prep Factor	3962.0	2927.4	2962.1	3184.7	3211.3	3962.0	3962.0	3962.0
Spike ID						9601301901	9601061901	
Spike PreDil'n						2.0	2.0	2.0
ICP Dilution	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dil Fctr	3962.0	2927.4	2962.1	3184.7	3211.3	3962.0	3962.0	3962.0
Run Time	10:52	11:10	11:20	11:23	10:45	10:56	11:03	10:52
(ug/g) Ag	0.5	-9.1	-3.7	-4.1	-6.3	959.6	-11.5	0.5
Al	11260.8	11379.2	12744.5	12627.5	273.0	25728.1	6685.3	11260.8
As	187.2	99.4	110.6	148.0	125.2	5276.1	670.0	187.2
B	121.6	93.3	106.6	150.2	93.0	4221.2	4041.4	121.6
Ba	17.8	14.5	15.8	18.9	4.5	998.6	16.1	17.8
Be	0.9	0.4	0.7	0.6	0.9	199.3	2.0	0.9
Bi	14085.0	13993.1	16220.3	15386.3	143.3	55908.9	7034.0	14085.0
Ca	2026.5	2934.0	1378.3	6762.9	1193.6	52652.9	1092.7	2026.5
Cd	12.2	4.5	4.6	2.0	-2.6	1033.5	13.7	12.2
Ce	285.5	157.7	212.0	194.6	122.3	210.9	4036.3	285.5
Co	61.1	36.7	42.1	48.0	35.1	2129.3	41.0	61.1
Cr	1216.1	1186.3	1361.2	1326.0	35.2	2690.2	596.3	1216.1
Cu	55.7	27.2	37.0	37.3	33.8	2027.3	102.5	55.7
Dy	35.8	19.6	21.2	23.3	18.9	26.1	3806.1	35.8
Eu	12.0	7.7	7.4	8.7	5.8	12.4	3813.3	12.0
Fe	7410.6	7043.7	7351.1	7537.6	88.1	45505.0	3685.0	7410.6
K	757209.7	7317879.4	7477215.2	7961984.0	8120290.4	4980959.2	4780426.7	9757209.7
La	54.7	25.9	33.2	34.7	26.7	47.4	1967.7	54.7
Li	202.0	188.2	31.3	34.1	16.7	3969.3	116.4	202.0
Mg	150.6	79.7	137.2	126.6	59.1	67664.4	-31.6	150.6
Mn	331.3	293.8	259.5	378.6	209.0	1214.5	166.8	331.3
Mo	53.9	40.5	55.5	54.1	27.5	2133.4	55.8	53.9
Na	79353.9	78945.8	86634.6	85145.9	3688.6	113581.3	41855.2	79353.9
Nd	230.7	101.5	107.9	148.3	120.6	176.9	3960.4	230.7
Ni	2700.8	1774.9	1980.1	3155.2	2075.3	3475.8	1427.1	2700.8
P	17884.0	17869.4	21798.7	21473.0	275.2	19194.8	8788.0	17884.0
Pb	273.7	146.2	201.2	188.4	156.0	5504.6	702.3	273.7
Rh	289.5	134.2	181.8	196.2	172.2	218.8	4157.5	289.5
Ru	111.1	55.7	65.1	76.4	62.7	54.8	4009.8	111.1
Se	247.7	165.0	182.0	168.2	138.7	5364.7	306.4	247.7
Si	5216.9	5442.9	5613.1	5615.3	294.5	41191.1	42491.3	5216.9
Sr	109.7	111.3	109.6	119.9	8.0	1062.2	61.1	109.7
Te	220.8	131.7	162.7	192.6	126.2	263.5	4181.2	220.8
Ti	26.6	19.7	22.0	28.8	12.0	2039.3	32.9	26.6
Tl	142.1	49.8	104.6	109.6	58.0	5034.7	117.7	142.1
U	4165.8	2389.7	2761.6	2922.0	1841.7	3057.6	49603.4	4165.8
V	28.9	14.5	18.2	19.1	15.2	1976.0	25.4	28.9
W	134.5	62.7	71.4	57.8	45.4	177.3	4040.3	134.5
Y	11.7	6.4	6.2	7.9	6.5	10.8	1901.6	11.7
Zn	39.4	30.2	30.4	27.0	18.4	2118.4	34.5	39.4
(ug/g) Zr	46.2	33.8	42.5	59.4	15.3	4066.2	24.8	46.2

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m020796a

Analyzed: 02/07/ 5
Project: TWRS
Procedure: PNL-ALO- 11
MT&E: JA ICP 1 73520

BX-112 Core 118

Raw Data
Data Page 2 of 2

Analyst: Danny Sanders Reviewer: MS Thu 3-25-96

Sample ID:		96-026(		96-02605	96-02607	96-02607	96-02605	96-02605	96-02605	96-02605	Post Spikes "A"	Post Spikes "B"
Split ID:		118.1AA		118.1AA.F	118.2A.F	118.2A.F	Blank	P.S. "A"	P.S. "B"	PS Base		
Run Time:		10	2	11:10	11:20	11:23	10:45	10:56	11:03	10:52	ug/mL	ug/mL
(ug/mL)	Ag	0.0(	1	-0.0031	-0.0012	-0.0013	-0.0020	0.2422	-0.0029	0.0001	0.500	
	Al	2.8	2	3.8871	4.3026	3.9650	0.0850	6.4938	1.6874	2.8422	10.000	
	As	0.0	2	0.0340	0.0373	0.0465	0.0390	1.3317	0.1691	0.0472	2.500	
	B	0.0	7	0.0319	0.0360	0.0472	0.0290	1.0654	1.0200	0.0307	2.000	
	Ba	0.0(	5	0.0050	0.0053	0.0059	0.0014	0.2520	0.0041	0.0045	0.500	
	Be	0.0(	2	0.0002	0.0002	0.0002	0.0003	0.0503	0.0005	0.0002	0.100	
	Bi	3.5	1	4.7801	5.4760	4.8313	0.0446	14.1114	1.7754	3.5551	25.000	
	Ca	0.5	5	1.0023	0.4653	2.1235	0.3717	13.2896	0.2758	0.5115	25.000	
	Cd	0.0(	1	0.0015	0.0015	0.0006	-0.0008	0.2609	0.0035	0.0031	0.500	
	Ce	0.0	1	0.0539	0.0716	0.0611	0.0381	0.0532	1.0188	0.0721		2.000
	Co	0.0	4	0.0125	0.0142	0.0151	0.0109	0.5374	0.0104	0.0154	1.000	
	Cr	0.3(	9	0.4052	0.4596	0.4164	0.0110	0.6790	0.1505	0.3069	1.000	
	Cu	0.0	1	0.0093	0.0125	0.0117	0.0105	0.5117	0.0259	0.0141	1.000	
	Dy	0.0(	0	0.0067	0.0072	0.0073	0.0059	0.0066	0.9607	0.0090		2.000
	Eu	0.0(	0	0.0026	0.0025	0.0027	0.0018	0.0031	0.9625	0.0030		2.000
	Fe	1.8	4	2.4061	2.4817	2.3668	0.0274	11.4855	0.9301	1.8704	20.000	
	K	2462.7	7	2499.7876	2524.3079	2500.0630	2528.6584	1257.1941	1206.5797	2462.7197		
	La	0.0	3	0.0089	0.0112	0.0109	0.0083	0.0120	0.4967	0.0138		1.000
	Li	0.0	0	0.0643	0.0106	0.0107	0.0052	1.0018	0.0294	0.0510	2.000	
	Mg	0.0	0	0.0272	0.0463	0.0397	0.0184	17.0785	-0.0080	0.0380	32.000	
	Mn	0.0	5	0.1004	0.0876	0.1189	0.0651	0.3065	0.0421	0.0836	0.500	
	Mo	0.0	5	0.0138	0.0187	0.0170	0.0086	0.5385	0.0141	0.0136	1.000	
	Na	20.0	9	26.9679	29.2478	26.7358	1.1486	28.6679	10.5643	20.0289	36.700	
	Nd	0.0	2	0.0347	0.0364	0.0466	0.0376	0.0446	0.9996	0.0582		2.000
	Ni	0.6	7	0.6063	0.6685	0.9907	0.6462	0.8773	0.3602	0.6817		
	P	4.5	9	6.1042	7.3592	6.7425	0.0857	4.8448	2.2181	4.5139	5.000	
	Pb	0.0(	1	0.0500	0.0679	0.0592	0.0486	1.3894	0.1773	0.0691	2.500	
	Rh	0.0	1	0.0458	0.0614	0.0616	0.0536	0.0552	1.0494	0.0731		2.000
	Ru	0.0	0	0.0190	0.0220	0.0240	0.0195	0.0138	1.0121	0.0280		2.000
	Se	0.0(	5	0.0564	0.0614	0.0528	0.0432	1.3540	0.0773	0.0625	2.500	
	Si	1.3	7	1.8593	1.8950	1.7632	0.0917	10.3966	10.7248	1.3167	20.000	
	Sr	0.0	7	0.0380	0.0370	0.0376	0.0025	0.2681	0.0154	0.0277	0.500	
	Te	0.0	7	0.0450	0.0549	0.0605	0.0393	0.0665	1.0553	0.0557		2.000
	Ti	0.0(	7	0.0067	0.0074	0.0091	0.0037	0.5147	0.0083	0.0067	1.000	
	Tl	0.0	9	0.0170	0.0353	0.0344	0.0181	1.2708	0.0297	0.0359	2.500	
	U	1.0	4	0.8163	0.9323	0.9175	0.5735	0.7717	12.5199	1.0514		25.000
	V	0.0(	3	0.0049	0.0061	0.0060	0.0047	0.4988	0.0064	0.0073	1.000	
	W	0.0	0	0.0214	0.0241	0.0182	0.0142	0.0447	1.0198	0.0340		2.000
	Y	0.0(	0	0.0022	0.0021	0.0025	0.0020	0.0027	0.4800	0.0030		1.000
	Zn	0.0	0	0.0103	0.0103	0.0085	0.0057	0.5347	0.0087	0.0100	1.000	
(ug/mL)	Zr	0.0	7	0.0116	0.0144	0.0187	0.0048	1.0263	0.0063	0.0117	2.000	

Sample ID: BX112 118.2A

"HOMOGENIZATION TEST" Worksheet

By: [illegible]

Date: 3/29/96

"t" test to determine the significance between two sample means (Tm and Bm)
where Tm is the mean of the duplicates for the top samples
and Bm is the mean of the duplicates of the bottoms samples.

For two pair, n=2 with degrees of freedom being 1, the following apply
Dave = Tm-Bm = ((T1+T2)/2) - (B1+B2)/2)
Di >> D1 = T1 - B1 D2 = T2 - B2

%D = ((Max - Min)/Avg

Test Failure If: Probability >90% "t" >6.314

Target 80% of RPD to be <10% ↓↓↓↓↓ Pass? Yes

El	%D	T1 Top Sample (ug/g)	T2 Top Dupl. (ug/g)	B1 Bottom Sample (ug/g)	B2 Bottom Dupl. (ug/g)	T1T2 Average	B1B2 Average	"t"		T1T2	B1B2	T1B1	T1B2	T2B1	T2B2	Info Only <RSD> All
										<Relative % Difference>						
137	2%	55	54	54	54	54	54	1.33	60%	2	1	1	2	1	0	1
Al	8%	12700	12600	13200	13600	12650	13400	3.00	80%	1	3	4	7	5	8	4
Bi	5%	16200	15400	15500	15500	15800	15500	0.75	50%	5	0	4	4	1	1	2
Cr	9%	1360	1330	1240	1240	1345	1240	7.00	fail	2	0	9	9	7	7	5
Fe	12%	7350	7540	6710	6770	7445	6740	10.85	fail	3	1	9	8	12	11	6
Na	7%	86600	85100	80800	81800	85850	81300	3.64	90%	2	1	7	6	5	4	3
P	5%	21800	21500	20700	20900	21650	20800	3.40	90%	1	1	5	4	4	3	2
Sum	7%	20866	20503	19743	19981	20685	19862			2	1	6	6	5	5	3

P oject: TWRS
Pro edure: PNL-ALO-211

File: m020796b
Analyzed: 02/07/96

BX-112 Core 118
118.3A.F Batched with 118.1AA.F and 118.2A.F

1/2 Segment 3A

San Log#:	96-02609	96-02609
S it#:	118.3A.F	118.3A.F
I(Dil:	1.00	1.00
Dil Fctr:	4424.8	3101.7

Est. IDL ug/mL	alyte	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND	
0.060	Al	12,540	12,479	0
0.080	As	ND	ND	
0.050	B	ND	ND	
0.010	Ba	ND	ND	
0.005	Be	ND	ND	
0.100	Bi	21,488	21,213	1
0.250	Ca	(1,345)	(1,745)	
0.015	Cd	ND	ND	
0.100	Ce	ND	ND	
0.050	Co	ND	ND	
0.020	Cr	1,762	1,750	1
0.050	Cu	ND	ND	
0.050	Dy	ND	ND	
0.100	Eu	ND	ND	
0.050	Fe	10,078	10,393	3
2.000	K	n/a	n/a	
0.050	La	ND	ND	
0.030	Li	ND	ND	
0.100	Mg	ND	ND	
0.050	Mn	(439)	(354)	
0.030	Mo	ND	ND	
0.250	Na	91,543	88,718	3
0.100	Nd	ND	ND	
0.100	Ni	n/a	n/a	
0.250	P	20,469	20,446	0
0.100	Pb	ND	ND	
0.300	Rh	ND	ND	
0.100	Ru	ND	ND	
0.100	Se	ND	ND	
0.500	Si	(6,814)	(6,904)	
0.015	Sr	(150)	(149)	
0.500	Te	ND	ND	
0.025	Ti	ND	ND	
0.500	Tl	ND	ND	
2.000	U	ND	ND	
0.015	V	ND	ND	
0.500	W	ND	ND	
0.010	Y	ND	ND	
0.020	Zn	(139)	(136)	
0.025	Zr	ND	ND	

Note: 1) timated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) ove 5 times EQL, results reportable to 2 1/2 significant digits.
3) ank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) e process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) ove 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) D" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

ta, including calibration/QC, archived File ICP-325-405-1/96A0068

File: m020796b
Reported: 03/12/96
Data Page 1 of 2

Analyzed Date: 02/07/96
Project: TWRS
Procedure: WL-ALO-211
ICP Data Name: 96A0068
Tank ID: C-112 Core 118

Segment ID: 1/2 Segment 3A

	Sample	Duplicate
Sample Log#	96-02609 118.3A.F	96-02609 118.3A.F
Prep Type	Fusion	Fusion
Sample Wt-g	0.1130	0.1612
Makeup Vol-mL	100.0	100.0
Dil: Smpl-mL	1	1
Dil: Vol-mL	5	5
Prep Factor	4424.8	3101.7
Spike ID		
Spike PreDil'n		
ICP Dilution	1.00	1.00
Dil Fctr	4424.8	3101.7
Run Time	11:27	11:30
(ug/g) Ag	-6.5	4.7
Al	12540.5	12478.7
As	204.0	166.9
B	88.7	68.9
Ba	14.9	16.7
Be	1.0	0.7
Bi	21487.6	21213.3
Ca	1344.7	1745.2
Cd	-9.2	2.0
Ce	265.5	303.2
Co	67.3	55.9
Cr	1761.7	1749.7
Cu	43.1	37.4
Dy	30.7	32.7
Eu	10.4	11.0
Fe	10078.5	10393.5
K	7071936.1	7621310.8
La	48.7	48.0
Li	52.4	59.4
Mg	101.9	129.9
Mn	439.3	353.8
Mo	63.8	57.4
Na	91543.0	88718.1
Nd	182.7	187.0
Ni	4284.4	2666.6
P	20468.9	20446.5
Pb	283.7	239.5
Rh	253.1	257.9
Ru	108.6	98.7
Se	302.3	261.9
Si	6813.8	6904.0
Sr	150.2	148.8
Te	223.2	226.8
Ti	27.8	29.4
Tl	168.3	124.3
U	3627.6	3759.3
V	25.0	24.9
W	146.3	106.5
Y	9.7	9.8
Zn	138.9	135.7
(ug/g) Zr	46.9	45.9

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m020796b

Analyzed: 02/07 6
Project: TWRS
Procedure: PNL-ALO 11
MT&E: JA ICP 73520

BX-112 Core 118

Raw Data
Data Page 2 of 2

Analyst: Denny [illegible]

Reviewer: MW [illegible] 3-25-96

					Post Spikes "A" ug/mL	Post Spikes "B" ug/mL
Sample ID:		96-026		96-02609		
Split ID:		118.3A.		118.3A.F		
Run Time:		11	7	11:30		
(ug/mL)	Ag	-0.0	5	0.0015	0.500	
	Al	2.8	2	4.0231	10.000	
	As	0.0	1	0.0538	2.500	
	B	0.0	1	0.0222	2.000	
	Ba	0.0	4	0.0054	0.500	
	Be	0.0	2	0.0002	0.100	
	Bi	4.8	2	6.8392	25.000	
	Ca	0.3	9	0.5626	25.000	
	Cd	-0.0	1	0.0007	0.500	
	Ce	0.0	0	0.0978		2.000
	Co	0.0	2	0.0180	1.000	
	Cr	0.3	1	0.5641	1.000	
	Cu	0.0	7	0.0121	1.000	
	Dy	0.0	9	0.0106		2.000
	Eu	0.0	3	0.0036		2.000
	Fe	2.2	7	3.3508	20.000	
	K	2502.2	6	2457.1106		
	La	0.0	0	0.0155		1.000
	Li	0.0	9	0.0192	2.000	
	Mg	0.0	0	0.0419	32.000	
	Mn	0.0	3	0.1141	0.500	
	Mo	0.0	4	0.0185	1.000	
	Na	20.6	7	28.6027	36.700	
	Nd	0.0	3	0.0603		2.000
	Ni	0.9	3	0.8597		
	P	4.6	0	6.5919	5.000	
	Pb	0.0	1	0.0772	2.500	
	Rh	0.0	2	0.0832		2.000
	Ru	0.0	5	0.0318		2.000
	Se	0.0	3	0.0845	2.500	
	Si	1.5	9	2.2259	20.000	
	Sr	0.0	0	0.0480	0.500	
	Te	0.0	4	0.0731		2.000
	Ti	0.0	3	0.0095	1.000	
	Tl	0.0	0	0.0401	2.500	
	U	0.8	8	1.2120		25.000
	V	0.0	6	0.0080	1.000	
	W	0.0	1	0.0343		2.000
	Y	0.0	2	0.0032		1.000
	Zn	0.0	4	0.0437	1.000	
(ug/mL)	Zr	0.0	6	0.0148	2.000	

F)ject: TWRS
Prc :dure: PNL-ALO-211

File: m020796c
Analyzed: 02/07/96

BX-112 Core 119

	1/2 Segment 1A			1/2 Segment 2A					
San .og#:	96-02611	96-02611		96-02613	96-02613		96-02611		
S iit#:	119.1A.F	119.1A.F		119.2A.F	119.2A.F		Blank		
IC Dil:	1.00	1.00		1.00	1.00		1.00		
Dil Fctr:	2711.5	2881.8		3238.3	3551.1		3062.3		
								Post Spike Recoveries	
Est. IDL ug/mL	ıalyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	98.4%	
0.060	Al	15,376	14,573	5	11,599	11,627	0	(386)	106.6%	
0.080	As	ND	ND		ND	ND		ND	109.4%	
0.050	B	ND	ND		ND	ND		ND	110.0%	
0.010	Ba	ND	ND		ND	ND		ND	104.9%	
0.005	Be	ND	ND		ND	ND		ND	104.1%	
0.100	Bi	18,907	18,581	2	17,021	16,836	1	ND	102.1%	
0.250	Ca	(2,520)	(2,730)		9,724	(3,338)		(2,975)	107.7%	
0.015	Cd	ND	ND		ND	ND		ND	106.2%	
0.100	Ce	ND	(300)		(333)	ND		ND		102.7%
0.050	Co	ND	ND		ND	ND		ND	111.1%	
0.020	Cr	1,280	1,214	5	1,214	1,197	1	ND	109.8%	
0.050	Cu	ND	ND		ND	ND		ND	104.9%	
0.050	Dy	ND	ND		ND	ND		ND		94.4%
0.100	Eu	ND	ND		ND	ND		ND		94.4%
0.050	Fe	10,584	9,772	8	9,822	9,043	8	ND	109.6%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		96.4%
0.030	Li	ND	ND		ND	ND		ND	100.3%	
0.100	Mg	(293)	(335)		(418)	(381)		ND	109.8%	
0.050	Mn	(359)	(365)		(394)	(344)		(303)	109.9%	
0.030	Mo	ND	ND		ND	ND		ND	111.8%	
0.250	Na	81,835	76,981	6	79,390	78,868	1	(3,715)	108.3%	
0.100	Nd	ND	ND		ND	ND		ND		97.7%
0.100	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	20,043	18,731	7	17,259	17,060	1	ND	109.7%	
0.100	Pb	ND	ND		ND	ND		ND	113.5%	
0.300	Rh	ND	ND		ND	ND		ND		106.5%
0.100	Ru	ND	ND		ND	ND		ND		100.0%
0.100	Se	ND	ND		ND	ND		ND	113.0%	
0.500	Si	(6,988)	(7,076)		(6,785)	(6,381)		ND	100.6%	
0.015	Sr	(141)	(134)		(146)	(131)		ND	106.2%	
0.500	Te	ND	ND		ND	ND		ND		105.0%
0.025	Ti	ND	ND		ND	ND		ND	106.8%	
0.500	Tl	ND	ND		ND	ND		ND	106.9%	
2.000	U	ND	ND		ND	ND		ND		99.4%
0.015	V	ND	ND		ND	ND		ND	102.6%	
0.500	W	ND	ND		ND	ND		ND		101.0%
0.010	Y	ND	ND		ND	ND		ND		96.4%
0.020	Zn	ND	ND		ND	ND		ND	111.7%	
0.025	Zr	ND	ND		ND	ND		ND	107.1%	

Note:
1) ;timated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2))ove 5 times EQL, results reportable to 2 1/2 significant digits.
3) .ank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) ıe process "blank" has not been subtracted from the "Sample & Duplicate" results.
5))ove 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) ID" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) ' RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.
8))ike recovery "n/a/" = spike concentration <25% of sample concentration.
ıta, including calibration/QC, archived File ICP-325-405-1/96A0068

Analyzed Date: 02/07/96
Project: TWRS
Procedure: ¥L-ALO-211
ICP Data Name: 96A0068
Tank ID: (-112 Core 119

File: m020796c
Reported: 03/12/96
Data Page 1 of 2

Segment ID: 1/2 Segment 1A 1/2 Segment 2A

		Sample	Duplicate	Sample	Duplicate				
Sample Log#		96-02611	96-02611	96-02613	96-02613	96-02611	96-02611	96-02611	96-02611
		119.1A.F	119.1A.F	119.2A.F	119.2A.F	Blank	P.S. "A"	P.S. "B"	PS Base
Prep Type		Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g		0.1844	0.1735	0.1544	0.1408	0.1633	0.1262	0.1262	0.1262
Makeup Vol-mL		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dil: Smpl-mL		1	1	1	1	1	1	1	1
Dil: Vol-mL		5	5	5	5	5	5	5	5
Prep Factor		2711.5	2881.8	3238.3	3551.1	3062.3	3962.0	3962.0	3962.0
Spike ID							9601301901	9601061901	
Spike PreDil'n							2.0	2.0	2.0
ICP Dilution		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dil Fctr		2711.5	2881.8	3238.3	3551.1	3062.3	3962.0	3962.0	3962.0
Run Time		11:47	14:22	11:25	11:29	11:39	11:50	14:15	11:47
(ug/g)	Ag	4.6	35.0	36.7	38.2	2.3	974.2	29.8	6.8
	Al	15375.5	14573.1	11599.1	11627.3	385.9	32342.8	11936.0	22466.3
	As	169.2	159.6	156.4	174.5	134.4	5417.0	767.8	247.3
	B	81.8	125.4	123.1	97.0	96.8	4359.1	3982.2	119.5
	Ba	21.9	24.4	26.3	24.6	9.9	1039.3	23.4	32.1
	Be	0.6	0.9	0.8	0.8	0.6	206.2	2.1	0.9
	Bi	18906.7	18580.7	17021.3	16836.2	173.9	64386.3	13569.0	27626.0
	Ca	2520.2	2730.5	9723.5	3338.2	2974.8	55186.9	1810.9	3682.5
	Cd	-0.2	9.7	15.9	19.7	-0.6	1051.5	22.1	-0.3
	Ce	228.8	299.7	332.9	316.5	181.7	134.0	4068.9	334.4
	Co	47.1	49.6	51.4	60.8	43.1	2201.6	38.4	68.9
	Cr	1280.3	1213.9	1213.9	1197.4	31.1	3110.7	890.7	1870.7
	Cu	35.4	50.5	57.5	50.1	34.3	2078.1	100.2	51.7
	Dy	29.5	39.0	40.6	39.6	29.2	15.5	3740.6	43.1
	Eu	9.7	15.7	14.3	14.4	9.2	9.0	3738.8	14.1
	Fe	10584.4	9772.2	9821.5	9042.6	128.4	51167.6	7222.2	15465.6
	K	6470472.6	6575222.0	7483497.6	8124557.8	7555699.6	4973634.4	4573847.9	9454478.2
	La	39.9	66.7	67.8	73.2	45.4	26.0	1909.7	58.3
	Li	19.8	38.4	65.7	65.9	23.9	3974.4	39.5	28.9
	Mg	292.6	334.6	418.0	380.6	235.8	69791.4	90.9	427.6
	Mn	359.3	365.5	393.6	344.1	302.5	1350.8	253.1	525.0
	Mo	51.4	50.9	51.8	53.4	25.0	2214.3	50.0	75.1
	Na	81835.4	76980.6	79390.5	78867.5	3714.9	138556.6	59481.5	119575.7
	Nd	160.8	235.3	252.2	248.8	181.7	95.1	3872.1	235.0
	Ni	1352.4	802.0	422.2	1583.1	1145.3	3203.8	910.2	1976.1
	P	20043.2	18730.6	17259.1	17060.5	338.1	25509.7	13487.6	29286.6
	Pb	230.2	262.7	242.3	255.9	187.4	5618.7	665.3	336.3
	Rh	227.5	322.3	350.6	345.5	239.9	126.1	4220.5	332.5
	Ru	85.7	106.7	120.9	124.3	93.1	52.2	3962.3	125.3
	Se	235.8	204.4	252.3	298.0	192.9	5594.3	337.0	344.5
	Si	6988.1	7076.1	6784.9	6380.8	691.4	44961.1	45182.2	10210.8
	Sr	140.9	133.7	146.0	131.1	13.2	1154.8	103.3	205.9
	Te	194.8	229.6	244.5	210.2	160.8	242.8	4160.1	284.6
	Ti	27.1	30.9	34.7	29.0	19.3	2115.6	35.3	39.7
	Tl	108.7	79.2	132.9	108.9	125.1	5292.7	110.2	158.8
	U	3569.6	4573.7	4719.8	4771.6	2640.3	2146.5	49243.1	5215.8
	V	23.9	31.0	32.2	29.5	22.0	2033.2	29.0	34.9
	W	99.5	112.4	91.8	101.3	85.5	135.3	4000.0	145.4
	Y	8.2	13.6	14.0	14.0	9.0	7.3	1910.1	11.9
	Zn	44.4	37.5	38.9	35.7	10.9	2212.3	39.7	64.8
(ug/g)	Zr	56.0	50.4	60.1	40.9	23.8	4241.6	-0.6	81.9

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m020796c

Analyzed: 02/07/ 6
Project: TWRS
Procedure: PNL-ALO 11
MT&E: JA ICP 73520

BX-112 Core 119

Raw Data
Data Page 2 of 2

Analyst: Danny Anderson 3/25/96

Reviewer: MW Thu 3-25-96

Sample ID:		96-026		96-02611	96-02613	96-02613	96-02611	96-02611	96-02611	96-02611	Post Spikes	
Split ID:		119.1A.		119.1A.F	119.2A.F	119.2A.F	Blank	P.S. "A"	P.S. "B"	PS Base	"A" ug/mL	"B" ug/mL
Run Time:		11	7	14:22	11:25	11:29	11:39	11:50	14:15	11:47		
(ug/mL)	Ag	0.0	7	0.0122	0.0113	0.0108	0.0008	0.2459	0.0075	0.0017	0.500	
	Al	5.6	5	5.0569	3.5818	3.2742	0.1260	8.1633	3.0126	5.6705	10.000	
	As	0.0	4	0.0554	0.0483	0.0491	0.0439	1.3672	0.1938	0.0624	2.500	
	B	0.0	2	0.0435	0.0380	0.0273	0.0316	1.1002	1.0051	0.0302	2.000	
	Ba	0.0	1	0.0085	0.0081	0.0069	0.0032	0.2623	0.0059	0.0081	0.500	
	Be	0.0	2	0.0003	0.0003	0.0002	0.0002	0.0520	0.0005	0.0002	0.100	
	Bi	6.9	8	6.4475	5.2562	4.7411	0.0568	16.2511	3.4248	6.9728	25.000	
	Ca	0.9	5	0.9475	3.0026	0.9400	0.9714	13.9292	0.4571	0.9295	25.000	
	Cd	-0.0	1	0.0034	0.0049	0.0056	-0.0002	0.2654	0.0056	-0.0001	0.500	
	Ce	0.0	4	0.1040	0.1028	0.0891	0.0593	0.0338	1.0270	0.0844		2.000
	Co	0.0	4	0.0172	0.0159	0.0171	0.0141	0.5557	0.0097	0.0174	1.000	
	Cr	0.4	2	0.4212	0.3749	0.3372	0.0102	0.7851	0.2248	0.4722	1.000	
	Cu	0.0	0	0.0175	0.0178	0.0141	0.0112	0.5245	0.0253	0.0130	1.000	
	Dy	0.0	9	0.0136	0.0125	0.0112	0.0095	0.0039	0.9441	0.0109		2.000
	Eu	0.0	6	0.0054	0.0044	0.0041	0.0030	0.0023	0.9437	0.0036		2.000
	Fe	3.9	5	3.3910	3.0329	2.5464	0.0419	12.9147	1.8229	3.9035	20.000	
	K	2386.3	3	2281.6020	2310.9041	2287.8755	2467.3137	1255.3453	1154.4392	2386.3103		
	La	0.0	7	0.0231	0.0209	0.0206	0.0148	0.0066	0.4820	0.0147		1.000
	Li	0.0	3	0.0133	0.0203	0.0186	0.0078	1.0031	0.0100	0.0073	2.000	
	Mg	0.1	9	0.1161	0.1291	0.1072	0.0770	17.6153	0.0229	0.1079	32.000	
	Mn	0.1	5	0.1268	0.1216	0.0969	0.0988	0.3409	0.0639	0.1325	0.500	
	Mo	0.0	0	0.0177	0.0160	0.0150	0.0082	0.5589	0.0126	0.0190	1.000	
	Na	30.1	9	26.7123	24.5158	22.2091	1.2131	34.9717	15.0131	30.1809	36.700	
	Nd	0.0	3	0.0817	0.0779	0.0701	0.0593	0.0240	0.9773	0.0593		2.000
	Ni	0.4	8	0.2783	0.1304	0.4458	0.3740	0.8086	0.2297	0.4988		
	P	7.3	9	6.4995	5.3296	4.8042	0.1104	6.4386	3.4043	7.3919	5.000	
	Pb	0.0	9	0.0912	0.0748	0.0721	0.0612	1.4182	0.1679	0.0849	2.500	
	Rh	0.0	9	0.1118	0.1083	0.0973	0.0783	0.0318	1.0653	0.0839		2.000
	Ru	0.0	6	0.0370	0.0373	0.0350	0.0304	0.0132	1.0001	0.0316		2.000
	Se	0.0	0	0.0709	0.0779	0.0839	0.0630	1.4120	0.0851	0.0870	2.500	
	Si	2.5	2	2.4554	2.0952	1.7968	0.2258	11.3482	11.4040	2.5772	20.000	
	Sr	0.0	0	0.0464	0.0451	0.0369	0.0043	0.2915	0.0261	0.0520	0.500	
	Te	0.0	8	0.0797	0.0755	0.0592	0.0525	0.0613	1.0500	0.0718		2.000
	Ti	0.0	0	0.0107	0.0107	0.0082	0.0063	0.5340	0.0089	0.0100	1.000	
	Tl	0.0	1	0.0275	0.0411	0.0307	0.0409	1.3359	0.0278	0.0401	2.500	
	U	1.3	5	1.5871	1.4575	1.3437	0.8622	0.5418	12.4290	1.3165		25.000
	V	0.0	8	0.0108	0.0099	0.0083	0.0072	0.5132	0.0073	0.0088	1.000	
	W	0.0	7	0.0390	0.0284	0.0285	0.0279	0.0342	1.0096	0.0367		2.000
	Y	0.0	0	0.0047	0.0043	0.0040	0.0030	0.0019	0.4821	0.0030		1.000
	Zn	0.0	4	0.0130	0.0120	0.0101	0.0036	0.5584	0.0100	0.0164	1.000	
(ug/mL)	Zr	0.0	7	0.0175	0.0186	0.0115	0.0078	1.0706	-0.0002	0.0207	2.000	

F ɔject: TWRS
Prc ɛdure: PNL-ALO-211

File: m020796d
Analyzed: 02/07/96

BX-112 Core 119
119.3A.F Batched with 119.1A.F and 119.2A.F

1/2 Segment 3A

Sar Log#:	96-02615	96-02615
S lit#:	119.3A.F	119.3A.F
I(Dil:	1.00	1.00
Di' Fctr:	3306.9	3111.4

Est. IDL ug/mL	nalyte	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND	
0.050	Al	11,150	10,569	5
0.080	As	ND	ND	
0.050	B	ND	ND	
0.010	Ba	ND	ND	
0.005	Be	ND	ND	
0.100	Bi	16,268	15,602	4
0.250	Ca	(4,103)	(5,979)	
0.015	Cd	ND	ND	
0.100	Ce	ND	ND	
0.050	Co	ND	ND	
0.020	Cr	1,320	1,265	4
0.050	Cu	ND	ND	
0.050	Dy	ND	ND	
0.100	Eu	ND	ND	
0.050	Fe	8,384	8,030	4
2.000	K	n/a	n/a	
0.050	La	ND	ND	
0.030	Li	ND	ND	
0.100	Mg	(351)	(343)	
0.050	Mn	(298)	(401)	
0.030	Mo	ND	ND	
0.250	Na	76,994	77,010	0
0.100	Nd	ND	ND	
0.100	Ni	n/a	n/a	
0.250	P	18,413	17,755	4
0.100	Pb	ND	ND	
0.300	Rh	ND	ND	
0.100	Ru	ND	ND	
0.100	Se	ND	ND	
[illegible]	[illegible]	[illegible]	[illegible]	
0.015	Sr	(130)	(129)	
0.500	Te	ND	ND	
0.025	Ti	ND	ND	
0.500	Tl	ND	ND	
2.000	U	ND	ND	
0.015	V	ND	ND	
0.500	W	ND	ND	
0.010	Y	ND	ND	
0.020	Zn	(80)	(79)	
0.025	Zr	ND	ND	

Note: 1) stimated Quantitation Limit (EQL) = 10x IDL; "( )" results <EQL but =>IDL.
2) bove 5 times EQL, results reportable to 2 1/2 significant digits.
3) lank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) he process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) bove 5 times the EQL, precision is estimated at better than +/-20% and accuracy +/-25%.
6) ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) f RPD flagged with "*", then RPD >20% and sample & duplicate results >EQL.

ata, including calibration/QC, archived File ICP-325-405-1/96A0068

Analyzed Date: 02/07/96
Project: TWRS
Procedure: VL-ALO-211
ICP Data Name: 96A0068
Tank ID: C-112 Core 119

File: m020796d
Reported: 03/12/96
Data Page 1 of 2

Segment ID: 1/2 Segment 3A

		Sample	Duplicate
Sample Log#		96-02615	96-02615
		119.3A.F	119.3A.F
Prep Type		Fusion	Fusion
Sample Wt-g		0.1512	0.1607
Makeup Vol-mL		100.0	100.0
Dil: Smpl-mL		1	1
Dil: Vol-mL		5	5
Prep Factor		3306.9	3111.4
Spike ID			
Spike PreDil'n			
ICP Dilution		1.00	1.00
Dil Fctr		3306.9	3111.4
Run Time		14:35	14:39
(ug/g)	Ag	37.3	30.1
	Al	11149.8	10568.7
	As	153.2	168.5
	B	91.4	136.1
	Ba	21.6	20.3
	Be	0.8	0.7
	Bi	16267.7	15602.4
	Ca	4103.3	5979.5
	Cd	12.1	20.4
	Ce	314.7	264.1
	Co	[illegible]	[illegible]
	Cr	1320.4	1265.5
	Cu	52.3	44.9
	Dy	37.6	33.3
	Eu	13.6	11.8
	Fe	8383.6	8030.4
	K	7662208.2	7259643.8
	La	61.2	54.4
	Li	89.1	80.9
	Mg	351.0	343.1
	Mn	298.0	401.3
	Mo	55.3	54.0
	Na	76994.1	77010.1
	Nd	234.2	203.8
	Ni	2007.3	973.3
	P	18412.8	17764.6
	Pb	255.1	211.0
	Rh	331.5	278.1
	Ru	110.9	97.4
	Se	253.6	189.5
	Si	6093.8	6114.6
	Sr	129.9	128.9
	Te	219.2	192.3
	Ti	25.2	28.3
	Tl	123.9	112.9
	U	4723.6	4198.0
	V	30.0	25.9
	W	88.3	50.3
	Y	12.9	10.9
	Zn	79.8	79.3
(ug/g)	Zr	43.5	40.5

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m020796d

Analyzed: 02/07 6 BX-112 Core 119 Raw Data
Project: TWRS Data Page 2 of 2
Procedure: PNL-ALO 11
MT&E: JA ICP 73520

Analyst: [signature] 3/25/96 Reviewer: [signature] 3-25-96

					Post Spikes "A" ug/mL	Post Spikes "B" ug/mL
Sample ID:		96-026		96-02615		
Split ID:		119.3A.		119.3A.F		
Run Time:		14	5	14:39		
(ug/mL)	Ag	0.0	3	0.0097	0.500	
	Al	3.3	7	3.3968	10.000	
	As	0.0	3	0.0542	2.500	
	B	0.0	6	0.0438	2.000	
	Ba	0.0	5	0.0065	0.500	
	Be	0.0	2	0.0002	0.100	
	Bi	4.9	3	5.0146	25.000	
	Ca	1.2	8	1.9218	25.000	
	Cd	0.0	7	0.0066	0.500	
	Ce	0.0	2	0.0849		2.000
	Co	0.0	8	0.0153	1.000	
	Cr	0.3	3	0.4067	1.000	
	Cu	0.0	8	0.0144	1.000	
	Dy	0.0	4	0.0107		2.000
	Eu	0.0	1	0.0038		2.000
	Fe	2.5	2	2.5810	20.000	
	K	2317.0	8	2333.2495		
	La	0.0	5	0.0175		1.000
	Li	0.0	0	0.0260	2.000	
	Mg	0.1	1	0.1103	32.000	
	Mn	0.0	1	[illegible]	0.500	
	Mo	0.0	7	0.0173	1.000	
	Na	23.2	0	24.7511	36.700	
	Nd	0.0	8	0.0655		2.000
	Ni	0.6	0	0.3128		
	P	5.5	0	5.7095	5.000	
	Pb	0.0	1	0.0678	2.500	
	Rh	0.1	3	0.0894		2.000
	Ru	0.0	5	0.0313		2.000
	Se	0.0	7	0.0609	2.500	
	Si	1.8	8	1.9652	20.000	
	Sr	0.0	3	0.0414	0.500	
	Te	0.0	3	0.0618		2.000
	Ti	0.0	6	0.0091	1.000	
	Tl	0.0	5	0.0363	2.500	
	U	1.4	4	1.3493		25.000
	V	0.0	1	0.0083	1.000	
	W	0.0	7	0.0162		2.000
	Y	0.0	9	0.0035		1.000
	Zn	0.0	1	0.0255	1.000	
(ug/mL)	Zr	0.0	2	0.0130	2.000	

Sample ID: BX112 119.3A

"HOMOGENIZATION TEST" Worksheet

By: [illegible]

Date: 3/29/96

"t" test to determine the significance between two sample means (Tm and Bm) where Tm is the mean of the duplicates for the top samples and Bm is the mean of the duplicates of the bottoms samples.

For two pair, n=2 with degrees of freedom being 1, the following apply
Dave = Tm-Bm = ((T1+T2)/2) - (B1+B2)/2)
Di >> D1 = T1 - B1 D2 = T2 - B2

%D = ((Max - Min)/Avg

Test Failure If: Probability >90% "t" >6.314

Target 80% of RPD to be <10% ↓↓↓↓↓ Pass? Yes

El	%D	ug/g T1 Top Sample	T2 Top Dupl.	B1 Bottom Sample	B2 Bottom Dupl.	T1T2 Average	B1B2 Average	"t"		<Relative % Difference> T1T2	B1B2	T1B1	T1B2	T2B1	T2B2	Info Only <RSD> All
137	5%	40	39	38	38	39	38	5.00	90%	2	0	5	5	3	3	2
Al	10%	1120	1060	1100	1170	1090	1135	0.69	50%	6	6	2	4	4	10	4
Bi	6%	16300	15600	15300	15400	15950	15350	1.50	70%	4	1	6	6	2	1	3
Cr	5%	1320	1270	1250	1260	1295	1255	1.33	60%	4	1	5	5	2	1	2
Fe	8%	8380	8030	7750	7730	8205	7740	2.82	80%	4	0	8	8	4	4	4
Na	2%	77000	77000	78200	78800	77000	78500	5.00	90%	0	1	2	2	2	2	1
P	4%	18400	17800	18300	18500	18100	18400	0.75	50%	3	1	1	1	3	4	2
Sum	6%	17509	17257	17420	17557	17383	17488			3	1	4	4	3	4	3

Battelle PNNL/ACL Inorganic Analysis Group ... ICPAES

										QC CCV1 96012	V1 960126H901
										A0068	A0068
										2/7/96	2/7/96
										10:37	15:05
										CONC	CONC
	TRUE	N	Average	Dev	%RSD	Bias	Bias	High	Low	1646	1693
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)
Ag		2	0.000	0.011	-3240					-0.008	0.007
Al	2.000	2	1.972	0.037	2	-0.028	-1.4			1.998	1.947
As	2.000	2	2.012	0.025	1	0.012	0.6			2.030	1.995
B	2.000	2	2.056	0.057	3	0.056	2.8			2.096	2.016
Ba	1.000	2	0.986	0.033	3	-0.014	-1.4			1.009	0.962
Be	1.000	2	1.019	0.005	0	0.019	1.9			1.022	1.015
Bi	2.000	2	1.984	0.007	0	-0.016	-0.8			1.979	1.989
Ca	2.000	2	2.034	0.042	2	0.034	1.7			2.063	2.004
Cd	1.000	2	1.019	0.018	2	0.019	1.9			1.031	1.006
Ce		2	0.006	0.023	396					-0.010	0.022
Co	1.000	2	1.032	0.038	4	0.032	3.2			1.058	1.005
Cr	0.500	2	0.510	0.020	4	0.010	1.9			0.523	0.496
Cu	2.000	2	1.997	0.091	5	-0.003	-0.1			2.062	1.933
Dy		2	0.001	0.003	189					-0.001	0.003
Eu		2	0.001	0.001	168					0.000	0.001
Fe	2.000	2	2.051	0.073	4	0.051	2.6			2.103	1.999
K	5.000	2	4.715	0.427	9	-0.285	-5.7		-	4.413	5.017
La		2	0.001	0.006	482					-0.003	0.006
Li	2.000	2	1.982	0.065	3	-0.018	-0.9			2.028	1.936
Mg	2.000	2	2.119	0.061	3	0.119	5.9			2.162	2.076
Mn	1.000	2	1.038	0.022	2	0.038	3.8			1.054	1.022
Mo	2.000	2	2.003	0.074	4	0.003	0.2			2.055	1.951
Na	8.100	2	8.435	0.198	2	0.335	4.1			8.575	8.296
Nd		2	0.005	0.017	352					-0.007	0.017
Ni	2.000	2	2.106	0.081	4	0.106	5.3			2.163	2.049
P	5.000	2	4.929	0.143	3	-0.071	-1.4			5.030	4.829
Pb	2.000	2	2.063	0.055	3	0.063	3.1			2.101	2.024
Pd		2	0.011	0.055	499					-0.028	0.050
Rh		2	0.003	0.025	936					-0.015	0.021
Ru		2	0.003	0.008	320					-0.003	0.008
Sb		2	0.022	0.017	75					0.010	0.034
Se	2.000	2	2.011	0.021	1	0.011	0.5			2.025	1.996
Si	5.000	2	4.773	0.018	0	-0.227	-4.5			4.760	4.786
Sn		2	0.049	0.023	47					0.033	0.065
Sr	2.000	2	1.991	0.068	3	-0.009	-0.5			2.039	1.943
Te		2	0.028	0.007	27					0.023	0.033
Th		2	0.006	0.004	62					0.004	0.009
Ti		2	0.001	0.001	114					0.000	0.001
Tl	2.000	2	1.972	0.007	0	-0.028	-1.4			1.967	1.977
U		2	0.060	0.294	488					-0.148	0.268
V	1.000	2	0.957	0.005	1	-0.043	-4.3			0.960	0.953
W		2	0.012	0.006	51					0.008	0.016
Y		2	0.000	0.001	236					0.000	0.001
Zn	1.000	2	1.025	0.042	4	0.025	2.5			1.055	0.995
Zr		2	0.000	0.002	-1719					-0.001	0.001
TIME		2	#######	0.000	0					#######	#######

Statistical Summary for 'QC CCV1 960126H901'

(HPS:CCV-1)

Battelle PNNL/AC /Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL Inorganic Analysis Group ... ICPAES

										QC_MCVA 9601	CVA 9601	CVA 9601	CVA 9601
										A0068	A0068	A0068	A0068
										2/7/96	2/7/96	2/7/96	2/7/96
Statistical Summ				ry for 'QC_MCVA 960130l901'						10:16	11:14	12:04	14:09
(QC-MCVA)										CONC	CONC	CONC	CONC
	TRUE	N	Average	Dev	%RSD	Bias	Bias	High	Low	1928	1975	2069	2116
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)	(ug/mL)	(ug/mL)
Ag	0.500	5	0.491	0.003	1	-0.009	-1.9			0.493	0.492	0.493	0.489
Al	10.000	5	9.948	0.245	2	-0.052	-0.5			10.144	10.210	9.999	9.699
As	2.500	5	2.528	0.054	2	0.028	1.1			2.544	2.588	2.564	2.475
B	2.000	5	2.068	0.052	3	0.068	3.4			2.101	2.125	2.089	2.012
Ba	0.500	5	0.495	0.015	3	-0.005	-1.0			0.507	0.510	0.498	0.480
Be	0.100	5	0.098	0.001	1	-0.002	-1.8			0.099	0.100	0.097	0.098
Bi	25.000	5	24.440	0.264	1	-0.560	-2.2			24.622	24.773	24.091	24.375
Ca	25.000	5	25.289	0.604	2	0.289	1.2			25.737	25.919	25.491	24.675
Cd	0.500	5	0.498	0.010	2	-0.002	-0.4			0.508	0.511	0.491	0.490
Ce		5	0.015	0.014	94					0.004	-0.002	0.034	0.024
Co	1.000	5	1.022	0.040	4	0.022	2.2			1.048	1.060	1.044	0.980
Cr	1.000	5	1.019	0.036	4	0.019	1.9			1.046	1.052	1.036	0.983
Cu	1.000	5	0.960	0.037	4	-0.040	-4.0			0.991	0.993	0.975	0.922
Dy		5	0.002	0.002	112					0.000	0.000	0.005	0.003
Eu		5	0.002	0.001	30					0.002	0.002	0.003	0.003
Fe	20.000	5	20.489	0.684	3	0.489	2.4			21.026	21.155	20.749	19.778
K	25.000	5	24.765	0.598	2	-0.235	-0.9			24.607	25.716	24.938	24.261
La		5	0.006	0.004	73					0.002	0.001	0.012	0.007
Li	2.000	5	1.949	0.054	3	-0.051	-2.6			1.996	2.002	1.964	1.895
Mg	31.200	5	32.971	1.041	3	1.771	5.7			33.812	33.983	33.341	31.886
Mn	0.500	5	0.515	0.012	2	0.015	3.0			0.524	0.528	0.518	0.502
Mo	1.000	5	1.021	0.039	4	0.021	2.1			1.047	1.059	1.039	0.979
Na	36.700	5	36.633	1.145	3	-0.067	-0.2			37.369	37.763	37.241	35.401
Nd		5	0.018	0.014	78					0.006	0.004	0.038	0.023
Ni	1.000	5	1.024	0.045	4	0.024	2.4			1.048	1.073	1.048	0.977
P	5.000	5	5.017	0.160	3	0.017	0.3			5.140	5.166	5.091	4.833
Pb	2.500	5	2.561	0.098	4	0.061	2.4			2.627	2.649	2.620	2.465
Pd		5	0.008	0.045	546					-0.030	-0.044	0.067	0.031
Rh		5	0.011	0.020	188					-0.008	-0.009	0.038	0.019
Ru		5	0.001	0.014	1194					-0.017	-0.010	0.008	0.013
Sb	2.500	5	2.773	0.040	1	0.273	10.9	*		2.776	2.836	2.776	2.740
Se	2.500	5	2.555	0.038	1	0.055	2.2			2.569	2.605	2.566	2.516
Si	20.000	5	18.893	0.180	1	-1.107	-5.5			19.032	19.138	18.756	18.777
Sn		5	0.228	0.074	33					0.250	0.220	0.343	0.163
Sr	0.500	5	0.503	0.016	3	0.003	0.6			0.514	0.520	0.509	0.486
Te		5	0.051	0.007	13					0.053	0.055	0.053	0.055
Th		5	0.029	0.004	13					0.027	0.035	0.026	0.025
Ti	1.000	5	0.994	0.034	3	-0.006	-0.6			1.019	1.029	1.008	0.958
Tl	2.500	5	2.473	0.026	1	-0.027	-1.1			2.500	2.481	2.491	2.453
U		5	0.267	0.235	88					0.085	-0.012	0.571	0.395
V	1.000	5	0.974	0.012	1	-0.026	-2.6			0.982	0.989	0.970	0.964
W		5	0.046	0.006	14					0.041	0.042	0.057	0.048
Y		5	0.002	0.001	40					0.001	0.001	0.003	0.002
Zn	1.000	5	1.020	0.037	4	0.020	2.0			1.043	1.052	1.046	0.979
Zr	2.000	5	1.997	0.064	3	-0.003	-0.1			2.041	2.063	2.026	1.927
TIME		5	########	0.000	0					########	########	########	########

Battelle PNNL/AC 'Inorganic Analysis Group ... ICPAES

CVA 9601301901			
A0068			
2/7/96			
14:47			
CONC			
2163			
(ug/mL)			
0.487			
9.689			
2.467			
2.012			
0.479			
0.097			
24.340			
24.621			
0.491			
0.017			
0.978			
0.978			
0.919			
0.002			
0.002			
19.735			
24.300			
0.006			
1.888			
31.834			
0.502			
0.979			
35.392			
0.017			
0.974			
4.855			
2.444			
0.017			
0.013			
0.011			
2.739			
2.519			
18.761			
0.164			
0.487			
0.039			
0.030			
0.957			
2.439			
0.297			
0.962			
0.044			
0.002			
0.979			
1.930			
#########			

Battelle PNNL/AC /Inorganic Analysis Group ... ICPAES

										QC_MCVB 9601	CVB 9602061901
										A0068	A0068
										2/7/96	2/7/96
			Statistical Sum	ary for 'QC_MCVB 960106I901'						10:20	14:50
(QC-MCVB)										CONC	CONC
	TRUE	N	Average	.Dev	%RSD	Bias	Bias	High	Low	2210	2257
	(ug/mL)		(ug/mL)	ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)
Ag		2	-0.005	0.012	-260					-0.013	0.004
Al		2	0.593	0.051	9					0.556	0.629
As		2	0.284	0.039	14					0.256	0.311
B		2	2.002	0.084	4					2.061	1.943
Ba		2	0.003	0.001	24					0.002	0.003
Be		2	0.001	0.000	10					0.001	0.001
Bi		2	0.081	0.003	4					0.084	0.079
Ca		2	0.026	0.003	11					0.028	0.024
Cd		2	0.004	0.004	82					0.002	0.007
Ce	2.000	2	1.954	0.039	2	-0.046	-2.3			1.982	1.926
Co		2	-0.001	0.002	-407					-0.002	0.001
Cr		2	0.005	0.000	5					0.006	0.005
Cu		2	0.034	0.002	6					0.035	0.032
Dy	2.000	2	1.929	0.080	4	-0.071	-3.6			1.985	1.872
Eu	2.000	2	1.942	0.084	4	-0.058	-2.9			2.001	1.883
Fe		2	0.020	0.005	24					0.023	0.017
K		2	-0.700	0.746	-107					-1.227	-0.173
La	1.000	2	0.964	0.043	5	-0.036	-3.6			0.994	0.933
Li		2	0.002	0.003	152					0.000	0.004
Mg		2	-0.105	0.029	-27					-0.125	-0.084
Mn		2	0.001	0.000	24					0.001	0.001
Mo		2	0.010	0.001	8					0.009	0.011
Na		2	1.511	0.012	1					1.519	1.502
Nd	2.000	2	1.919	0.065	3	-0.081	-4.1			1.965	1.873
Ni		2	0.019	0.001	6					0.020	0.018
P		2	0.125	0.003	2					0.123	0.127
Pb		2	0.257	0.013	5					0.266	0.248
Pd	2.000	2	2.346	0.227	10	0.346	17.3	*		2.185	2.507
Rh	2.000	2	2.022	0.003	0	0.022	1.1			2.024	2.020
Ru	2.000	2	1.962	0.055	3	-0.038	-1.9			2.001	1.923
Sb		2	0.129	0.012	9					0.120	0.137
Se		2	0.082	0.009	11					0.076	0.089
Si		2	21.458	0.352	2					21.707	21.209
Sn	2.000	2	1.989	0.233	12	-0.011	-0.5			2.154	1.824
Sr		2	0.003	0.000	1					0.003	0.003
Te	2.000	2	2.015	0.036	2	0.015	0.7			2.040	1.990
Th	6.500	2	6.527	0.493	8	0.027	0.4			6.876	6.179
Ti		2	0.007	0.000	4					0.007	0.007
Tl		2	0.008	0.002	32					0.009	0.006
U	25.000	2	23.908	0.927	4	-1.092	-4.4			24.564	23.253
V		2	0.001	0.003	176					0.000	0.003
W	2.000	2	1.983	0.056	3	-0.017	-0.8			2.023	1.944
Y	1.000	2	0.963	0.024	2	-0.037	-3.7			0.980	0.946
Zn		2	0.004	0.001	24					0.005	0.003
Zr		2	-0.004	0.012	-273					0.004	-0.013
TIME		2	########	0.000	0					########	########

Battelle PNNL/ACL Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL norganic Analysis Group ... ICPAES

Battelle PNNL/ACL Inorganic Analysis Group ... ICPAES

Statistical Summary for 'ICP1.0 960103F100'

(ICP1.0 "Blank")

	TRUE (ug/mL)	N	Average (ug/mL)	Dev (ug/mL)	%RSD (%)	Bias (ug/mL)	Bias (%)	High (>110%)	Low (<90%)	ICP1.0 960103 A0068 2/7/96 10:06 CONC 1082 (ug/mL)	.0 960103 A0068 2/7/96 10:11 CONC 1129 (ug/mL)	.0 960103 A0068 2/7/96 10:43 CONC 1176 (ug/mL)	.0 960103 A0068 2/7/96 11:18 CONC 1223 (ug/mL)
Ag		8	0.002	0.009	496					0.018	0.001	-0.009	-0.011
Al		8	0.012	0.029	233					0.081	0.005	-0.004	-0.010
As		8	0.009	0.015	175					0.042	0.002	-0.005	0.000
B		8	0.003	0.004	145					0.009	0.000	-0.001	-0.001
Ba		8	0.000	0.001	380					0.003	0.000	0.000	-0.001
Be		8	0.000	0.000	142					0.000	0.000	0.000	0.000
Bi		8	0.011	0.017	157					0.046	0.014	0.004	0.005
Ca		8	0.002	0.009	386					0.008	0.000	0.000	0.006
Cd		8	0.000	0.002	518					0.000	0.002	-0.004	0.000
Ce		8	0.013	0.034	265					0.089	0.002	-0.012	-0.023
Co		8	0.002	0.005	249					0.013	0.000	-0.001	-0.001
Cr		8	0.000	0.002	748					0.006	0.000	0.000	0.000
Cu		8	0.003	0.006	223					0.016	-0.001	-0.001	-0.004
Dy		8	0.002	0.005	239					0.013	0.001	-0.002	-0.003
Eu		8	0.001	0.002	241					0.004	0.000	-0.001	-0.001
Fe		8	-0.002	0.005	-274					0.004	-0.004	-0.005	0.000
K		8	0.231	0.976	422					2.287	0.134	-0.496	-1.109
La		8	0.003	0.009	284					0.022	-0.001	-0.003	-0.007
Li		8	0.002	0.004	216					0.012	0.000	-0.001	-0.002
Mg		8	-0.003	0.020	-675					0.035	-0.013	-0.025	-0.015
Mn		8	0.000	0.001	178					0.002	0.000	0.000	0.000
Mo		8	0.002	0.004	214					0.012	0.000	0.001	0.000
Na		8	0.041	0.100	242					0.247	-0.022	-0.041	-0.058
Nd		8	0.012	0.031	254					0.085	0.005	-0.009	-0.019
Ni		8	0.014	0.017	125					0.012	0.003	0.038	0.012
P		8	0.010	0.036	361					0.090	0.002	-0.020	-0.023
Pb		8	0.006	0.028	428					0.074	0.000	-0.011	-0.010
Pd		8	0.031	0.090	286					0.237	0.001	-0.033	-0.059
Rh		8	0.014	0.044	310					0.114	0.002	-0.017	-0.030
Ru		8	0.005	0.016	326					0.043	-0.001	-0.004	-0.009
Sb		8	0.013	0.025	191					0.069	0.004	-0.008	-0.009
Se		8	0.015	0.026	177					0.078	0.000	0.003	0.000
Si		8	0.016	0.028	175					0.072	-0.008	-0.013	0.001
Sn		8	0.043	0.125	287					0.340	0.011	-0.039	-0.061
Sr		8	0.000	0.000	131					0.001	0.000	0.000	0.000
Te		8	0.008	0.029	343					0.076	-0.003	-0.009	-0.018
Th		8	-0.002	0.004	-171					0.000	-0.003	-0.002	0.004
Ti		8	0.001	0.002	272					0.005	0.000	0.000	-0.001
Tl		8	-0.001	0.015	-1432					0.033	-0.013	0.002	-0.008
U		8	0.174	0.485	279					1.269	0.026	-0.166	-0.364
V		8	0.001	0.003	268					0.009	0.000	-0.001	-0.002
W		8	0.006	0.015	251					0.034	0.014	-0.008	-0.010
Y		8	0.001	0.002	285					0.004	0.000	0.000	-0.001
Zn		8	0.000	0.001	-422					0.002	-0.001	0.000	0.000
Zr		8	0.001	0.003	335					0.008	0.000	-0.001	-0.002
TIME		8	#######	0.000	0					#######	#######	#######	#######

Battelle PNNL/ACI 'Inorganic Analysis Group ... ICPAES

.0 960103	.0 960103	.0 960	3	.0 960103
A0068	A0068	A006		A0068
2/7/96	2/7/96	2/7/9		2/7/96
12:08	14:01	14:1		15:09
CONC	CONC	CON		CONC
1270	1317	136		1411
(ug/mL)	*(ug/mL)*	*(ug/m*		*(ug/mL)*
0.000	0.006	0.	3	0.006
-0.008	0.009	0.	4	0.012
-0.002	0.013	0.	5	0.014
-0.001	0.004	0.	6	0.005
0.000	0.000	0.	1	0.000
0.000	0.000	0.	0	0.000
-0.010	-0.003	0.	1	0.012
-0.014	0.001	0.	6	0.000
-0.002	0.000	0.	3	0.004
0.000	0.014	0.	6	0.016
0.000	0.001	0	2	0.002
0.000	0.000	0	0	-0.003
0.001	0.002	0	4	0.005
0.000	0.001	0	2	0.003
0.000	0.000	0	1	0.001
-0.009	-0.004	0	7	-0.005
0.039	0.338	0	79	0.181
0.001	0.003	0	5	0.004
0.000	0.003	0	3	0.002
-0.019	-0.004	0	13	0.005
0.000	0.000	0	01	0.000
-0.001	0.000	0	02	0.002
-0.009	0.098	0	73	0.044
0.003	0.012	0	12	0.012
0.000	-0.001	0	02	0.044
0.007	-0.009	0	17	0.016
0.001	-0.002	0	01	-0.002
0.003	0.027	0	40	0.037
0.000	0.007	0	21	0.015
0.003	0.002	0	02	0.003
0.006	0.006	0	19	0.015
-0.003	0.016	0	08	0.018
-0.001	0.020	0	41	0.019
0.015	0.013	0	46	0.021
0.000	0.000	0	00	0.001
-0.003	0.008	0	07	0.008
-0.004	-0.008	-0	02	-0.001
0.000	0.000	0	01	0.001
-0.011	-0.004	-0	08	0.000
0.054	0.200	0	31	0.141
-0.001	0.000	0	02	0.002
-0.007	0.007	0	06	0.010
0.000	0.000		01	0.001
-0.001	-0.001		00	-0.001
0.000	0.000		01	0.001
########	########	###	###	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										MCVA @2	MCVA @2
										A0068	A0068
										2/7/96	2/7/96
Statistical Summary for 'MCVA @2'										10:59	11:54
(MCVA @2 Post Digestion Spike)										CONC	CONC
	TRUE	N	Average	S.Dev	%RSD	Bias	Bias	High	Low	1458	1505
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)
Ag	0.250	2	0.249	0.001	0	-0.001	-0.5			0.248	0.249
Al	5.000	2	5.261	0.029	1	0.261	5.2			5.240	5.281
As	1.250	2	1.331	0.030	2	0.081	6.5			1.310	1.353
B	1.000	2	1.097	0.004	0	0.097	9.7	+		1.095	1.100
Ba	0.250	2	0.263	0.001	0	0.013	5.3			0.262	0.264
Be	0.050	2	0.052	0.000	1	0.002	3.1			0.051	0.052
Bi	12.500	2	12.762	0.063	0	0.262	2.1			12.717	12.806
Ca	12.500	2	13.523	0.250	2	1.023	8.2			13.347	13.700
Cd	0.250	2	0.262	0.001	1	0.012	4.9			0.261	0.263
Ce		2	-0.012	0.003	-23					-0.010	-0.014
Co	0.500	2	0.548	0.003	1	0.048	9.5	+		0.545	0.550
Cr	0.500	2	0.542	0.005	1	0.042	8.4			0.538	0.546
Cu	0.500	2	0.507	0.002	0	0.007	1.5			0.506	0.509
Dy		2	-0.001	0.000	-32					-0.001	-0.001
Eu		2	0.000	0.000	28					0.000	0.000
Fe	10.000	2	10.975	0.074	1	0.975	9.7	+		10.922	11.027
K	12.500	2	12.484	0.089	1	-0.016	-0.1			12.422	12.547
La		2	-0.002	0.001	-40					-0.002	-0.003
Li	1.000	2	1.034	0.005	1	0.034	3.4			1.038	1.030
Mg	15.600	2	17.660	0.081	0	2.060	13.2	+		17.602	17.717
Mn	0.250	2	0.274	0.002	1	0.024	9.5	+		0.272	0.275
Mo	0.500	2	0.548	0.006	1	0.048	9.6	+		0.544	0.552
Na	18.350	2	19.504	0.067	0	1.154	6.3			19.457	19.552
Nd		2	-0.007	0.001	-17					-0.007	-0.008
Ni	0.500	2	0.565	0.005	1	0.065	12.9	+		0.568	0.561
P	2.500	2	2.668	0.000	0	0.168	6.7			2.668	2.668
Pb	1.250	2	1.364	0.001	0	0.114	9.2			1.365	1.364
Pd		2	-0.048	0.003	-7					-0.050	-0.046
Rh		2	-0.018	0.001	-5					-0.018	-0.017
Ru		2	-0.006	0.005	-77					-0.009	-0.003
Sb	1.250	2	1.435	0.012	1	0.185	14.8	+		1.427	1.443
Se	1.250	2	1.352	0.027	2	0.102	8.1			1.333	1.371
Si	10.000	2	9.925	0.047	0	-0.075	-0.8			9.891	9.958
Sn		2	0.106	0.024	23					0.089	0.123
Sr	0.250	2	0.269	0.002	1	0.019	7.6			0.268	0.270
Te		2	0.024	0.002	7					0.023	0.025
Th		2	0.015	0.000	1					0.015	0.014
Ti	0.500	2	0.531	0.003	1	0.031	6.1			0.528	0.533
Tl	1.250	2	1.299	0.017	1	0.049	3.9			1.287	1.311
U		2	-0.136	0.026	-19					-0.117	-0.155
V	0.500	2	0.510	0.002	0	0.010	2.1			0.509	0.512
W		2	0.028	0.006	20					0.032	0.024
Y		2	0.000	0.000	-141					0.000	0.000
Zn	0.500	2	0.548	0.004	1	0.048	9.6	+		0.545	0.551
Zr	1.000	2	1.064	0.009	1	0.064	6.4			1.057	1.070
TIME		2	#######	0.000	0					#######	#######

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										MCVB @2	MCVB @2		
										A0068	A0068		
										2/7/96	2/7/96		
Statistical Summary for 'MCVB @2'										11:07	14:18		
(MCVB @2 Post Digestion Spike)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	1552	1599		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag		2	-0.002	0.008	-545					-0.007	0.004		
Al		2	0.321	0.026	8					0.303	0.339		
As		2	0.156	0.024	16					0.139	0.174		
B		2	1.007	0.012	1					1.015	0.999		
Ba		2	0.002	0.000	22					0.002	0.002		
Be		2	0.000	0.000	23					0.000	0.000		
Bi		2	0.046	0.002	4					0.048	0.045		
Ca		2	0.120	0.150	124					0.014	0.226		
Cd		2	0.006	0.003	50					0.004	0.008		
Ce	1.000	2	1.004	0.011	1	0.004	0.4			0.996	1.011		
Co		2	0.002	0.001	38					0.002	0.003		
Cr		2	0.004	0.001	22					0.004	0.003		
Cu		2	0.018	0.002	11					0.017	0.020		
Dy	1.000	2	0.965	0.015	2	-0.035	-3.5			0.976	0.955		
Eu	1.000	2	0.972	0.017	2	-0.028	-2.8			0.984	0.961		
Fe		2	0.007	0.000	0					0.007	0.007		
K		2	0.970	0.193	20					0.834	1.107		
La	0.500	2	0.491	0.011	2	-0.009	-1.8			0.499	0.483		
Li		2	0.004	0.003	76					0.002	0.006		
Mg		2	-0.044	0.010	-23					-0.052	-0.037		
Mn		2	0.001	0.000	22					0.001	0.001		
Mo		2	0.006	0.000	2					0.006	0.006		
Na		2	0.805	0.051	6					0.769	0.841		
Nd	1.000	2	0.980	0.005	0	-0.020	-2.0			0.984	0.977		
Ni		2	0.024	0.021	86					0.039	0.010		
P		2	0.089	0.012	13					0.081	0.098		
Pb		2	0.144	0.010	7					0.150	0.137		
Pd	1.000	2	1.218	0.127	10	0.218	21.8	+		1.129	1.308		
Rh	1.000	2	1.046	0.018	2	0.046	4.6			1.033	1.059		
Ru	1.000	2	1.006	0.005	1	0.006	0.6			1.009	1.002		
Sb		2	0.074	0.013	18					0.065	0.083		
Se		2	0.055	0.002	4					0.054	0.057		
Si		2	10.299	0.135	1					10.203	10.394		
Sn	1.000	2	1.097	0.099	9	0.097	9.7	+		1.167	1.027		
Sr		2	0.002	0.000	5					0.002	0.002		
Te	1.000	2	1.037	0.011	1	0.037	3.7			1.029	1.044		
Th	3.400	2	3.338	0.091	3	-0.062	-1.8			3.402	3.274		
Ti		2	0.005	0.000	1					0.005	0.005		
Tl		2	0.010	0.003	28					0.008	0.012		
U	12.500	2	12.185	0.157	1	-0.315	-2.5			12.297	12.074		
V		2	0.003	0.001	22					0.003	0.003		
W	1.000	2	1.002	0.023	2	0.002	0.2			1.018	0.986		
Y	0.500	2	0.485	0.001	0	-0.015	-2.9			0.485	0.486		
Zn		2	0.004	0.001	34					0.003	0.005		
Zr		2	-0.004	0.007	-173					0.001	-0.009		
TIME		2	#######	0.000	0					########	########		

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										QC SSTMCV 951	MCV 9512081903
										A0068	A0068
						SSTMCV				2/7/96	2/7/96
										10:28	14:58
("QC-SSTMCV" SST Midrange Cal. Check Std.)										CONC	CONC
	TRUE	N	Average	S.Dev	%RSD	Bias	Bias	High	Low	1834	1881
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)
Ag	0.500	2	0.507	0.007	1	0.007	1.3			0.502	0.511
Al	5.000	2	5.115	0.031	1	0.115	2.3			5.137	5.094
As	2.000	2	2.068	0.036	2	0.068	3.4			2.093	2.042
B		2	0.001	0.004	308					-0.001	0.004
Ba	0.100	2	0.101	0.002	2	0.001	1.5			0.103	0.100
Be	0.100	2	0.102	0.000	0	0.002	2.1			0.102	0.102
Bi	1.500	2	1.668	0.046	3	0.168	11.2	+		1.636	1.700
Ca	1.000	2	1.113	0.029	3	0.113	11.3	+		1.093	1.133
Cd	0.200	2	0.204	0.002	1	0.004	2.0			0.205	0.202
Ce		2	0.005	0.014	281					-0.005	0.015
Co		2	-0.001	0.001	-86					-0.002	-0.001
Cr	0.300	2	0.316	0.008	3	0.016	5.2			0.321	0.310
Cu		2	0.001	0.000	17					0.001	0.001
Dy		2	0.001	0.002	188					0.000	0.002
Eu		2	0.007	0.000	6					0.007	0.008
Fe	0.500	2	0.598	0.017	3	0.098	19.5	+		0.586	0.609
K	50.000	2	49.784	0.963	2	-0.216	-0.4			50.465	49.103
La		2	0.019	0.011	59					0.011	0.027
Li		2	0.004	0.003	90					0.001	0.006
Mg		2	-0.094	0.016	-17					-0.105	-0.082
Mn	0.100	2	0.106	0.002	2	0.006	5.9			0.107	0.105
Mo		2	0.006	0.000	1					0.006	0.006
Na	5.000	2	5.112	0.046	1	0.112	2.2			5.144	5.079
Nd		2	0.003	0.007	209					-0.002	0.008
Ni	0.500	2	0.688	0.008	1	0.188	37.7	+		0.682	0.694
P	4.000	2	4.151	0.111	3	0.151	3.8			4.230	4.073
Pb	3.000	2	3.123	0.112	4	0.123	4.1			3.202	3.044
Pd		2	0.032	0.022	69					0.016	0.047
Rh		2	0.012	0.017	144					0.000	0.024
Ru		2	-0.003	0.003	-100					-0.005	-0.001
Sb	2.000	2	2.306	0.002	0	0.306	15.3	+		2.308	2.304
Se	2.500	2	2.587	0.007	0	0.087	3.5			2.592	2.582
Si	3.000	2	2.957	0.028	1	-0.043	-1.4			2.938	2.977
Sn		2	0.084	0.008	9					0.089	0.079
Sr		2	0.002	0.000	7					0.001	0.002
Te		2	0.015	0.008	52					0.010	0.021
Th		2	-0.009	0.024	-253					-0.026	0.007
Ti		2	0.000	0.000	225					0.000	0.000
Tl		2	0.003	0.002	62					0.004	0.002
U	20.000	2	20.105	0.175	1	0.105	0.5			20.229	19.981
V	0.500	2	0.503	0.000	0	0.003	0.5			0.503	0.503
W		2	0.028	0.001	3					0.027	0.028
Y		2	0.000	0.001	3488					-0.001	0.001
Zn		2	-0.001	0.001	-132					-0.001	0.000
Zr	0.500	2	0.514	0.016	3	0.014	2.7			0.525	0.502
TIME	10000	2	#######	0.000	0	0.000	0.0			########	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										QC SSTA 9512	STA 9512081902		
										A0068	A0068		
										2/7/96	2/7/96		
Statistical Summary for 'QC SSTA 951208I902'										10:24	14:54		
("QC-SSTA" Interference Check Std.)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	1740	1787		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag		2	-0.011	0.022	-194					-0.027	0.004		
Al	250.0	2	250.586	7.887	3	0.586	0.2			256.162	245.009		
As		2	0.226	0.032	14					0.204	0.249		
B		2	0.052	0.004	7					0.050	0.055		
Ba		2	0.009	0.001	9					0.009	0.010		
Be		2	-0.001	0.001	-43					-0.002	-0.001		
Bi	200.0	2	197.891	1.451	1	-2.109	-1.1			198.918	196.865		
Ca	250.0	2	249.800	6.382	3	-0.200	-0.1			254.313	245.287		
Cd		2	0.069	0.003	5					0.067	0.071		
Ce		2	0.086	0.020	23					0.072	0.100		
Co		2	0.006	0.000	7					0.006	0.007		
Cr		2	0.245	0.005	2					0.249	0.242		
Cu		2	-0.092	0.004	-5					-0.089	-0.095		
Dy		2	0.027	0.004	15					0.024	0.029		
Eu		2	0.086	0.001	2					0.087	0.085		
Fe	200.0	2	198.368	8.036	4	-1.632	-0.8			204.050	192.685		
K	100.0	2	100.508	3.211	3	0.508	0.5			102.779	98.238		
La	50.0	2	48.816	2.075	4	-1.184	-2.4			50.283	47.348		
Li		2	0.036	0.004	12					0.033	0.039		
Mg		2	-0.762	0.127	-17					-0.852	-0.672		
Mn		2	0.019	0.000	1					0.019	0.019		
Mo		2	0.105	0.004	4					0.108	0.102		
Na		2	0.867	0.056	7					0.827	0.907		
Nd		2	0.170	0.015	9					0.159	0.181		
Ni	200.0	2	193.408	8.683	4	-6.592	-3.3			199.548	187.269		
P	200.0	2	201.795	8.235	4	1.795	0.9			207.618	195.972		
Pb		2	1.003	0.054	5					1.042	0.965		
Pd		2	1.139	0.009	1					1.133	1.146		
Rh		2	0.276	0.075	27					0.223	0.329		
Ru		2	0.035	0.166	470					-0.082	0.153		
Sb		2	0.560	0.018	3					0.547	0.573		
Se		2	1.499	0.016	1					1.510	1.488		
Si		2	-0.232	0.115	-49					-0.313	-0.151		
Sn		2	2.608	0.924	35					3.261	1.955		
Sr		2	0.019	0.001	3					0.020	0.019		
Te		2	0.715	0.021	3					0.700	0.730		
Th		2	-0.162	0.181	-111					-0.290	-0.034		
Ti		2	0.003	0.002	57					0.004	0.002		
Tl		2	0.340	0.001	0					0.341	0.339		
U	200.0	2	199.843	5.839	3	-0.157	-0.1			203.971	195.714		
V		2	0.041	0.013	31					0.032	0.050		
W		2	0.562	0.006	1					0.566	0.558		
Y		2	0.021	0.004	18					0.018	0.023		
Zn		2	0.075	0.012	16					0.083	0.066		
Zr		2	0.056	0.017	31					0.068	0.044		
TIME		2	########	0.000	0					########	########		

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

									3536.1	3276.5	
Statistical Summary for 'SRM2709'									SRM2709	SRM2709	
(LCS-1 @5 [SRM-2709] ~.15g/100ml)									2/6/96	2/5/96	
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	*High*	*Low*	2/7/96	2/7/96	
	(ug/g)		(ug/g)	(ug/g)	(%)	(ug/g)	(%)	(>125%)	(<75%)	ug/g	ug/g	
Ag	0.410	0								--	--	
Al	75000	2	68661.5	5844.5	8.5	-6338.5	-8.5			64528.85	72794.17	
As	17.700	1	265.4	#DIV/0!	######	247.7	1399.2		-	--	[265.37]	
B		2	171.9	31.8	18.5					[194.45]	[149.44]	
Ba	968.0	2	845.1	73.1	8.6	-122.9	-12.7			793.42	896.76	
Be		0								--	--	
Bi		0								--	--	
Ca	18900	2	24016.0	655.8	2.7	5116.0	27.1	+		24479.70	23552.23	
Cd	0.380	0								--	--	
Ce		0								--	--	
Co	13.400	2	74.6	3.5	4.6	61.2	456.7		-	[77.05]	[72.15]	
Cr	130.0	2	180.4	21.2	11.7	50.4	38.8		-	[165.42]	[195.35]	
Cu	34.600	2	64.0	17.2	26.9	29.4	84.9		-	[76.13]	[51.80]	
Dy		0								--	--	
Eu		0								--	--	
Fe	35000	2	33103.6	3347.1	10.1	-1896.4	-5.4			30736.88	35470.41	
La		0								--	--	
Li		0								--	--	
Mg	15100	2	14882.1	1280.5	8.6	-217.9	-1.4			13976.66	15787.61	
Mn	538.0	2	886.1	100.2	11.3	348.1	64.7	+		957.00	815.27	
Mo		0								--	--	
Na	11600	2	14619.9	823.2	5.6	3019.9	26.0	+		14037.84	15201.97	
Nd		2	220.1	35.6	16.2					[245.30]	[194.95]	
P	620.0	2	1051.5	49.1	4.7	431.5	69.6		-	[1016.80]	[1086.27]	
Pb	18.900	2	438.1	24.7	5.6	419.2	2218.2		-	[420.69]	[455.60]	
Pd		0								--	--	
Rh		0								--	--	
Ru		0								--	--	
Sb	7.900	2	306.0	6.2	2.0	298.1	3772.8		-	[310.36]	[301.84]	
Se	1.570	2	492.2	17.9	3.6	490.6	#####		-	[479.53]	[504.85]	
Si	296600	2	263208.1	######	10.6	######	-11.3			243448.44	282967.69	
Sn	*	0								--	--	
Sr	231.0	2	228.1	14.3	6.3	-2.9	-1.3			217.96	238.14	
Te		0								--	--	
Th		0								--	--	
Ti	3420.0	2	2885.7	305.2	10.6	-534.3	-15.6			2669.91	3101.54	
Tl	0.740	0								--	--	
U		0								--	--	
V	112.0	2	128.9	4.5	3.5	16.9	15.1		-	[125.67]	[132.04]	
W		0								--	--	
Y		0								--	--	
Zn	106.0	2	124.0	22.0	17.7	18.0	17.0		-	[108.49]	[139.58]	
Zr		2	56.4	23.3	41.2					[39.99]	[72.90]	

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	SPC-BLK 108447	A0068	ICP1A	02/07/96	08:47	DRS	S	INT
2	SPC-BLK 108447	A0068	ICP1A	02/07/96	08:47	DRS	S	CONC
3	SPC-STD 960103I100	A0068	ICP1A	02/07/96	08:50	DRS	S	INT
4	SPC-STD 960103I100	A0068	ICP1A	02/07/96	08:50	DRS	S	CONC
5	ICP1.0	A0068	ICP1A	02/07/96	09:17		X	IR
6	ICP1.1B	A0068	ICP1A	02/07/96	09:19		X	IR
7	ICP1.1A	A0068	ICP1A	02/07/96	09:22		X	IR
8	ICP1.2	A0068	ICP1A	02/07/96	09:26		X	IR
9	ICP1.3	A0068	ICP1A	02/07/96	09:30		X	IR
10	ICP1.4	A0068	ICP1A	02/07/96	09:34		X	IR
11	ICP1.5	A0068	ICP1A	02/07/96	09:37		X	IR
12	ICP1.6	A0068	ICP1A	02/07/96	09:41		X	IR
13	ICP1.7	A0068	ICP1A	02/07/96	09:45		X	IR
14	ICP1.8	A0068	ICP1A	02/07/96	09:48		X	IR
15	ICPI.9	A0068	ICP1A	02/07/96	09:52		X	IR
16	ICP1.0 960103F100	A0068	ICP1A	02/07/96	10:06	DRS	S	CONC
17	ICP1.0 960103F100	A0068	ICP1A	02/07/96	10:11	DRS	S	CONC
18	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	10:16	DRS	Q	CONC
19	QC_MCVB 960106I901	A0068	ICP1A	02/07/96	10:20	DRS	Q	CONC
20	QC SSTA 951208I902	A0068	ICP1A	02/07/96	10:24	DRS	S	CONC
21	QC SSTMCV 951208I903	A0068	ICP1A	02/07/96	10:28	DRS	S	CONC
22	QC_SRM-1643d 108518	A0068	ICP1A	02/07/96	10:32	DRS	Q	CONC
23	QC CCV1 960126H901	A0068	ICP1A	02/07/96	10:37	DRS	S	CONC
24	ICP1.0 960103F100	A0068	ICP1A	02/07/96	10:43	DRS	S	CONC
25	96-2605-BLK	A0068	ICP1A	02/07/96	10:45	DRS	S	CONC
26	96-2605 @5	A0068	ICP1A	02/07/96	10:48	DRS	S	CONC
27	96-2605	A0068	ICP1A	02/07/96	10:52	DRS	S	CONC
28	96-2605 PS-A	A0068	ICP1A	02/07/96	10:56	DRS	S	CONC
29	MCVA @2	A0068	ICP1A	02/07/96	10:59	DRS	S	CONC
30	96-2605 PS-B	A0068	ICP1A	02/07/96	11:03	DRS	S	CONC
31	MCVB @2	A0068	ICP1A	02/07/96	11:07	DRS	S	CONC
32	96-2605 DUP	A0068	ICP1A	02/07/96	11:10	DRS	S	CONC
33	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	11:14	DRS	Q	CONC
34	ICP1.0 960103F100	A0068	ICP1A	02/07/96	11:18	DRS	S	CONC
35	96-2607	A0068	ICP1A	02/07/96	11:20	DRS	S	CONC
36	96-2607 DUP	A0068	ICP1A	02/07/96	11:23	DRS	S	CONC
37	96-2609	A0068	ICP1A	02/07/96	11:27	DRS	S	CONC
38	96-2609 DUP	A0068	ICP1A	02/07/96	11:30	DRS	S	CONC
39	SRM2709	A0068	ICP1A	02/07/96	11:35	DRS	S	CONC
40	96-2611-BLK	A0068	ICP1A	02/07/96	11:39	DRS	S	CONC
41	96-2611 @5	A0068	ICP1A	02/07/96	11:43	DRS	S	CONC
42	96-2611	A0068	ICP1A	02/07/96	11:47	DRS	S	CONC
43	96-2611 PS-A	A0068	ICP1A	02/07/96	11:50	DRS	S	CONC
44	MCVA @2	A0068	ICP1A	02/07/96	11:54	DRS	S	CONC
45	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	11:58	DRS	Q	CONC
46	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	12:04	DRS	Q	CONC
47	ICP1.0 960103F100	A0068	ICP1A	02/07/96	12:08	DRS	S	CONC
48	ICP1.0	A0068	ICP1A	02/07/96	13:14		X	IR
49	ICP1.1B	A0068	ICP1A	02/07/96	13:16		X	IR
50	ICP1.1A	A0068	ICP1A	02/07/96	13:19		X	IR
51	ICP1.2	A0068	ICP1A	02/07/96	13:22		X	IR
52	ICP1.3	A0068	ICP1A	02/07/96	13:26		X	IR
53	ICP1.4	A0068	ICP1A	02/07/96	13:30		X	IR

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
54	ICP1.5	A0068	ICP1A	02/07/96	13:34		X	IR
55	ICP1.6	A0068	ICP1A	02/07/96	13:37		X	IR
56	ICP1.7	A0068	ICP1A	02/07/96	13:41		X	IR
57	ICP1.8	A0068	ICP1A	02/07/96	13:44		X	IR
58	ICPI.9	A0068	ICP1A	02/07/96	13:48		X	IR
59	ICP1.0 960103F100	A0068	ICP1A	02/07/96	14:01	DRS	S	CONC
60	96-2611 PS-B	A0068	ICP1A	02/07/96	14:03	DRS	S	CONC
61	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	14:09	DRS	Q	CONC
62	ICP1.0 960103F100	A0068	ICP1A	02/07/96	14:13	DRS	S	CONC
63	96-2611 PS-B	A0068	ICP1A	02/07/96	14:15	DRS	S	CONC
64	MCVB @2	A0068	ICP1A	02/07/96	14:18	DRS	S	CONC
65	96-2611 DUP	A0068	ICP1A	02/07/96	14:22	DRS	S	CONC
66	96-2613	A0068	ICP1A	02/07/96	14:25	DRS	S	CONC
67	96-2613 DUP	A0068	ICP1A	02/07/96	14:29	DRS	S	CONC
68	96-2615	A0068	ICP1A	02/07/96	14:35	DRS	S	CONC
69	96-2615 DUP	A0068	ICP1A	02/07/96	14:39	DRS	S	CONC
70	SRM2709	A0068	ICP1A	02/07/96	14:43	DRS	S	CONC
71	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	14:47	DRS	Q	CONC
72	QC_MCVB 960206I901	A0068	ICP1A	02/07/96	14:50	DRS	Q	CONC
73	QC_SSTA 951208I902	A0068	ICP1A	02/07/96	14:54	DRS	S	CONC
74	QC SSTMCV 951208I903	A0068	ICP1A	02/07/96	14:58	DRS	S	CONC
75	QC_SRM-1643d 108518	A0068	ICP1A	02/07/96	15:01	DRS	Q	CONC
76	QC_CCV1 960126H901	A0068	ICP1A	02/07/96	15:05	DRS	S	CONC
77	ICP1.0 960103F100	A0068	ICP1A	02/07/96	15:09	DRS	S	CONC

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#	Sample Name	Li
1	SPC-BLK 108447	435.333
2	SPC-BLK 108447	-.0131
3	SPC-STD 960103I100	20932.7
4	SPC-STD 960103I100	10.28
5	ICP1.0	.04373
6	ICP1.1B	
7	ICP1.1A	
8	ICP1.2	10.3105
9	ICP1.3	
10	ICP1.4	
11	ICP1.5	
12	ICP1.6	
13	ICP1.7	
14	ICP1.8	
15	ICPI.9	
16	ICP1.0 960103F100	.0117
17	ICP1.0 960103F100	-.0005
18	QC_MCVA 960130I901	1.996
19	QC_MCVB 960106I901	-.0002
20	QC_SSTA 951208I902	.0330
21	QC SSTMCV 951208I903	.0013
22	QC_SRM-1643d 108518	Q.0183
23	QC_CCV1 960126H901	2.028
24	ICP1.0 960103F100	-.0008
25	96-2605-BLK	.0052
26	96-2605 @5	.0107
27	96-2605	.0510
28	96-2605 PS-A	1.002
29	MCVA @2	1.038
30	96-2605 PS-B	.0294
31	MCVB @2	.0018
32	96-2605 DUP	.0643
33	QC_MCVA 960130I901	2.002
34	ICP1.0 960103F100	-.0024
35	96-2607	.0106
36	96-2607 DUP	.0107
37	96-2609	.0119
38	96-2609 DUP	.0192
39	SRM2709	.0222
40	96-2611-BLK	.0078
41	96-2611 @5	.0013
42	96-2611	.0073
43	96-2611 PS-A	1.003
44	MCVA @2	1.030
45	QC_MCVA 960130I901	2.076
46	QC_MCVA 960130I901	1.964
47	ICP1.0 960103F100	.0000
48	ICP1.0	.04566
49	ICP1.1B	
50	ICP1.1A	
51	ICP1.2	10.5563
52	ICP1.3	
53	ICP1.4	

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#	Sample Name	Li
54	ICP1.5	
55	ICP1.6	
56	ICP1.7	
57	ICP1.8	
58	ICPI.9	
59	ICP1.0 960103F100	.0025
60	96-2611 PS-B	.0098
61	QC_MCVA 960130I901	1.895
62	ICP1.0 960103F100	.0033
63	96-2611 PS-B	.0100
64	MCVB @2	.0059
65	96-2611 DUP	.0133
66	96-2613	.0203
67	96-2613 DUP	.0186
68	96-2615	.0270
69	96-2615 DUP	.0260
70	SRM2709	.0208
71	QC_MCVA 960130I901	1.888
72	QC_MCVB 960206I901	.0044
73	QC SSTA 951208I902	.0390
74	QC SSTMCV 951208I903	.0059
75	QC_SRM-1643d 108518	Q.0216
76	QC CCV1 960126H901	1.936
77	ICP1.0 960103F100	.0024

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A0068
ICP-325-405-1
2/7/96

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	SPC-BLK 108447	A0068	ICP1A	02/07/96	08:47	DRS	S	INT
2	SPC-BLK 108447	A0068	ICP1A	02/07/96	08:47	DRS	S	CONC
3	SPC-STD 960103I100	A0068	ICP1A	02/07/96	08:50	DRS	S	INT
4	SPC-STD 960103I100	A0068	ICP1A	02/07/96	08:50	DRS	S	CONC
5	ICP1.0	A0068	ICP1A	02/07/96	09:17		X	IR
6	ICP1.1B	A0068	ICP1A	02/07/96	09:19		X	IR
7	ICP1.1A	A0068	ICP1A	02/07/96	09:22		X	IR
8	ICP1.2	A0068	ICP1A	02/07/96	09:26		X	IR
9	ICP1.3	A0068	ICP1A	02/07/96	09:30		X	IR
10	ICP1.4	A0068	ICP1A	02/07/96	09:34		X	IR
11	ICP1.5	A0068	ICP1A	02/07/96	09:37		X	IR
12	ICP1.6	A0068	ICP1A	02/07/96	09:41		X	IR
13	ICP1.7	A0068	ICP1A	02/07/96	09:45		X	IR
14	ICP1.8	A0068	ICP1A	02/07/96	09:48		X	IR
15	ICPI.9	A0068	ICP1A	02/07/96	09:52		X	IR
16	ICP1.0 960103F100	A0068	ICP1A	02/07/96	10:06	DRS	S	CONC
17	ICP1.0 960103F100	A0068	ICP1A	02/07/96	10:11	DRS	S	CONC
Pass 18	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	10:16	DRS	Q	CONC
19	QC_MCVB 960106I901	A0068	ICP1A	02/07/96	10:20	DRS	Q	CONC
20	QC SSTA 951208I902	A0068	ICP1A	02/07/96	10:24	DRS	S	CONC
21	QC SSTMCV 951208I903	A0068	ICP1A	02/07/96	10:28	DRS	S	CONC
22	QC_SRM-1643d 108518	A0068	ICP1A	02/07/96	10:32	DRS	Q	CONC
23	QC CCV1 960126H901	A0068	ICP1A	02/07/96	10:37	DRS	S	CONC
24	ICP1.0 960103F100	A0068	ICP1A	02/07/96	10:43	DRS	S	CONC
25	96-2605-BLK	A0068	ICP1A	02/07/96	10:45	DRS	S	CONC
26	96-2605 @5	A0068	ICP1A	02/07/96	10:48	DRS	S	CONC
27	96-2605	A0068	ICP1A	02/07/96	10:52	DRS	S	CONC
28	96-2605 PS-A	A0068	ICP1A	02/07/96	10:56	DRS	S	CONC
29	MCVA @2	A0068	ICP1A	02/07/96	10:59	DRS	S	CONC
30	96-2605 PS-B	A0068	ICP1A	02/07/96	11:03	DRS	S	CONC
31	MCVB @2	A0068	ICP1A	02/07/96	11:07	DRS	S	CONC
32	96-2605 DUP	A0068	ICP1A	02/07/96	11:10	DRS	S	CONC
Pass * 33	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	11:14	DRS	Q	CONC
34	ICP1.0 960103F100	A0068	ICP1A	02/07/96	11:18	DRS	S	CONC
35	96-2607	A0068	ICP1A	02/07/96	11:20	DRS	S	CONC
36	96-2607 DUP	A0068	ICP1A	02/07/96	11:23	DRS	S	CONC
37	96-2609	A0068	ICP1A	02/07/96	11:27	DRS	S	CONC
38	96-2609 DUP	A0068	ICP1A	02/07/96	11:30	DRS	S	CONC
2-5-96 39	SRM2709 .1526g/100mL	A0068	ICP1A	02/07/96	11:35	DRS	S	CONC
40	96-2611-BLK	A0068	ICP1A	02/07/96	11:39	DRS	S	CONC
41	96-2611 @5	A0068	ICP1A	02/07/96	11:43	DRS	S	CONC
42	96-2611	A0068	ICP1A	02/07/96	11:47	DRS	S	CONC
43	96-2611 PS-A	A0068	ICP1A	02/07/96	11:50	DRS	S	CONC
44	MCVA @2	A0068	ICP1A	02/07/96	11:54	DRS	S	CONC
Fail B, Ms, Zn 45	~~QC_MCVA 960130I901~~	~~A0068~~	~~ICP1A~~	~~02/07/96~~	~~11:58~~	~~DRS~~	~~Q~~	~~CONC~~
Pass * 46	QC_MCVA 960130I901	A0068	ICP1A	02/07/96	12:04	DRS	Q	CONC
47	ICP1.0 960103F100	A0068	ICP1A	02/07/96	12:08	DRS	S	CONC
48	ICP1.0	A0068	ICP1A	02/07/96	13:14		X	IR
49	ICP1.1B	A0068	ICP1A	02/07/96	13:16		X	IR
50	ICP1.1A	A0068	ICP1A	02/07/96	13:19		X	IR
51	ICP1.2	A0068	ICP1A	02/07/96	13:22		X	IR
52	ICP1.3	A0068	ICP1A	02/07/96	13:26		X	IR
53	ICP1.4	A0068	ICP1A	02/07/96	13:30		X	IR

* Sb - N/A
Th, Pd - N/A
PS-A Post Spike (1:1) MCVA/Sample
PS-B Post Spike (1:1) MCVB/Sample

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
54	ICP1.5	A0068	ICP1A	02/07/96	13:34		X	IR
55	ICP1.6	A0068	ICP1A	02/07/96	13:37		X	IR
56	ICP1.7	A0068	ICP1A	02/07/96	13:41		X	IR
57	ICP1.8	A0068	ICP1A	02/07/96	13:44		X	IR
58	ICPI.9	A0068	ICP1A	02/07/96	13:48		X	IR
59	ICP1.0 960103F100	A0068	ICP1A	02/07/96	14:01	DRS	S	CONC
DA Ignore 60	~~96-2611 PS-B~~	~~A0068~~	~~ICP1A~~	~~02/07/96~~	~~14:05~~	~~DRS~~	~~S~~	~~CONC~~
PASS 61	QC_MCVA 9601301901	A0068	ICP1A	02/07/96	14:09	DRS	Q	CONC
62	ICP1.0 960103F100	A0068	ICP1A	02/07/96	14:13	DRS	S	CONC
63	96-2611 PS-B	A0068	ICP1A	02/07/96	14:15	DRS	S	CONC
64	MCVB @2	A0068	ICP1A	02/07/96	14:18	DRS	S	CONC
65	96-2611 DUP	A0068	ICP1A	02/07/96	14:22	DRS	S	CONC
66	96-2613	A0068	ICP1A	02/07/96	14:25	DRS	S	CONC
67	96-2613 DUP	A0068	ICP1A	02/07/96	14:29	DRS	S	CONC
68	96-2615	A0068	ICP1A	02/07/96	14:35	DRS	S	CONC
69	96-2615 DUP	A0068	ICP1A	02/07/96	14:39	DRS	S	CONC
2-6-96 70	SRM2709 .1414g/100mL	A0068	ICP1A	02/07/96	14:43	DRS	S	CONC
PASS 71	QC_MCVA 9601301901	A0068	ICP1A	02/07/96	14:47	DRS	Q	CONC
Pass 72	QC_MCVB 9602061901	A0068	ICP1A	02/07/96	14:50	DRS	Q	CONC
73	QC SSTA 9512081902	A0068	ICP1A	02/07/96	14:54	DRS	S	CONC
74	QC SSTMCV 9512081903	A0068	ICP1A	02/07/96	14:58	DRS	S	CONC
75	QC_SRM-1643d 108518	A0068	ICP1A	02/07/96	15:01	DRS	S	CONC
76	QC CCV1 9601264901	A0068	ICP1A	02/07/96	15:05	DRS	S	CONC
77	ICP1.0 960103F100	A0068	ICP1A	02/07/96	15:09	DRS	S	CONC

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	SPC-BLK 108447	7347.33	2306.33	1735	1213.33	345	199.333
2	SPC-BLK 108447	-.0160	-.0816	-.0576	-.0052	-.0031	-.0004
3	SPC-STD 960103I100	7386.33	2335.67	1774	1241.67	343	200
4	SPC-STD 960103I100	-.0141	-.0749	-.0392	-.0016	-.0033	-.0004
5	ICP1.0	.73826	.23193	.17659	.12009	.03463	.02003
6	ICP1.1B					.75263	
7	ICP1.1A					7.14433	
8	ICP1.2		60.9515		41.1132		
9	ICP1.3						
10	ICP1.4			21.5862			
11	ICP1.5						
12	ICP1.6						1.73486
13	ICP1.7	27.7292					
14	ICP1.8						
15	ICPI.9						
16	ICP1.0 960103F100	.0183	.0809	.0425	.0089	.0026	.0004
17	ICP1.0 960103F100	.0012	.0048	.0020	.0005	-.0003	.0000
18	QC_MCVA 960130I901	.4927	10.14	2.544	2.101	.5070	.0988
19	QC_MCVB 960106I901	-.0133	.5561	.2561	2.061	.0022	.0006
20	QC SSTA 951208I902	-.0268	256.2	.2036	.0497	.0088	-.0017
21	QC SSTMCV 951208I903	.5017	5.137	2.093	-.0013	.1032	.1020
22	QC_SRM-1643d 108518	Q-.0077	.1299	Q.0539	.1481	.5276	Q.0126
23	QC CCV1 960126H901	-.0081	1.998	2.030	2.096	1.009	1.022
24	ICP1.0 960103F100	-.0088	-.0037	-.0046	-.0011	-.0005	.0002
25	96-2605-BLK	-.0020	.0850	.0390	.0290	.0014	.0003
26	96-2605 @5	-.0070	.5584	-.0041	.0032	.0006	.0000
27	96-2605	.0001	2.842	.0472	.0307	.0045	.0002
28	96-2605 PS-A	.2422	6.494	1.332	1.065	.2521	.0503
29	MCVA @2	.2484	5.240	1.310	1.095	.2623	.0513
30	96-2605 PS-B	-.0029	1.687	.1691	1.020	.0041	.0005
31	MCVB @2	-.0074	.3026	.1393	1.015	.0017	.0003
32	96-2605 DUP	-.0031	3.887	.0340	.0319	.0050	.0001
33	QC_MCVA 960130I901	.4921	10.21	2.588	2.125	.5100	.0995
34	ICP1.0 960103F100	-.0105	-.0098	-.0002	-.0014	-.0007	.0000
35	96-2607	-.0012	4.303	.0373	.0360	.0053	.0002
36	96-2607 DUP	-.0013	3.965	.0465	.0472	.0059	.0002
37	96-2609	-.0015	2.834	.0461	.0200	.0034	.0002
38	96-2609 DUP	.0015	4.023	.0538	.0222	.0054	.0002
39	SRM2709	.0006	22.22	.0810	.0456	.2737	.0023
40	96-2611-BLK	.0008	.1260	.0439	.0316	.0032	.0002
41	96-2611 @5	-.0087	1.161	.0056	.0000	.0010	-.0000
42	96-2611	.0017	5.670	.0624	.0302	.0081	.0002
43	96-2611 PS-A	.2459	8.163	1.367	1.100	.2623	.0520
44	MCVA @2	.2493	5.281	1.353	1.100	.2640	.0518
45	QC_MCVA 960130I901	.5063	10.59	2.687	Q2.204	.5294	.1035
46	QC_MCVA 960130I901	.4927	9.999	2.564	2.089	.4978	.0975
47	ICP1.0 960103F100	-.0004	-.0076	-.0019	-.0005	-.0005	-.0000
48	ICP1.0	.77436	.24626	.18643	.12263	.03599	.02099
49	ICP1.1B					.77853	
50	ICP1.1A					7.3926	
51	ICP1.2		62.8625		42.5262		
52	ICP1.3						
53	ICP1.4			22.0874			

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#	Sample Name	Ag	Al	As	B	Ba	Be
54	ICP1.5						
55	ICP1.6						1.72116
56	ICP1.7	27.5865					
57	ICP1.8						
58	ICPI.9						
59	ICP1.0 960103F100	.0064	.0091	.0127	.0040	.0003	.0000
60	96-2611 PS-B	.0094	2.999	.1818	.9894	.0063	.0005
61	QC_MCVA 960130I901	.4889	9.699	2.475	2.012	.4797	.0975
62	ICP1.0 960103F100	.0026	.0139	.0049	.0059	.0007	.0001
63	96-2611 PS-B	.0075	3.013	.1938	1.005	.0059	.0005
64	MCVB @2	.0043	.3399	.1737	.9986	.0023	.0005
65	96-2611 DUP	.0122	5.057	.0554	.0435	.0085	.0003
66	96-2613	.0113	3.582	.0483	.0380	.0081	.0003
67	96-2613 DUP	.0108	3.274	.0491	.0273	.0069	.0002
68	96-2615	.0113	3.372	.0463	.0276	.0065	.0002
69	96-2615 DUP	.0097	3.397	.0542	.0438	.0065	.0002
70	SRM2709	.0096	18.25	.0652	.0550	.2244	.0018
71	QC_MCVA 960130I901	.4871	9.689	2.467	2.012	.4793	.0975
72	QC_MCVB 960206I901	.0039	.6289	.3112	1.943	.0031	.0007
73	QC SSTA 951208I902	.0042	245.0	.2490	.0550	.0100	-.0009
74	QC SSTMCV 951208I903	.5114	5.094	2.042	.0036	.0998	.1022
75	QC_SRM-1643d 108518	0.0051	0.1403	0.0767	.1517	.5026	.0126
76	QC CCV1 960126H901	.0075	1.947	1.995	2.016	.9624	1.015
77	ICP1.0 960103F100	.0059	.0125	.0139	.0048	.0005	.0002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	SPC-BLK 108447	1612	1365	504.667	6999.33	1605.67	499.667
2	SPC-BLK 108447	-.0608	-.0105	-.0096	-.0895	-.0098	-.0074
3	SPC-STD 960103I100	1853.67	1728.67	517.333	7002.67	1580.33	518.333
4	SPC-STD 960103I100	-.0473	.1025	-.0084	-.0979	-.0127	-.0043
5	ICP1.0	.1657	.14129	.05646	.70399	.1577	.0505
6	ICP1.1B					1.38666	1.2264
7	ICP1.1A					16.9696	11.4704
8	ICP1.2		81.9007	9.01103			
9	ICP1.3						
10	ICP1.4				21.8347		
11	ICP1.5						
12	ICP1.6						
13	ICP1.7	22.7985					
14	ICP1.8						
15	ICPI.9						
16	ICP1.0 960103F100	.0462	.0082	.0004	.0890	.0129	.0059
17	ICP1.0 960103F100	.0135	.0002	.0024	.0020	.0001	-.0004
18	QC_MCVA 960130I901	24.62	25.74	.5080	.0043	1.048	1.046
19	QC_MCVB 960106I901	.0838	.0285	.0019	1.982	-.0022	.0056
20	QC SSTA 951208I902	198.9	254.3	.0668	.0716	.0060	.2490
21	QC SSTMCV 951208I903	1.636	1.093	.2055	-.0051	-.0021	.3213
22	QC_SRM-1643d 108518	.0362	032.21	0.0071	.0038	0.0255	0.0225
23	QC CCV1 960126H901	1.979	2.063	1.031	-.0103	1.058	.5234
24	ICP1.0 960103F100	.0042	-.0004	-.0037	-.0117	-.0007	-.0005
25	96-2605-BLK	.0446	.3717	-.0008	.0381	.0109	.0110
26	96-2605 @5	.7007	.0945	.0006	.0035	.0021	.0599

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
27	96-2605	3.555	.5115	.0031	.0721	.0154	.3069
28	96-2605 PS-A	14.11	13.29	.2609	.0532	.5374	.6790
29	MCVA @2	12.72	13.35	.2612	-.0099	.5453	.5384
30	96-2605 PS-B	1.775	.2758	.0035	1.019	.0104	.1505
31	MCVB @2	.0476	.0144	.0036	.9956	.0018	.0044
32	96-2605 DUP	4.780	1.002	.0016	.0539	.0125	.4052
33	QC_MCVA 960130I901	24.77	25.92	.5108	-.0017	1.060	1.052
34	ICP1.0 960103F100	.0045	.0064	-.0003	-.0228	-.0014	.0004
35	96-2607	5.476	.4653	.0015	.0716	.0142	.4596
36	96-2607 DUP	4.831	2.124	.0006	.0611	.0151	.4164
37	96-2609	4.856	.3039	-.0021	.0600	.0152	.3981
38	96-2609 DUP	6.839	.5626	.0007	.0978	.0180	.5641
39	SRM2709	.0704	7.188	.0008	.0688	.0220	.0596
40	96-2611-BLK	.0568	.9714	-.0002	.0593	.0141	.0102
41	96-2611 @5	1.421	.5355	.0012	-.0043	.0009	.0950
42	96-2611	6.973	.9295	-.0001	.0844	.0174	.4722
43	96-2611 PS-A	16.25	13.93	.2654	.0338	.5557	.7651
44	MCVA @2	12.81	13.70	.2633	-.0136	.5501	.5458
45	QC_MCVA 960130I901	25.56	26.87	.5282	-.0189	1.098	1.084
46	QC_MCVA 960130I901	24.09	25.49	.4908	.0343	1.044	1.036
47	ICP1.0 960103F100	-.0100	-.0141	-.0016	-.0002	.0000	.0002
48	ICP1.0	.17456	.14346	.05683	.73369	.17026	.05443
49	ICP1.1B					2.01933	1.28866
50	ICP1.1A					17.72	11.7858
51	ICP1.2		84.5179	9.09319			
52	ICP1.3						
53	ICP1.4				22.2875		
54	ICP1.5						
55	ICP1.6						
56	ICP1.7	22.4772					
57	ICP1.8						
58	ICPI.9						
59	ICP1.0 960103F100	-.0033	.0014	.0001	.0138	.0007	-.0001
60	96-2611 PS-B	3.429	.4520	.0053	1.023	.0100	.2208
61	QC_MCVA 960130I901	24.38	24.68	.4902	.0236	.9801	.9826
62	ICP1.0 960103F100	.0207	.0159	.0029	.0156	.0016	-.0005
63	96-2611 PS-B	3.425	.4571	.0056	1.027	.0097	.2248
64	MCVB @2	.0453	.2259	.0076	1.011	.0030	.0032
65	96-2611 DUP	6.447	.9475	.0034	.1040	.0172	.4212
66	96-2613	5.256	3.003	.0049	.1028	.0159	.3749
67	96-2613 DUP	4.741	.9400	.0056	.0891	.0171	.3372
68	96-2615	4.919	1.241	.0037	.0952	.0158	.3993
69	96-2615 DUP	5.015	1.922	.0066	.0849	.0153	.4067
70	SRM2709	.0672	6.923	.0100	.0770	.0218	.0468
71	QC_MCVA 960130I901	24.34	24.62	.4906	.0169	.9781	.9784
72	QC_MCVB 960206I901	.0789	.0243	.0069	1.926	.0011	.0053
73	QC SSTA 951208I902	196.9	245.3	.0713	.0999	.0067	.2418
74	QC SSTMCV 951208I903	1.700	1.133	.2024	.0153	-.0005	.3100
75	QC_SRM-1643d 108518	.0482	Q31.24	Q.0072	.0261	Q.0266	Q.0207
76	QC CCV1 960126H901	1.989	2.004	1.006	.0218	1.005	.4958
77	ICP1.0 960103F100	.0122	.0003	.0035	.0162	.0015	-.0025

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#	Sample Name	Cu	Dy	Eu	Fe	K	La
1	SPC-BLK 108447	550.333	2142.33	379	637	2229.33	1105.67
2	SPC-BLK 108447	-.0183	-.0144	-.0048	-.0156	-2.802	-.0226
3	SPC-STD 960103I100	19767	2329.67	379	690.333	2224.67	1104
4	SPC-STD 960103I100	10.16	-.0117	-.0048	-.0153	-2.914	-.0231
5	ICP1.0	.05556	.21526	.03813	.06436	.2239	.11113
6	ICP1.1B	.44226			7.11543		
7	ICP1.1A	3.84556			67.7629		
8	ICP1.2					2.35226	
9	ICP1.3		41.1917	10.0706			5.38063
10	ICP1.4						
11	ICP1.5						
12	ICP1.6						
13	ICP1.7						
14	ICP1.8						
15	ICPI.9						
16	ICP1.0 960103F100	.0163	.0132	.0043	.0043	2.287	.0217
17	ICP1.0 960103F100	-.0014	.0009	.0002	-.0036	.1337	-.0006
18	QC_MCVA 960130I901	.9909	-.0000	.0018	21.03	24.61	.0020
19	QC_MCVB 960106I901	.0350	1.985	2.001	.0234	-1.227	.9943
20	QC SSTA 951208I902	-.0887	.0237	.0871	204.0	102.8	50.28
21	QC SSTMCV 951208I903	.0012	-.0003	.0071	.5854	50.46	.0109
22	QC_SRM-1643d 108518	0.0155	-.0012	.0007	0.0990	01.943	.0027
23	QC CCV1 960126H901	2.062	-.0005	-.0001	2.103	4.413	-.0031
24	ICP1.0 960103F100	-.0006	-.0015	-.0005	-.0050	-.4956	-.0034
25	96-2605-BLK	.0105	.0059	.0018	.0274	2529.	.0083
26	96-2605 @5	-.0001	.0006	.0002	.3691	502.8	-.0012
27	96-2605	.0141	.0090	.0030	1.870	2463.	.0138
28	96-2605 PS-A	.5117	.0066	.0031	11.49	1257.	.0130
29	MCVA @2	.5062	-.0015	.0003	10.92	12.42	-.0016
30	96-2605 PS-B	.0259	.9607	.9625	.9301	1207.	.4967
31	MCVB @2	.0170	.9760	.9841	.0074	.8339	.4987
32	96-2605 DUP	.0093	.0067	.0026	2.406	2500.	.0089
33	QC_MCVA 960130I901	.9931	-.0002	.0017	21.16	25.72	.0015
34	ICP1.0 960103F100	-.0040	-.0026	-.0009	.0002	-1.109	-.0070
35	96-2607	.0125	.0072	.0025	2.482	2524.	.0112
36	96-2607 DUP	.0117	.0073	.0027	2.367	2500.	.0109
37	96-2609	.0097	.0069	.0023	2.278	2502.	.0110
38	96-2609 DUP	.0121	.0106	.0036	3.351	2457.	.0155
39	SRM2709	.0158	.0099	.0036	10.83	2463.	.0205
40	96-2611-BLK	.0112	.0095	.0030	.0419	2467.	.0148
41	96-2611 @5	-.0034	-.0006	-.0002	.7937	497.2	-.0016
42	96-2611	.0130	.0109	.0036	3.904	2386.	.0147
43	96-2611 PS-A	.5245	.0039	.0023	12.91	1255.	.0066
44	MCVA @2	.5086	-.0009	.0004	11.03	12.55	-.0028
45	QC_MCVA 960130I901	1.025	-.0021	.0011	21.94	24.13	-.0016
46	QC_MCVA 960130I901	.9755	.0047	.0034	20.75	24.94	.0118
47	ICP1.0 960103F100	.0009	.0003	.0003	-.0089	.0392	.0013
48	ICP1.0	.05846	.2263	.04003	.0675	.22776	.11646
49	ICP1.1B	.45429			7.50883		
50	ICP1.1A	3.93256			70.0979		
51	ICP1.2					2.3505	
52	ICP1.3		42.1737	10.3326			5.56883
53	ICP1.4						

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#	Sample Name	Cu	Dy	Eu	Fe	K	La
54	ICP1.5						
55	ICP1.6						
56	ICP1.7						
57	ICP1.8						
58	ICPI.9						
59	ICP1.0 960103F100	.0024	.0012	.0005	-.0043	.3376	.0031
60	96-2611 PS-B	.0249	.9395	.9391	1.814	1152.	.4828
61	QC_MCVA 960130I901	.9219	.0026	.0028	19.78	24.26	.0074
62	ICP1.0 960103F100	.0040	.0022	.0006	.0067	.4789	.0050
63	96-2611 PS-B	.0253	.9441	.9437	1.823	1154.	.4820
64	MCVB @2	.0198	.9548	.9607	.0074	1.107	.4830
65	96-2611 DUP	.0175	.0136	.0054	3.391	2262.	.0231
66	96-2613	.0177	.0125	.0044	3.033	2311.	.0209
67	96-2613 DUP	.0141	.0112	.0041	2.546	2288.	.0206
68	96-2615	.0158	.0114	.0041	2.535	2317.	.0185
69	96-2615 DUP	.0144	.0107	.0038	2.581	2333.	.0175
70	SRM2709	.0215	.0111	.0040	8.692	2215.	.0225
71	QC_MCVA 960130I901	.9188	.0021	.0024	19.74	24.30	.0065
72	QC_MCVB 960206I901	.0323	1.872	1.883	.0167	-.1727	.9329
73	QC SSTA 951208I902	-.0949	.0294	.0853	192.7	98.24	47.35
74	QC SSTMCV 951208I903	.0009	.0024	.0077	.6095	49.10	.0267
75	QC_SRM-1643d 108518	0.0190	.0035	.0020	.0941	02.717	.0101
76	QC CCV1 960126H901	1.933	.0035	.0013	1.999	5.017	.0056
77	ICP1.0 960103F100	.0046	.0025	.0008	-.0048	.1806	.0038

#	Sample Name	Li	Mg	Mn	Mo	Na	Na+
1	SPC-BLK 108447	435.333	2649.33	218.667	881	452.333	10292.3
2	SPC-BLK 108447	-.0131	-.0541	-.0016	-.0118	-.2181	-18.53
3	SPC-STD 960103I100	20932.7	2730.33	62850	915	455	10909.7
4	SPC-STD 960103I100	10.28	-.0557	10.05	-.0097	-.2028	-5.293
5	ICP1.0	.04373	.26773	.02213	.09839	.04526	1.03629
6	ICP1.1B		4.50263		1.2236	.49	
7	ICP1.1A		39.5629		11.2051	4.40316	
8	ICP1.2	10.3105		6.29103			
9	ICP1.3						
10	ICP1.4						
11	ICP1.5						
12	ICP1.6						
13	ICP1.7						
14	ICP1.8						
15	ICPI.9						16.255
16	ICP1.0 960103F100	.0117	.0346	.0017	.0119	.2468	17.73
17	ICP1.0 960103F100	-.0005	-.0130	.0001	.0003	-.0223	-.0887
18	QC_MCVA 960130I901	1.996	33.81	.5241	1.047	37.37	42.73
19	QC_MCVB 960106I901	-.0002	-.1251	.0011	.0094	1.519	52.70
20	QC SSTA 951208I902	.0330	-.8518	.0195	.1077	.8272	406.8
21	QC SSTMCV 951208I903	.0013	-.1046	.1074	.0056	5.144	42.17
22	QC_SRM-1643d 108518	0.0183	08.866	0.0409	0.1188	022.47	21.46
23	QC CCV1 960126H901	2.028	2.162	1.054	2.055	8.575	7.702
24	ICP1.0 960103F100	-.0008	-.0246	.0003	.0007	-.0413	-1.978
25	96-2605-BLK	.0052	.0184	.0651	.0086	1.149	7.996
26	96-2605 @5	.0107	-.0155	.0165	.0009	4.032	4.028

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#	Sample Name	Li	Mg	Mn	Mo	Na	Na+
27	96-2605	.0510	.0380	.0836	.0136	20.03	33.06
28	96-2605 PS-A	1.002	17.08	.3065	.5385	28.67	41.20
29	MCVA @2	1.038	17.60	.2723	.5438	19.46	20.50
30	96-2605 PS-B	.0294	-.0080	.0421	.0141	10.56	47.01
31	MCVB @2	.0018	-.0518	.0009	.0062	.7692	30.56
32	96-2605 DUP	.0643	.0272	.1004	.0138	26.97	34.95
33	QC_MCVA 960130I901	2.002	33.98	.5279	1.059	37.76	42.33
34	ICP1.0 960103F100	-.0024	-.0148	-.0001	-.0004	-.0583	-4.189
35	96-2607	.0106	.0463	.0876	.0187	29.25	39.99
36	96-2607 DUP	.0107	.0397	.1189	.0170	26.74	37.80
37	96-2609	.0119	.0230	.0993	.0144	20.69	30.45
38	96-2609 DUP	.0192	.0419	.1141	.0185	28.60	41.86
39	SRM2709	.0222	4.818	.2488	.0130	4.640	15.03
40	96-2611-BLK	.0078	.0770	.0986	.0082	1.213	12.69
41	96-2611 @5	.0013	.0040	.0270	.0034	6.169	4.492
42	96-2611	.0073	.1079	.1325	.0190	30.18	44.03
43	96-2611 PS-A	1.003	17.62	.3409	.5589	34.97	43.53
44	MCVA @2	1.030	17.72	.3752	.5524	19.55	20.31
45	QC_MCVA 960130I901	2.076	035.14	.5476	1.099	39.23	41.73
46	QC_MCVA 960130I901	1.964	33.34	.5180	1.039	37.24	49.18
47	ICP1.0 960103F100	.0000	-.0191	-.0003	-.0015	-.0090	.3747
48	ICP1.0	.04566	.28116	.02333	.09556	.04766	1.08599
49	ICP1.1B		4.72334		1.30113	.51123	
50	ICP1.1A		40.6236		11.6705	4.63103	
51	ICP1.2	10.5563		6.4762			
52	ICP1.3						
53	ICP1.4						
54	ICP1.5						
55	ICP1.6						
56	ICP1.7						
57	ICP1.8						
58	ICP1.9						15.6159
59	ICP1.0 960103F100	.0025	-.0044	.0000	.0002	.0981	2.974
60	96-2611 PS-B	.0098	.0192	.0632	.0134	14.98	59.58
61	QC_MCVA 960130I901	1.895	31.89	.5023	.9795	35.40	48.74
62	ICP1.0 960103F100	.0033	.0126	.0005	.0024	.0728	2.824
63	96-2611 PS-B	.0100	.0229	.0639	.0126	15.01	57.89
64	MCVB @2	.0059	-.0371	.0012	.0064	.8409	37.56
65	96-2611 DUP	.0133	.1161	.1268	.0177	26.71	48.78
66	96-2613	.0203	.1291	.1216	.0160	24.52	45.30
67	96-2613 DUP	.0186	.1072	.0969	.0150	22.21	41.92
68	96-2615	.0270	.1062	.0901	.0167	23.28	43.21
69	96-2615 DUP	.0260	.1103	.1290	.0173	24.75	43.04
70	SRM2709	.0208	3.953	.2706	.0106	3.970	19.28
71	QC_MCVA 960130I901	1.888	31.83	.5022	.9793	35.39	47.76
72	QC_MCVB 960206I901	.0044	-.0844	.0015	.0105	1.502	64.25
73	QC SSTA 951208I902	.0390	-.6722	.0192	.1023	.9070	444.8
74	QC SSTMCV 951208I903	.0059	-.0825	.1046	.0057	5.079	49.94
75	QC_SRM-1643d 108518	0.0216	08.469	0.0404	0.1149	021.59	28.78
76	QC CCV1 960126H901	1.936	2.076	1.022	1.951	8.296	14.64
77	ICP1.0 960103F100	.0024	.0054	.0004	.0022	.0439	2.581

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#	Sample Name	Nd	Ni	P	Pb	Pd	Rh
1	SPC-BLK 108447	4104.67	536	1414.67	14972.3	16538.3	16699.3
2	SPC-BLK 108447	-.0888	-.0135	-.0609	-.0905	-.2751	-.1266
3	SPC-STD 960103I100	4105.33	532	1551	128751	16529.3	16681
4	SPC-STD 960103I100	-.0880	-.0149	-.0943	9.708	-.2785	-.1281
5	ICP1.0	.41243	.05319	.14113	1.51646	1.6639	1.67996
6	ICP1.1B		.64086		7.35743		
7	ICP1.1A		5.75046		58.4794		
8	ICP1.2			12.3389			
9	ICP1.3	14.0655					
10	ICP1.4						
11	ICP1.5						
12	ICP1.6						
13	ICP1.7						
14	ICP1.8					18.3139	42.4448
15	ICPI.9						
16	ICP1.0 960103F100	.0848	.0124	.0896	.0740	.2367	.1145
17	ICP1.0 960103F100	.0046	.0031	.0016	.0004	.0006	.0020
18	QC_MCVA 960130I901	.0064	1.048	5.140	2.627	-.0302	-.0084
19	QC_MCVB 960106I901	1.945	.0199	.1231	.2664	2.185	2.024
20	QC SSTA 951208I902	.1590	199.5	207.6	1.042	1.133	.2231
21	QC SSTMCV 951208I903	-.0016	.6825	4.230	3.202	.0162	-.0002
22	QC_SRM-1643d 108518	.0035	0.1345	.0117	0.0152	-.0280	-.0118
23	QC CCV1 960126M901	-.0071	2.163	5.030	2.101	-.0277	-.0153
24	ICP1.0 960103F100	-.0094	.0375	-.0202	-.0108	-.0333	-.0169
25	96-2605-BLK	.0376	.6463	.0857	.0486	.0895	.0536
26	96-2605 @5	.0051	.1565	.8556	-.0015	.0034	-.0011
27	96-2605	.0582	.6817	4.514	.0691	.1495	.0731
28	96-2605 PS-A	.0446	.8773	4.845	1.389	.0847	.0552
29	MCVA @2	-.0066	.5683	2.668	1.365	-.0504	-.0182
30	96-2605 PS-B	.9996	.3602	2.218	.1773	1.157	1.049
31	MCVB @2	.9837	.0388	.0810	.1504	1.129	1.033
32	96-2605 DUP	.0347	.6063	6.104	.0500	.0825	.0458
33	QC_MCVA 960130I901	.0041	1.073	5.166	2.649	-.0435	-.0087
34	ICP1.0 960103F100	-.0193	.0123	-.0226	-.0097	-.0594	-.0302
35	96-2607	.0364	.6685	7.359	.0679	.1151	.0614
36	96-2607 DUP	.0466	.9907	6.743	.0592	.1165	.0616
37	96-2609	.0413	.9683	4.626	.0641	.1122	.0572
38	96-2609 DUP	.0603	.8597	6.592	.0772	.1523	.0832
39	SRM2709	.0595	2.565	.3315	.1391	.1482	.0746
40	96-2611-BLK	.0593	.3740	.1104	.0612	.1628	.0783
41	96-2611 @5	-.0091	.1063	1.443	.0030	-.0257	-.0079
42	96-2611	.0593	.4988	7.392	.0849	.1742	.0839
43	96-2611 PS-A	.0240	.8086	6.439	1.418	.0482	.0318
44	MCVA @2	-.0064	.5607	2.668	1.364	-.0456	-.0169
45	QC_MCVA 960130I901	-.0123	1.098	5.305	2.724	-.0799	-.0259
46	QC_MCVA 960130I901	.0384	1.048	5.091	2.620	.0669	.0381
47	ICP1.0 960103F100	.0027	.0001	.0067	.0012	.0027	.0004
48	ICP1.0	.43083	.0579	.1518	1.61676	1.7501	1.76636
49	ICP1.1B		.69136		7.76783		
50	ICP1.1A		6.04776		59.8807		
51	ICP1.2			12.5152			
52	ICP1.3	14.4581					
53	ICP1.4						

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#	Sample Name	Nd	Ni	P	Pb	Pd	Rh
54	ICP1.5						
55	ICP1.6						
56	ICP1.7						
57	ICP1.8					18.2912	42.6674
58	ICPI.9						
59	ICP1.0 960103F100	.0116	-.0005	-.0094	-.0021	.0274	.0074
60	96-2611 PS-B	.9792	.2314	3.429	.1684	1.350	1.061
61	QC_MCVA 960130I901	.0228	.9766	4.833	2.465	.0312	.0186
62	ICP1.0 960103F100	.0119	.0021	.0174	.0013	.0400	.0209
63	96-2611 PS-B	.9773	.2297	3.404	.1679	1.341	1.065
64	MCVB @2	.9768	.0096	.0976	.1368	1.308	1.059
65	96-2611 DUP	.0817	.2783	6.500	.0912	.2459	.1118
66	96-2613	.0779	.1304	5.330	.0748	.2231	.1083
67	96-2613 DUP	.0701	.4458	4.804	.0721	.2111	.0973
68	96-2615	.0708	.6070	5.568	.0771	.2137	.1003
69	96-2615 DUP	.0655	.3128	5.710	.0678	.1909	.0894
70	SRM2709	.0694	1.183	.2875	.1190	.1870	.0866
71	QC_MCVA 960130I901	.0168	.9742	4.855	2.444	.0170	.0129
72	QC_MCVB 960206I901	1.873	.0182	.1270	.2484	02.507	2.020
73	QC SSTA 951208I902	.1808	187.3	196.0	.9650	1.146	.3292
74	QC SSTMCV 951208I903	.0084	.6943	4.073	3.044	.0474	.0239
75	QC_SRM-1643d 108518	.0289	0.1270	.0480	0.0261	.0578	.0268
76	QC CCV1 960126H901	.0167	2.049	4.829	2.024	.0496	.0207
77	ICP1.0 960103F100	.0113	.0437	.0157	-.0024	.0366	.0150

#	Sample Name	Ru	Sb	Se	Si	Sn	Sr
1	SPC-BLK 108447	4712	2816	1556	4333.33	7535.67	165
2	SPC-BLK 108447	-.0517	-.0732	-.0809	-.0567	-.3848	-.0014
3	SPC-STD 960103I100	4753.67	2913.33	1575	4405.33	7602.67	167
4	SPC-STD 960103I100	-.0453	-.0394	-.0683	-.0342	-.3715	-.0011
5	ICP1.0	.4767	.28503	.15793	.4287	.75953	.01659
6	ICP1.1B						.83123
7	ICP1.1A						8.07606
8	ICP1.2						
9	ICP1.3	35.812					
10	ICP1.4		29.4677				
11	ICP1.5						
12	ICP1.6				71.7362		
13	ICP1.7			3.2387			
14	ICP1.8					7.58486	
15	ICPI.9						
16	ICP1.0 960103F100	.0432	.0693	.0776	.0715	.3396	.0012
17	ICP1.0 960103F100	-.0013	.0043	.0001	-.0080	.0112	.0001
18	QC_MCVA 960130I901	-.0169	02.776	2.569	19.03	.2500	.5143
19	QC_MCVB 960106I901	2.001	.1204	.0761	21.71	2.154	.0030
20	QC SSTA 951208I902	-.0822	.5469	1.510	-.3132	3.261	.0199
21	QC SSTMCV 951208I903	-.0049	2.308	2.592	2.938	.0894	.0014
22	QC_SRM-1643d 108518	-.0036	0.0579	0.0183	2.766	-.0449	0.3082
23	QC CCV1 960126H901	-.0032	.0105	2.025	4.760	.0329	2.039
24	ICP1.0 960103F100	-.0043	-.0080	.0030	-.0128	-.0388	.0004
25	96-2605-BLK	.0195	.0321	.0432	.0917	.2079	.0025
26	96-2605 @5	-.0018	-.0030	.0065	.2438	.0159	.0056

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#	Sample Name	Ru	Sb	Se	Si	Sn	Sr
27	96-2605	.0280	.0505	.0625	1.317	.2851	.0277
28	96-2605 PS-A	.0138	1.451	1.354	10.40	.3240	.2681
29	MCVA @2	-.0095	1.427	1.333	9.891	.0893	.2675
30	96-2605 PS-B	1.012	.0982	.0773	10.72	1.287	.0154
31	MCVB @2	1.009	.0648	.0540	10.20	1.167	.0017
32	96-2605 DUP	.0190	.0308	.0564	1.859	.1890	.0380
33	QC_MCVA 960130I901	-.0100	@2.836	2.605	19.14	.2196	.5197
34	ICP1.0 960103F100	-.0090	-.0086	-.0004	.0006	-.0605	-.0000
35	96-2607	.0220	.0412	.0614	1.895	.2424	.0370
36	96-2607 DUP	.0240	.0446	.0528	1.763	.2567	.0377
37	96-2609	.0245	.0465	.0683	1.540	.2451	.0340
38	96-2609 DUP	.0318	.0650	.0845	2.226	.3295	.0480
39	SRM2709	.0255	.0920	.1541	86.36	.3978	.0727
40	96-2611-BLK	.0304	.0516	.0630	.2258	.3001	.0043
41	96-2611 @5	.0010	.0036	.0178	.5024	.0139	.0108
42	96-2611	.0316	.0623	.0870	2.577	.3657	.0520
43	96-2611 PS-A	.0132	1.506	1.412	11.35	.2531	.2915
44	MCVA @2	-.0028	1.443	1.371	9.958	.1234	.2704
45	QC_MCVA 960130I901	-.0072	@2.903	2.698	19.77	.2112	.5421
46	QC_MCVA 960130I901	.0084	@2.776	2.566	18.76	.3435	.5094
47	ICP1.0 960103F100	.0035	.0063	-.0032	-.0011	.0149	-.0002
48	ICP1.0	.5101	.30476	.16936	.45179	.80223	.0175
49	ICP1.1B						.87739
50	ICP1.1A						8.50879
51	ICP1.2						
52	ICP1.3	36.3608					
53	ICP1.4		29.6191				
54	ICP1.5						
55	ICP1.6				71.5952		
56	ICP1.7			3.30063			
57	ICP1.8					7.57613	
58	ICPI.9						
59	ICP1.0 960103F100	.0025	.0064	.0158	.0196	.0128	.0002
60	96-2611 PS-B	1.002	.1091	.0778	11.34	1.129	.0259
61	QC_MCVA 960130I901	.0131	2.740	2.516	18.78	.1633	.4860
62	ICP1.0 960103F100	.0018	.0191	.0083	.0407	.0461	.0005
63	96-2611 PS-B	1.000	.1134	.0851	11.40	1.123	.0261
64	MCVB @2	1.002	.0833	.0569	10.39	1.027	.0019
65	96-2611 DUP	.0370	.0756	.0709	2.455	.3321	.0464
66	96-2613	.0373	.0762	.0779	2.095	.3052	.0451
67	96-2613 DUP	.0350	.0664	.0839	1.797	.2812	.0369
68	96-2615	.0336	.0668	.0767	1.843	.2897	.0393
69	96-2615 DUP	.0313	.0708	.0609	1.965	.2747	.0414
70	SRM2709	.0312	.0878	.1356	68.85	.3040	.0616
71	QC_MCVA 960130I901	.0111	2.739	2.519	18.76	.1642	.4866
72	QC_MCVB 960206I901	1.923	.1371	.0889	21.21	1.824	.0030
73	QC SSTA 951208I902	.1528	.5727	1.488	-.1509	1.955	.0191
74	QC SSTMCV 951208I903	-.0008	2.304	2.582	2.977	.0785	.0016
75	QC_SRM-1643d 108518	.0069	@.0821	@.0179	2.792	.0603	.2935
76	QC CCV1 960126H901	.0082	.0339	1.996	4.786	.0654	1.943
77	ICP1.0 960103F100	.0032	.0146	.0183	.0192	.0215	.0005

#	Sample Name	Te	Th	Ti	Tl	U	V
1	SPC-BLK 108447	11160	2580.67	714.667	399.333	18708	1077.33
2	SPC-BLK 108447	-.0889	.0055	-.0056	-.0779	-1.381	-.0096
3	SPC-STD 960103I100	11790	2580	717.333	425	18600.3	1080.33
4	SPC-STD 960103I100	-.0635	.0130	-.0051	-.0351	-1.517	-.0089
5	ICP1.0	1.1208	.25843	.07183	.04053	1.88186	.1083
6	ICP1.1B			1.40219			
7	ICP1.1A			13.4457			
8	ICP1.2						
9	ICP1.3		11.5811				
10	ICP1.4						11.5943
11	ICP1.5					43.8446	
12	ICP1.6	47.502					
13	ICP1.7				1.1821		
14	ICP1.8						
15	ICPI.9						
16	ICP1.0 960103F100	.0763	-.0002	.0050	.0334	1.269	.0093
17	ICP1.0 960103F100	-.0026	-.0029	.0002	-.0130	.0259	.0005
18	QC_MCVA 960130I901	.0526	.0267	1.019	2.500	.0846	.9824
19	QC_MCVB 9601061901	2.040	Q6.876	.0066	.0095	24.56	-.0004
20	QC SSTA 951208I902	.7002	-.2900	.0041	.3405	204.0	.0317
21	QC SSTMCV 951208I903	.0097	-.0260	-.0001	.0045	20.23	.5026
22	QC_SRM-1643d 108518	.0004	-.0154	.0002	Q.0124	.1129	Q.0334
23	QC CCV1 960126H901	.0225	.0036	.0001	1.967	-.1477	.9602
24	ICP1.0 960103F100	-.0089	-.0021	-.0005	.0024	-.1655	-.0011
25	96-2605-BLK	.0393	-.0011	.0037	.0181	.5735	.0047
26	96-2605 @5	-.0048	.0011	.0008	.0059	.0584	.0004
27	96-2605	.0557	-.0007	.0067	.0359	1.051	.0073
28	96-2605 PS-A	.0665	.0148	.5147	1.271	.7717	.4988
29	MCVA @2	.0232	.0146	.5281	1.287	-.1173	.5089
30	96-2605 PS-B	1.055	3.363	.0083	.0297	12.52	.0064
31	MCVB @2	1.029	3.402	.0046	.0079	12.30	.0025
32	96-2605 DUP	.0450	.0029	.0067	.0170	.8163	.0049
33	QC_MCVA 960130I901	.0551	.0348	1.029	2.481	-.0120	.9991
34	ICP1.0 960103F100	-.0175	.0041	-.0010	-.0083	-.3639	-.0018
35	96-2607	.0549	-.0004	.0074	.0353	.9323	.0061
36	96-2607 DUP	.0605	-.0024	.0091	.0344	.9175	.0060
37	96-2609	.0505	-.0072	.0063	.0380	.8198	.0056
38	96-2609 DUP	.0731	-.0026	.0095	.0401	1.212	.0080
39	SRM2709	.0941	.0076	.9466	.0718	.8350	.0403
40	96-2611-BLK	.0525	-.0096	.0063	.0409	.8622	.0072
41	96-2611 @5	-.0041	.0009	.0008	.0071	-.0322	.0003
42	96-2611	.0718	-.0041	.0100	.0401	1.316	.0088
43	96-2611 PS-A	.0613	.0168	.5340	1.336	.5418	.5132
44	MCVA @2	.0255	.0144	.5330	1.311	-.1546	.5120
45	QC_MCVA 960130I901	.0464	.0332	1.068	2.616	-.1567	1.025
46	QC_MCVA 960130I901	.0534	.0262	1.008	2.491	.5707	.9702
47	ICP1.0 960103F100	-.0025	-.0040	-.0004	-.0109	.0541	-.0006
48	ICP1.0	1.20106	.27256	.07503	.04286	1.9663	.1137
49	ICP1.1B			1.4781			
50	ICP1.1A			14.0265			
51	ICP1.2						
52	ICP1.3		11.8191				
53	ICP1.4						11.6178

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#	Sample Name	Te	Th	Ti	Tl	U	V
54	ICP1.5					44.9232	
55	ICP1.6	48.0906					
56	ICP1.7				1.18723		
57	ICP1.8						
58	ICPI.9						
59	ICP1.0 960103F100	.0079	-.0084	.0002	-.0036	.1997	.0005
60	96-2611 PS-B	1.062	3.224	.0090	.0263	12.47	.0075
61	QC_MCVA 960130I901	.0550	.0255	.9583	2.453	.3953	.9641
62	ICP1.0 960103F100	.0069	-.0015	.0011	-.0083	.2306	.0019
63	96-2611 PS-B	1.050	3.228	.0089	.0278	12.43	.0073
64	MCVB @2	1.044	3.274	.0045	.0117	12.07	.0034
65	96-2611 DUP	.0797	-.0005	.0107	.0275	1.587	.0108
66	96-2613	.0755	-.0043	.0107	.0411	1.457	.0089
67	96-2613 DUP	.0592	.0024	.0082	.0307	1.344	.0083
68	96-2615	.0663	-.0079	.0076	.0375	1.428	.0091
69	96-2615 DUP	.0618	-.0042	.0091	.0363	1.349	.0083
70	SRM2709	.0888	.0065	.7551	.0491	1.004	.0355
71	QC_MCVA 960130I901	.0392	.0297	.9571	2.439	.2967	.9617
72	QC_MCVB 960206I901	1.990	Q6.179	.0070	.0060	23.25	.0033
73	QC SSTA 951208I902	.7305	-.0345	.0018	.3394	195.7	.0497
74	QC SSTMCV 951208I903	.0208	.0074	.0002	.0017	19.98	.5029
75	QC_SRM-1643d 108518	.0069	-.0100	.0013	Q.0217	.4978	Q.0357
76	QC CCV1 960126H901	.0331	.0093	.0012	1.977	.2683	.9532
77	ICP1.0 960103F100	.0075	-.0015	.0009	-.0001	.1410	.0017

#	Sample Name	W	Y	Zn	Zr
1	SPC-BLK 108447	353.667	273.667	399.667	871
2	SPC-BLK 108447	-.0441	-.0047	-.0021	-.0111
3	SPC-STD 960103I100	363.333	274	133264	870
4	SPC-STD 960103I100	-.0269	-.0045	9.685	-.0117
5	ICP1.0	.03593	.02759	.03849	.08766
6	ICP1.1B			2.77796	2.48806
7	ICP1.1A			26.7849	23.6493
8	ICP1.2				
9	ICP1.3				
10	ICP1.4		2.9335		
11	ICP1.5				
12	ICP1.6				
13	ICP1.7				
14	ICP1.8	2.88373			
15	ICPI.9				
16	ICP1.0 960103F100	.0344	.0043	.0023	.0081
17	ICP1.0 960103F100	.0142	.0003	-.0007	.0001
18	QC_MCVA 960130I901	.0410	.0013	1.043	2.041
19	QC_MCVB 960106I901	2.023	.9803	.0049	.0041
20	QC SSTA 951208I902	.5663	.0180	.0833	.0679
21	QC SSTMCV 951208I903	.0269	-.0007	-.0014	.5246
22	QC_SRM-1643d 108518	.0004	.0004	Q.0762	.0003
23	QC CCV1 960126H901	.0075	-.0002	1.055	-.0013
24	ICP1.0 960103F100	-.0083	-.0005	-.0004	-.0015
25	96-2605-BLK	.0142	.0020	.0057	.0048
26	96-2605 @5	.0015	.0001	.0002	.0012

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#	Sample Name	W	Y	Zn	Zr
27	96-2605	.0340	.0030	.0100	.0117
28	96-2605 PS-A	.0447	.0027	.5347	1.026
29	MCVA @2	.0318	.0000	.5451	1.057
30	96-2605 PS-B	1.020	.4800	.0087	.0063
31	MCVB @2	1.018	.4846	.0033	.0009
32	96-2605 DUP	.0214	.0022	.0103	.0116
33	QC_MCVA 960130I901	.0422	.0011	1.052	2.063
34	ICP1.0 960103F100	-.0098	-.0011	-.0001	-.0017
35	96-2607	.0241	.0021	.0103	.0144
36	96-2607 DUP	.0182	.0025	.0085	.0187
37	96-2609	.0331	.0022	.0314	.0106
38	96-2609 DUP	.0343	.0032	.0437	.0148
39	SRM2709	.0422	.0079	.0426	.0223
40	96-2611-BLK	.0279	.0030	.0036	.0078
41	96-2611 @5	.0082	-.0002	.0070	.0018
42	96-2611	.0367	.0030	.0164	.0207
43	96-2611 PS-A	.0342	.0019	.5594	1.071
44	MCVA @2	.0240	-.0001	.5513	1.070
45	QC_MCVA 960130I901	.0470	.0003	Q1.101	2.149
46	QC_MCVA 960130I901	.0570	.0029	1.046	2.026
47	ICP1.0 960103F100	-.0085	-.0000	-.0015	-.0001
48	ICP1.0	.03783	.02869	.0416	.09216
49	ICP1.1B			3.0281	2.63016
50	ICP1.1A			28.488	24.7998
51	ICP1.2				
52	ICP1.3				
53	ICP1.4		2.89179		
54	ICP1.5				
55	ICP1.6				
56	ICP1.7				
57	ICP1.8	2.83033			
58	ICP1.9				
59	ICP1.0 960103F100	.0074	.0002	-.0006	.0002
60	96-2611 PS-B	1.004	.4806	.0097	-.0002
61	QC_MCVA 960130I901	.0479	.0023	.9790	1.927
62	ICP1.0 960103F100	.0056	.0007	-.0002	.0014
63	96-2611 PS-B	1.010	.4821	.0100	-.0002
64	MCVB @2	.9860	.4861	.0053	-.0088
65	96-2611 DUP	.0390	.0047	.0130	.0175
66	96-2613	.0284	.0043	.0120	.0186
67	96-2613 DUP	.0285	.0040	.0101	.0115
68	96-2615	.0267	.0039	.0241	.0132
69	96-2615 DUP	.0162	.0035	.0255	.0130
70	SRM2709	.0413	.0080	.0307	.0113
71	QC_MCVA 960130I901	.0445	.0017	.9794	1.930
72	QC_MCVB 960206I901	1.944	.9463	.0034	-.0128
73	QC SSTA 951208I902	.5580	.0233	.0662	.0436
74	QC SSTMCV 951208I903	.0282	.0008	-.0001	.5025
75	QC_SRM-1643d 108518	.0130	.0014	.0726	.0022
76	QC CCV1 960126H901	.0161	.0010	.9953	.0011
77	ICP1.0 960103F100	.0097	.0007	-.0009	.0008

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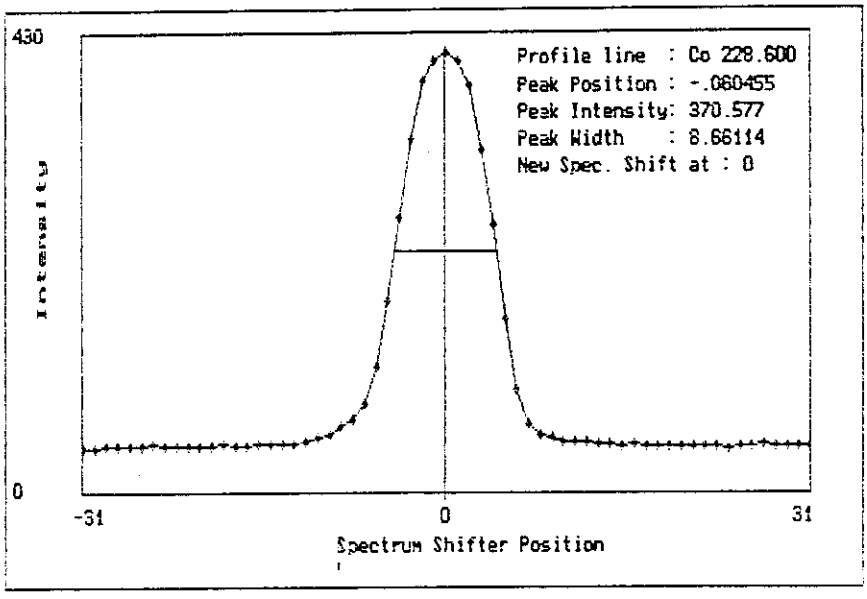
2/7/96 DKB



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Method: ICP1A Sample Name: SPC-BLK 108447 Operator: DRS
Run Time: 02/07/96 08:47:39
Comment: SPC-BLK FOR Mn/Cu RATIO
Mode: INT Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	7347	2306	1735	1213	345	199	1612
SDev	11	3	20	20	0	2	12
%RSD	.1455	.1091	1.151	1.620	.0000	.7663	.7314
#1	7353	2306	1713	1203	345	201	1602
#2	7335	2304	1740	1236	345	198	1609
#3	7354	2309	1752	1201	345	199	1625

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	1365	505	6999	1606	500	550	2142
SDev	1	14	25	3	5	2	4
%RSD	.0733	2.690	.3527	.1567	.9872	.2776	.1886
#1	1364	489	7020	1603	503	549	2138
#2	1365	513	6972	1606	494	552	2143
#3	1366	512	7006	1608	502	550	2146

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	379	637	2229	1106	435	2649	219
SDev	0	1	3	3	2	13	2
%RSD	.0000	.1570	.1295	.2276	.4782	.5026	.6986
#1	379	638	2231	1108	437	2658	219
#2	379	636	2226	1103	436	2634	217
#3	379	637	2231	1106	433	2656	220

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Avge	881	452	10290	4105	536	1415	14970
SDev	9	4	36	9	2	18	20
%RSD	.9895	.9204	.3468	.2184	.3231	1.285	.1364
#1	877	457	10330	4099	538	1409	14990
#2	875	451	10290	4100	535	1435	14980
#3	891	449	10260	4115	535	1400	14950

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Avge	16540	16700	4712	2816	1556	4333	7536
SDev	59	9	14	15	16	9	19
%RSD	.3545	.0537	.2971	.5303	1.028	.2094	.2540
#1	16570	16700	4712	2799	1556	4340	7557
#2	16470	16690	4698	2822	1540	4323	7530
#3	16580	16710	4726	2827	1572	4337	7520

Elem	Sr	Te	Th	Ti	Tl	U	V
Avge	165	11160	2581	715	399	18710	1077
SDev	1	43	3	2	4	42	1
%RSD	.6061	.3815	.1246	.2137	1.012	.2245	.1072
#1	164	11120	2582	715	404	18710	1076
#2	166	11160	2577	713	397	18670	1078
#3	165	11200	2583	716	397	18750	1078

Elem	W	Y	Zn	Zr
Avge	354	274	400	871
SDev	7	1	12	2
%RSD	1.883	.2110	2.921	.1989
#1	348	274	402	870
#2	361	273	410	870
#3	352	274	387	873

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Method: ICP1A Sample Name: SPC-BLK 108447 Operator: DRS
Run Time: 02/07/96 08:47:39
Comment: SPC-BLK FOR Mn/Cu RATIO
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0160	-.0816	-.0576	-.0052	-.0031	-.0004	-.0608
SDev	.0003	.0008	.0092	.0025	.0000	.0001	.0053
%RSD	1.744	.9956	16.01	47.05	.0000	21.01	8.783
#1	-.0158	-.0820	-.0679	-.0065	-.0031	-.0003	-.0653
#2	-.0163	-.0822	-.0552	-.0024	-.0031	-.0005	-.0622
#3	-.0159	-.0807	-.0499	-.0068	-.0031	-.0005	-.0549

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0105	-.0096	-.0895	-.0098	-.0074	-.0183	-.0144
SDev	.0003	.0014	.0057	.0003	.0008	.0009	.0005
%RSD	2.485	14.91	6.323	2.803	11.27	4.878	3.360
#1	-.0108	-.0113	-.0845	-.0101	-.0069	-.0191	-.0149
#2	-.0103	-.0087	-.0957	-.0098	-.0084	-.0173	-.0142
#3	-.0104	-.0089	-.0883	-.0096	-.0071	-.0186	-.0140

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0048	-.0156	-2.802	-.0226	-.0131	-.0541	-.0016
SDev	.0000	.0003	.069	.0009	.0010	.0065	.0002
%RSD	.2046	1.641	2.474	4.047	8.006	12.03	14.03
#1	-.0048	-.0153	-2.762	-.0217	-.0122	-.0488	-.0016
#2	-.0048	-.0158	-2.882	-.0235	-.0127	-.0614	-.0019
#3	-.0048	-.0157	-2.762	-.0225	-.0142	-.0522	-.0015

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0118	-.2181	-18.53	-.0888	-.0135	-.0609	-.0905
SDev	.0015	.0239	1.28	.0031	.0006	.0152	.0020
%RSD	13.00	10.97	6.883	3.496	4.366	24.94	2.162
#1	-.0126	-.1912	-17.24	-.0909	-.0128	-.0654	-.0892
#2	-.0129	-.2257	-18.56	-.0903	-.0139	-.0439	-.0896
#3	-.0101	-.2372	-19.79	-.0853	-.0139	-.0733	-.0928

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.2751	-.1266	-.0517	-.0732	-.0809	-.0567	-.3848
SDev	.0162	.0008	.0018	.0052	.0107	.0023	.0172
%RSD	5.886	.6312	3.561	7.105	13.26	4.033	4.463
#1	-.2676	-.1260	-.0517	-.0791	-.0808	-.0545	-.3658
#2	-.2937	-.1275	-.0535	-.0710	-.0916	-.0590	-.3891
#3	-.2640	-.1263	-.0498	-.0694	-.0702	-.0564	-.3993

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	-.0889	.0055	-.0056	-.0779	-1.381	-.0096
SDev	.0001	.0046	.0017	.0002	.0073	.050	.0002

%RSD	8.901	5.162	31.61	3.341	9.358	3.645	2.289
#1	-.0015	-.0933	.0061	-.0056	-.0695	-1.381	-.0098
#2	-.0013	-.0892	.0069	-.0058	-.0824	-1.431	-.0094
#3	-.0014	-.0841	.0035	-.0055	-.0819	-1.331	-.0096

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	-.0441	-.0047	-.0021	-.0111
SDev	.0120	.0002	.0009	.0004
%RSD	27.12	3.715	40.50	4.050
#1	-.0543	-.0046	-.0019	-.0113
#2	-.0310	-.0049	-.0013	-.0113
#3	-.0471	-.0046	-.0030	-.0105

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Method: ICP1A Sample Name: SPC-STD 960103I100 Operator: DRS
Run Time: 02/07/96 08:50:30
Comment: SPC-STD FOR Mn/Cu RATIO
Mode: INT Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	7386	2336	1774	1242	343	200	1854
SDev	31	6	17	6	2	0	13
%RSD	.4198	.2616	.9314	.4921	.5050	.0000	.7123
#1	7387	2337	1791	1247	344	200	1851
#2	7417	2341	1773	1235	344	200	1868
#3	7355	2329	1758	1243	341	200	1842

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	1729	517	7003	1580	518	19770	2330
SDev	3	19	24	4	13	64	2
%RSD	.1456	3.628	.3383	.2634	2.547	.3239	.0894
#1	1731	521	7030	1579	521	19770	2329
#2	1729	534	6988	1577	530	19700	2332
#3	1726	497	6990	1585	504	19830	2328

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	379	690	2225	1104	20930	2730	62850
SDev	0	1	6	4	100	5	278
%RSD	.0000	.1673	.2709	.3948	.4796	.1692	.4422
#1	379	691	2231	1106	20910	2733	62880
#2	379	691	2224	1107	20850	2733	62560
#3	379	689	2219	1099	21040	2725	63110

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Avge	915	455	10910	4105	532	1551	128900
SDev	6	3	10	14	1	10	317
%RSD	.6557	.5815	.0954	.3465	.1880	.6700	.2464
#1	921	456	10910	4115	533	1563	128700
#2	915	452	10920	4112	532	1545	128500
#3	909	457	10900	4089	531	1545	129100

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Avge	16530	16680	4754	2913	1575	4405	7603
SDev	42	10	2	32	11	17	21
%RSD	.2565	.0626	.0321	1.112	.6984	.3894	.2766
#1	16540	16670	4754	2934	1564	4421	7604
#2	16570	16690	4752	2876	1575	4408	7623
#3	16480	16690	4755	2930	1586	4387	7581

Elem	Sr	Te	Th	Ti	Tl	U	V
Avge	167	11790	2580	717	425	18600	1080
SDev	0	33	7	2	2	32	1
%RSD	.0000	.2812	.2713	.2129	.4075	.1722	.1069
#1	167	11780	2585	716	427	18600	1081
#2	167	11830	2583	717	424	18630	1079
#3	167	11770	2572	719	424	18570	1081

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Elem	W	Y	Zn	Zr
Avge	363	274	133300	870
SDev	2	0	400	2
%RSD	.4204	.0000	.3001	.2299
#1	363	274	133200	868
#2	365	274	132900	872
#3	362	274	133700	870

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Method: ICP1A Sample Name: SPC-STD 960103I100 Operator: DRS
Run Time: 02/07/96 08:50:30
Comment: SPC-STD FOR Mn/Cu RATIO
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0141	-.0749	-.0392	-.0016	-.0033	-.0004	-.0473
SDev	.0011	.0040	.0076	.0008	.0002	.0000	.0063
%RSD	7.639	5.358	19.37	48.36	7.174	.8160	13.31
#1	-.0141	-.0741	-.0313	-.0010	-.0032	-.0004	-.0485
#2	-.0131	-.0714	-.0399	-.0025	-.0032	-.0004	-.0405
#3	-.0152	-.0793	-.0465	-.0014	-.0036	-.0004	-.0529

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1025	-.0084	-.0879	-.0127	-.0043	10.16	-.0117
SDev	.0007	.0021	.0057	.0005	.0023	.03	.0003
%RSD	.6867	24.65	6.456	4.040	52.84	.3347	2.591
#1	.1032	-.0081	-.0813	-.0129	-.0038	10.16	-.0118
#2	.1024	-.0065	-.0916	-.0132	-.0023	10.13	-.0114
#3	.1018	-.0106	-.0906	-.0122	-.0067	10.20	-.0119

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0048	-.0153	-2.914	-.0231	10.28	-.0557	10.05
SDev	.0000	.0003	.145	.0016	.05	.0019	.04
%RSD	.3362	2.174	4.968	6.893	.4904	3.376	.4440
#1	-.0048	-.0152	-2.762	-.0223	10.27	-.0540	10.05
#2	-.0048	-.0152	-2.930	-.0220	10.24	-.0555	9.999
#3	-.0048	-.0157	-3.050	-.0249	10.34	-.0577	10.09

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0097	-.2028	-5.293	-.0880	-.0149	-.0943	9.708
SDev	.0011	.0152	.302	.0051	.0003	.0089	.028
%RSD	10.89	7.491	5.698	5.803	2.293	9.399	.2834
#1	-.0087	-.1971	-5.171	-.0844	-.0145	-.0840	9.700
#2	-.0097	-.2201	-5.072	-.0857	-.0149	-.0990	9.686
#3	-.0108	-.1914	-5.637	-.0938	-.0152	-.0998	9.739

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.2785	-.1281	-.0453	-.0394	-.0683	-.0342	-.3715
SDev	.0114	.0014	.0003	.0113	.0074	.0046	.0171
%RSD	4.076	1.117	.7547	28.73	10.81	13.39	4.600
#1	-.2789	-.1296	-.0452	-.0322	-.0757	-.0296	-.3702
#2	-.2670	-.1278	-.0457	-.0524	-.0684	-.0342	-.3551
#3	-.2897	-.1268	-.0450	-.0335	-.0609	-.0387	-.3892

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0011	-.0635	.0130	-.0051	-.0351	-1.517	-.0089
SDev	.0000	.0036	.0022	.0003	.0030	.038	.0003

%RSD	.0547	5.699	16.72	4.832	8.456	2.500	2.867
#1	-.0011	-.0652	.0155	-.0053	-.0317	-1.521	-.0088
#2	-.0011	-.0594	.0120	-.0052	-.0370	-1.477	-.0092
#3	-.0011	-.0661	.0116	-.0048	-.0366	-1.552	-.0087

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	-.0269	-.0045	9.685	-.0117
SDev	.0027	.0000	.029	.0005
%RSD	10.05	.5557	.3010	4.670
#1	-.0274	-.0045	9.678	-.0124
#2	-.0239	-.0045	9.660	-.0113
#3	-.0292	-.0045	9.717	-.0116

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Method: ICP1A Standard: ICP1.0

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	.7383	.2319	.1766	.1201	.0346	.0200	.1657
SDev	.0017	.0003	.0019	.0010	.0001	.0001	.0008
%RSD	.2244	.1245	1.049	.8653	.1667	.2882	.4940
#1	.7400	.2321	.1767	.1195	.0347	.0201	.1659
#2	.7367	.2316	.1747	.1213	.0346	.0200	.1648
#3	.7381	.2321	.1784	.1195	.0346	.0200	.1664

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	.1413	.0565	.7040	.1577	.0505	.0556	.2153
SDev	.0002	.0019	.0026	.0006	.0006	.0005	.0001
%RSD	.1415	3.291	.3693	.3805	1.205	.8312	.0536
#1	.1415	.0586	.7070	.1577	.0509	.0561	.2154
#2	.1413	.0556	.7024	.1571	.0508	.0553	.2152
#3	.1411	.0552	.7026	.1583	.0498	.0553	.2152

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	.0381	.0644	.2239	.1111	.0437	.2677	.0221
SDev	.0001	.0001	.0005	.0001	.0003	.0007	.0001
%RSD	.1514	.0897	.2047	.1039	.5754	.2702	.5217
#1	.0382	.0644	.2243	.1112	.0437	.2681	.0222
#2	.0381	.0644	.2234	.1110	.0435	.2669	.0220
#3	.0381	.0643	.2240	.1112	.0440	.2682	.0222

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Avge	.0884	.0453	1.036	.4124	.0532	.1411	1.516
SDev	.0008	.0001	.003	.0007	.0004	.0032	.008
%RSD	.8979	.2551	.3106	.1614	.6777	2.260	.5112
#1	.0893	.0452	1.040	.4130	.0531	.1438	1.508
#2	.0881	.0454	1.034	.4117	.0529	.1420	1.523
#3	.0878	.0452	1.035	.4126	.0536	.1376	1.518

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Avge	1.664	1.680	.4767	.2850	.1579	.4287	.7595
SDev	.000	.004	.0015	.0031	.0022	.0009	.0012
%RSD	.0217	.2297	.3147	1.090	1.402	.2099	.1571
#1	1.664	1.684	.4782	.2885	.1595	.4296	.7605
#2	1.664	1.677	.4752	.2825	.1554	.4287	.7599
#3	1.664	1.679	.4767	.2841	.1589	.4278	.7582

Elem	Sr	Te	Th	Ti	Tl	U	V
Avge	.0166	1.121	.2584	.0718	.0405	1.882	.1083
SDev	.0000	.010	.0006	.0001	.0005	.005	.0002
%RSD	.0000	.8677	.2364	.1607	1.266	.2875	.1599
#1	.0166	1.111	.2591	.0719	.0401	1.888	.1085
#2	.0166	1.130	.2579	.0717	.0404	1.878	.1082
#3	.0166	1.122	.2583	.0719	.0411	1.879	.1082

Elem	W	Y	Zn	Zr
Avge	.0359	.0276	.0385	.0877
SDev	.0001	.0002	.0006	.0001

%RSD	.3213	.6276	1.622	.1742
#1	.0360	.0278	.0380	.0878
#2	.0360	.0275	.0383	.0875
#3	.0358	.0275	.0392	.0877

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Method: ICP1A Standard: ICP1.1B

Elem	Ba	Co	Cr	Cu	Fe	Mg	Mo
Avge	.7526	1.887	1.226	.4423	7.115	4.503	1.224
SDev	.0052	.009	.008	.0021	.044	.021	.004
%RSD	.6955	.4910	.6267	.4835	.6237	.4584	.2864
#1	.7566	1.893	1.223	.4434	7.142	4.515	1.227
#2	.7546	1.891	1.235	.4436	7.140	4.515	1.223
#3	.7467	1.876	1.221	.4398	7.064	4.479	1.220

Elem	Na	Ni	Pb	Sr	Ti	Zn	Zr
Avge	.4900	.6409	7.357	.8312	1.402	2.778	2.488
SDev	.0041	.0028	.018	.0062	.009	.018	.017
%RSD	.8322	.4425	.2446	.7417	.6527	.6458	.6798
#1	.4926	.6427	7.348	.8361	1.409	2.771	2.501
#2	.4921	.6423	7.378	.8333	1.405	2.798	2.494
#3	.4853	.6376	7.346	.8243	1.392	2.765	2.469

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Method: ICP1A Standard: ICP1.1A

Elem	Ba	Co	Cr	Cu	Fe	Mg	Mo
Avge	7.144	16.97	11.47	3.846	67.76	39.56	11.21
SDev	.043	.07	.07	.022	.27	.13	.05
%RSD	.5962	.4131	.5738	.5597	.3995	.3191	.4482
#1	7.134	16.94	11.43	3.837	67.70	39.53	11.19
#2	7.108	16.92	11.43	3.829	67.53	39.46	11.17
#3	7.191	17.05	11.55	3.870	68.06	39.70	11.26

Elem	Na	Ni	Pb	Sr	Ti	Zn	Zr
Avge	4.403	5.750	58.48	8.076	13.45	26.78	23.65
SDev	.029	.024	.20	.051	.07	.12	.11
%RSD	.6588	.4193	.3419	.6307	.5049	.4621	.4738
#1	4.392	5.748	58.44	8.059	13.42	26.73	23.63
#2	4.381	5.728	58.30	8.036	13.39	26.70	23.55
#3	4.436	5.776	58.70	8.133	13.52	26.93	23.77

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Method: ICP1A Standard: ICP1.2

Elem	Al	B	Ca	Cd	K	Li	Mn
Avge	60.95	41.11	81.90	9.011	2.352	10.31	6.291
SDev	.27	.18	.28	.026	.010	.07	.023
%RSD	.4471	.4331	.3476	.2902	.4235	.6459	.3713
#1	60.93	41.07	81.94	9.006	2.352	10.29	6.294
#2	61.23	41.31	82.16	9.039	2.362	10.39	6.313
#3	60.69	40.96	81.60	8.988	2.343	10.26	6.266

Elem	P
Avge	12.34
SDev	.06
%RSD	.5039
#1	12.34
#2	12.40
#3	12.28

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Method: ICP1A Standard: ICP1.3

Elem	Dy	Eu	La	Nd	Ru	Th
Avge	41.19	10.07	5.381	14.07	35.81	11.58
SDev	.23	.06	.029	.08	.18	.05
%RSD	.5572	.5657	.5412	.5986	.4950	.4589
#1	41.00	10.02	5.355	13.99	35.65	11.53
#2	41.45	10.13	5.412	14.15	36.00	11.64
#3	41.12	10.06	5.375	14.06	35.79	11.57

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Method: ICP1A Standard: ICP1.4

Elem	As	Ce	Sb	V	Y
Avge	21.59	21.83	29.47	11.59	2.934
SDev	.05	.04	.04	.01	.004
%RSD	.2216	.1854	.1497	.1008	.1337
#1	21.53	21.79	29.42	11.58	2.929
#2	21.62	21.85	29.48	11.60	2.936
#3	21.61	21.86	29.50	11.60	2.935

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Method: ICP1A Standard: ICP1.5

Elem	U
Avge	43.84
SDev	.47
%RSD	1.079
#1	43.32
#2	43.98
#3	44.23

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Method: ICP1A Standard: ICP1.6

Elem	Be	Si	Te
Avge	1.735	71.74	47.50
SDev	.011	.41	.29
%RSD	.6473	.5677	.6196
#1	1.739	71.82	47.58
#2	1.722	71.29	47.18
#3	1.744	72.09	47.75

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Method: ICP1A Standard: ICP1.7

Elem	Ag	Bi	Se	Tl
Avge	27.73	22.80	3.239	1.182
SDev	.07	.08	.012	.001
%RSD	.2436	.3301	.3613	.1246
#1	27.75	22.85	3.247	1.183
#2	27.79	22.84	3.244	1.182
#3	27.66	22.71	3.225	1.181

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Method: ICP1A Standard: ICP1.B

Elem	Pd	Rh	Sn	W
Avge	18.31	42.44	7.585	2.884
SDev	.14	.34	.046	.023
%RSD	.7399	.8024	.6055	.8142
#1	18.26	42.29	7.558	2.877
#2	18.21	42.21	7.558	2.865
#3	18.47	42.84	7.638	2.910

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Method: ICP1A Standard: ICPI.9

Elem	Na+
Avge	16.26
SDev	.02
%RSD	.1174
#1	16.24
#2	16.25
#3	16.28

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Method: ICP1A Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag	328.068	ICP1.7	ICP1.0	.370494	-.273524	02/07/96 09:52:21
Al	308.215	ICP1.2	ICP1.0	8.23457	-1.90987	02/07/96 09:52:21
As	193.600	ICP1.4	ICP1.0	4.67080	-.824864	02/07/96 09:52:21
B	249.600	ICP1.2	ICP1.0	1.21972	-.146488	02/07/96 09:52:21
Ba	493.400	Multiple	Standards	1.39964	-.048518	02/07/96 09:22:56
Be	313.042	ICP1.6	ICP1.0	.583147	-.011682	02/07/96 09:52:21
Bi	223.061	ICP1.7	ICP1.0	4.41837	-.732123	02/07/96 09:52:21
Ca	317.900	ICP1.2	ICP1.0	3.05775	-.432061	02/07/96 09:52:21
Cd	228.800	ICP1.2	ICP1.0	1.11675	-.063059	02/07/96 09:52:21
Ce	418.659	ICP1.4	ICP1.0	2.36622	-1.66582	02/07/96 09:52:21
Co	228.600	Multiple	Standards	1.17305	-.185241	02/07/96 09:22:56
Cr	205.500	Multiple	Standards	1.72583	-.087417	02/07/96 09:22:56
Cu	324.700	Multiple	Standards	5.22424	-.290474	02/07/96 09:22:56
Dy	353.170	ICP1.3	ICP1.0	1.22021	-.262671	02/07/96 09:52:21
Eu	381.900	ICP1.3	ICP1.0	1.99353	-.076020	02/07/96 09:52:21
Fe	259.900	Multiple	Standards	2.89445	-.189954	02/07/96 09:22:56
K	766.500	ICP1.2	ICP1.0	234.922	-52.5990	02/07/96 09:52:21
La	398.852	ICP1.3	ICP1.0	3.79543	-.421798	02/07/96 09:52:21
Li	670.700	ICP1.2	ICP1.0	4.87007	-.212984	02/07/96 09:52:21
Mg	279.078	Multiple	Standards	6.12527	-1.64832	02/07/96 09:22:56
Mn	257.600	ICP1.2	ICP1.0	1.59518	-.035307	02/07/96 09:52:21
Mo	202.000	Multiple	Standards	1.78034	-.157570	02/07/96 09:22:56
Na	588.900	Multiple	Standards	56.7873	-2.57285	02/07/96 09:22:56
Na+	330.200	ICPI.9	ICP1.0	328.542	-340.469	02/07/96 09:52:21
Nd	406.106	ICP1.3	ICP1.0	3.66217	-1.51040	02/07/96 09:52:21
Ni	231.600	Multiple	Standards	3.45631	-.184153	02/07/96 09:22:56
P	214.900	ICP1.2	ICP1.0	8.19820	-1.15704	02/07/96 09:52:21
Pb	220.300	Multiple	Standards	.866811	-1.31505	02/07/96 09:22:56
Pd	360.959	ICP1.8	ICP1.0	3.00300	-4.99670	02/07/96 09:52:21
Rh	343.489	ICP1.8	ICP1.0	1.22655	-2.06056	02/07/96 09:52:21
Ru	240.271	ICP1.3	ICP1.0	1.41502	-.674539	02/07/96 09:52:21
Sb	206.838	ICP1.4	ICP1.0	3.42670	-.976722	02/07/96 09:52:21
Se	196.026	ICP1.7	ICP1.0	6.49189	-1.02529	02/07/96 09:52:21
Si	288.100	ICP1.6	ICP1.0	2.80475	-1.20240	02/07/96 09:52:21
Sn	242.950	ICP1.8	ICP1.0	7.32565	-5.56408	02/07/96 09:52:21
Sr	421.500	Multiple	Standards	1.23416	-.020535	02/07/96 09:22:56
Te	214.275	ICP1.6	ICP1.0	1.07802	-1.20825	02/07/96 09:52:21
Th	283.730	ICP1.3	ICP1.0	4.41591	-1.14122	02/07/96 09:52:21
Ti	334.900	Multiple	Standards	1.49937	-.107657	02/07/96 09:22:56
Tl	190.864	ICP1.7	ICP1.0	17.5198	-.710135	02/07/96 09:52:21
U	378.280	ICP1.5	ICP1.0	11.9153	-22.4231	02/07/96 09:52:21
V	292.402	ICP1.4	ICP1.0	1.74125	-.188577	02/07/96 09:52:21
W	224.875	ICP1.8	ICP1.0	17.5574	-.630896	02/07/96 09:52:21
Y	371.030	ICP1.4	ICP1.0	3.44127	-.094979	02/07/96 09:52:21
Zn	213.800	Multiple	Standards	.738835	-.028661	02/07/96 09:22:56
Zr	339.100	Multiple	Standards	2.10245	-.184732	02/07/96 09:22:56

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Method: ICP1A Slope = IR/Conc(SIR)

Element	Wavelen	High std	Low std	Slope	BEC	Date Standardized
Ag	328.068	ICP1.7	ICP1.0	2.69910	.273524	02/07/96 09:52:21
Al	308.215	ICP1.2	ICP1.0	.121439	1.90987	02/07/96 09:52:21
As	193.600	ICP1.4	ICP1.0	.214096	.824864	02/07/96 09:52:21
B	249.600	ICP1.2	ICP1.0	.819862	.146488	02/07/96 09:52:21
Ba	493.400	Multiple	Standards	.714468	.048518	02/07/96 09:22:56
Be	313.042	ICP1.6	ICP1.0	1.71483	.011682	02/07/96 09:52:21
Bi	223.061	ICP1.7	ICP1.0	.226328	.732123	02/07/96 09:52:21
Ca	317.900	ICP1.2	ICP1.0	.327037	.432061	02/07/96 09:52:21
Cd	228.800	ICP1.2	ICP1.0	.895457	.063059	02/07/96 09:52:21
Ce	418.659	ICP1.4	ICP1.0	.422615	1.66582	02/07/96 09:52:21
Co	228.600	Multiple	Standards	.852480	.185241	02/07/96 09:22:56
Cr	205.500	Multiple	Standards	.579431	.087417	02/07/96 09:22:56
Cu	324.700	Multiple	Standards	.191416	.290474	02/07/96 09:22:56
Dy	353.170	ICP1.3	ICP1.0	.819529	.262671	02/07/96 09:52:21
Eu	381.900	ICP1.3	ICP1.0	.501623	.076020	02/07/96 09:52:21
Fe	259.900	Multiple	Standards	.345488	.189954	02/07/96 09:22:56
K	766.500	ICP1.2	ICP1.0	.004257	52.5990	02/07/96 09:52:21
La	398.852	ICP1.3	ICP1.0	.263475	.421798	02/07/96 09:52:21
Li	670.700	ICP1.2	ICP1.0	.205336	.212984	02/07/96 09:52:21
Mg	279.078	Multiple	Standards	.163258	1.64832	02/07/96 09:22:56
Mn	257.600	ICP1.2	ICP1.0	.626890	.035307	02/07/96 09:52:21
Mo	202.000	Multiple	Standards	.561689	.157570	02/07/96 09:22:56
Na	588.900	Multiple	Standards	.017610	2.57285	02/07/96 09:22:56
Na+	330.200	ICPI.9	ICP1.0	.003044	340.469	02/07/96 09:52:21
Nd	406.106	ICP1.3	ICP1.0	.273062	1.51040	02/07/96 09:52:21
Ni	231.600	Multiple	Standards	.289326	.184153	02/07/96 09:22:56
P	214.900	ICP1.2	ICP1.0	.121978	1.15704	02/07/96 09:52:21
Pb	220.300	Multiple	Standards	1.15365	1.31505	02/07/96 09:22:56
Pd	360.959	ICP1.8	ICP1.0	.333000	4.99670	02/07/96 09:52:21
Rh	343.489	ICP1.8	ICP1.0	.815296	2.06056	02/07/96 09:52:21
Ru	240.271	ICP1.3	ICP1.0	.706705	.674539	02/07/96 09:52:21
Sb	206.838	ICP1.4	ICP1.0	.291826	.976722	02/07/96 09:52:21
Se	196.026	ICP1.7	ICP1.0	.154038	1.02529	02/07/96 09:52:21
Si	288.100	ICP1.6	ICP1.0	.356538	1.20240	02/07/96 09:52:21
Sn	242.950	ICP1.8	ICP1.0	.136507	5.56408	02/07/96 09:52:21
Sr	421.500	Multiple	Standards	.810269	.020535	02/07/96 09:22:56
Te	214.275	ICP1.6	ICP1.0	.927624	1.20825	02/07/96 09:52:21
Th	283.730	ICP1.3	ICP1.0	.226454	1.14122	02/07/96 09:52:21
Ti	334.900	Multiple	Standards	.666948	.107657	02/07/96 09:22:56
Tl	190.864	ICP1.7	ICP1.0	.057078	.710135	02/07/96 09:52:21
U	378.280	ICP1.5	ICP1.0	.083925	22.4231	02/07/96 09:52:21
V	292.402	ICP1.4	ICP1.0	.574300	.188577	02/07/96 09:52:21
W	224.875	ICP1.8	ICP1.0	.056956	.630896	02/07/96 09:52:21
Y	371.030	ICP1.4	ICP1.0	.290590	.094979	02/07/96 09:52:21
Zn	213.800	Multiple	Standards	1.35345	.028661	02/07/96 09:22:56
Zr	339.100	Multiple	Standards	.475635	.184732	02/07/96 09:22:56

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Method: ICP1A

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ag	328.068	ICP1.0	.000000	.000000	-.000000
		ICP1.7	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Al	308.215	ICP1.0	.000000	.000000	-.000000
		ICP1.2	500.000	500.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
As	193.600	ICP1.0	.000000	.000000	-.000000
		ICP1.4	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
B	249.600	ICP1.0	.000000	.000000	-.000000
		ICP1.2	50.0000	50.0000	.000004

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ba	493.400	ICP1.0	.000000	-.000044	.000044
		ICP1.1B	1.00000	1.00490	-.004900
		ICP1.1A	10.0000	9.95100	.048999

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Be	313.042	ICP1.0	.000000	.000000	-.000000
		ICP1.6	1.00000	1.00000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Bi	223.061	ICP1.0	.000000	.000000	-.000000
		ICP1.7	100.000	100.000	-.000008

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ca	317.900	ICP1.0	.000000	-.000000	.000000
		ICP1.2	250.000	250.000	.000015

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cd	228.800	ICP1.0	.000000	-.000000	.000000
		ICP1.2	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ce	418.659	ICP1.0	.000000	.000000	-.000000
		ICP1.4	50.0000	50.0000	.000000

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Co	228.600	ICP1.0	.000000	-.000251	.000251
		ICP1.1B	2.00000	2.02791	-.027909
		ICP1.1A	20.0000	19.7209	.279091
CorCoef:	1.00000				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cr	205.500	ICP1.0	.000000	-.000262	.000262
		ICP1.1B	2.00000	2.02914	-.029143
		ICP1.1A	20.0000	19.7086	.291435
CorCoef:	1.00000				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cu	324.700	ICP1.0	.000000	-.000180	.000180
		ICP1.1B	2.00000	2.02003	-.020032
		ICP1.1A	20.0000	19.7997	.200321
CorCoef:	1.00000				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Dy	353.170	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Eu	381.900	ICP1.0	.000000	-.000000	.000000
		ICP1.3	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Fe	259.900	ICP1.0	.000000	-.003648	.003648
		ICP1.1B	20.0000	20.4053	-.405338
		ICP1.1A	200.000	195.947	4.05338
CorCoef:	0.99999				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
K	766.500	ICP1.0	.000000	.000001	-.000001
		ICP1.2	500.000	500.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
La	398.852	ICP1.0	.000000	-.000000	.000000
		ICP1.3	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Li	670.700	ICP1.0	.000000	-.000000	.000000
		ICP1.2	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mg	279.078	ICP1.0	.000000	-.008384	.008384
		ICP1.1B	25.0000	25.9315	-.931515
		ICP1.1A	250.000	240.685	9.31514
CorCoef:	0.99997				

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mn	257.600	ICP1.0	.000000	-.000000	.000000
		ICP1.2	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mo	202.000	ICP1.0	.000000	-.000188	.000189
		ICP1.1B	2.00000	2.02086	-.020858
		ICP1.1A	20.0000	19.7914	.208584

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Na	588.900	ICP1.0	.000000	-.002276	.002276
		ICP1.1B	25.0000	25.2529	-.252909
		ICP1.1A	250.000	247.471	2.52910

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Na+	330.200	ICP1.0	.000000	-.000014	.000014
		ICPI.9	5000.00	5000.00	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Nd	406.106	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ni	231.600	ICP1.0	.000000	-.000278	.000278
		ICP1.1B	2.00000	2.03088	-.030879
		ICP1.1A	20.0000	19.6912	.308781

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
P	214.900	ICP1.0	.000000	-.000000	.000000
		ICP1.2	100.000	100.000	-.000008

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Pb	220.300	ICP1.0	.000000	-.000562	.000562
		ICP1.1B	5.00000	5.06245	-.062449
		ICP1.1A	50.0000	49.3755	.624493

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Pd	360.959	ICP1.0	.000000	-.000000	.000000
		ICP1.8	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Rh	343.489	ICP1.0	.000000	.000000	-.000000
		ICP1.8	50.0000	50.0000	-.000004

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ru	240.271	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sb	206.838	ICP1.0	.000000	.000000	-.000000
		ICP1.4	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Se	196.026	ICP1.0	.000000	-.000000	.000000
		ICP1.7	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Si	288.100	ICP1.0	.000000	-.000000	.000000
		ICP1.6	200.000	200.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sn	242.950	ICP1.0	.000000	-.000000	.000000
		ICP1.8	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sr	421.500	ICP1.0	.000000	-.000048	.000048
		ICP1.1B	1.00000	1.00534	-.005339
		ICP1.1A	10.0000	9.94661	.053388

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Te	214.275	ICP1.0	.000000	.000000	-.000000
		ICP1.6	50.0000	50.0000	-.000004

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Th	283.730	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000004

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ti	334.900	ICP1.0	.000000	.000047	-.000047
		ICP1.1B	2.00000	1.99476	.005244
		ICP1.1A	20.0000	20.0524	-.052441

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Tl	190.864	ICP1.0	.000000	-.000000	.000000
		ICP1.7	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
U	378.280	ICP1.0	.000000	-.000001	.000001
		ICP1.5	500.000	500.000	.000000

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
V	292.402	ICP1.0	.000000	-.000000	.000000
		ICP1.4	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
W	224.875	ICP1.0	.000000	.000000	-.000000
		ICP1.8	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Y	371.030	ICP1.0	.000000	-.000000	.000000
		ICP1.4	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Zn	213.800	ICP1.0	.000000	-.000215	.000215
		ICP1.1B	2.00000	2.02385	-.023853
		ICP1.1A	20.0000	19.7615	.238535

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Zr	339.100	ICP1.0	.000000	-.000417	.000417
		ICP1.1B	5.00000	5.04631	-.046311
		ICP1.1A	50.0000	49.5369	.463120

CorCoef: 1.00000

Analysis Report *Ignore, background still coming down* *DMS 2/7/95* Wed 02-07-96 10:08:11 AM page 1

Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 10:06:52
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0183	.0809	.0425	.0089	.0026	.0004	.0462
SDev	.0010	.0086	.0116	.0006	.0002	.0000	.0078
%RSD	5.454	10.58	27.28	6.575	8.175	2.916	16.80
#1	.0193	.0876	.0559	.0086	.0028	.0004	.0438
#2	.0173	.0839	.0364	.0086	.0024	.0004	.0399
#3	.0183	.0713	.0352	.0096	.0026	.0004	.0549

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0082	.0004	.0890	.0129	.0059	.0163	.0132
SDev	.0009	.0008	.0040	.0003	.0013	.0012	.0003
%RSD	10.91	184.8	4.544	2.318	21.97	7.223	2.612
#1	.0090	-.0005	.0864	.0132	.0050	.0149	.0136
#2	.0073	.0007	.0869	.0126	.0054	.0168	.0129
#3	.0083	.0011	.0937	.0130	.0074	.0171	.0132

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0043	.0043	2.287	.0217	.0117	.0346	.0017
SDev	.0002	.0008	.211	.0019	.0029	.0016	.0003
%RSD	4.846	19.44	9.208	8.624	24.41	4.584	14.56
#1	.0044	.0045	2.396	.0223	.0149	.0362	.0018
#2	.0041	.0033	2.044	.0196	.0106	.0344	.0014
#3	.0044	.0049	2.420	.0232	.0096	.0331	.0018

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0119	.2468	17.73	.0848	.0124	.0896	.0740
SDev	.0013	.0262	1.26	.0070	.0029	.0183	.0072
%RSD	11.30	10.61	7.091	8.251	23.25	20.39	9.736
#1	.0124	.2770	17.51	.0907	.0156	.1081	.0777
#2	.0103	.2317	16.59	.0771	.0115	.0893	.0657
#3	.0128	.2316	19.08	.0866	.0101	.0715	.0787

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2367	.1145	.0432	.0693	.0776	.0715	.3396
SDev	.0188	.0077	.0046	.0020	.0056	.0034	.0112
%RSD	7.962	6.766	10.76	2.831	7.275	4.810	3.295
#1	.2503	.1201	.0461	.0671	.0712	.0710	.3524
#2	.2152	.1057	.0379	.0709	.0800	.0684	.3318
#3	.2447	.1177	.0458	.0698	.0817	.0752	.3346

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	.0763	-.0002	.0050	.0334	1.269	.0093
SDev	.0001	.0029	.0078	.0003	.0032	.067	.0011

%RSD	10.43	3.858	4790.	6.393	9.580	5.263	12.05
#1	.0013	.0749	-.0082	.0053	.0298	1.328	.0098
#2	.0011	.0742	.0004	.0047	.0349	1.196	.0080
#3	.0012	.0797	.0073	.0051	.0356	1.282	.0101

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0344	.0043	.0023	.0081
SDev	.0150	.0003	.0007	.0008
%RSD	43.56	7.082	30.45	10.41
#1	.0477	.0046	.0015	.0091
#2	.0182	.0040	.0027	.0075
#3	.0373	.0042	.0027	.0078

Analysis Report Wed 02-07-96 10:12:49 AM page 1

Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 10:11:31
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	.0048	.0020	.0005	-.0003	-.0000	.0135
SDev	.0008	.0070	.0064	.0023	.0001	.0000	.0082
%RSD	64.64	147.4	321.1	479.4	30.37	176.5	60.42
#1	.0013	-.0010	-.0048	.0031	-.0004	.0000	.0166
#2	.0020	.0126	.0029	-.0002	-.0002	-.0000	.0043
#3	.0004	.0027	.0079	-.0014	-.0002	-.0000	.0197

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0024	.0020	.0001	-.0004	-.0014	.0009
SDev	.0007	.0017	.0056	.0001	.0016	.0008	.0007
%RSD	304.5	72.40	281.8	103.3	444.4	55.49	73.46
#1	-.0001	.0008	-.0006	.0000	.0011	-.0022	.0002
#2	.0011	.0021	-.0019	.0003	-.0001	-.0006	.0015
#3	-.0003	.0043	.0085	.0001	-.0020	-.0014	.0009

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0036	.1337	-.0006	-.0005	-.0130	.0001
SDev	.0002	.0007	.0236	.0008	.0005	.0078	.0002
%RSD	103.3	19.02	17.65	131.4	100.0	60.09	111.7
#1	-.0000	-.0035	.1101	.0003	-.0010	-.0121	.0003
#2	.0004	-.0029	.1573	-.0009	-.0005	-.0057	-.0000
#3	.0002	-.0043	.1337	-.0011	.0000	-.0212	.0001

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0224	-.0887	.0047	.0031	.0016	.0004
SDev	.0010	.0132	.5251	.0039	.0028	.0281	.0076
%RSD	310.6	59.02	591.8	83.73	89.83	1791.	1706.
#1	-.0008	-.0147	-.5384	.0035	-.0001	-.0279	-.0079
#2	.0006	-.0147	.4884	.0090	.0047	.0280	.0069
#3	.0012	-.0376	-.2162	.0015	.0047	.0046	.0024

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0020	-.0013	.0043	.0001	-.0080	.0112
SDev	.0090	.0047	.0013	.0055	.0062	.0034	.0203
%RSD	1579.	235.2	96.91	126.5	7637.	42.01	180.2
#1	-.0090	-.0032	-.0024	-.0013	-.0001	-.0065	.0038
#2	.0088	.0058	-.0016	.0097	-.0060	-.0056	-.0042
#3	.0019	.0033	.0001	.0046	.0064	-.0118	.0342

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0026	-.0029	.0002	-.0130	.0259	.0005
SDev	.0001	.0056	.0046	.0002	.0072	.0641	.0004

%RSD	155.2	218.3	155.2	92.01	55.44	247.7	75.02
#1	-.0000	-.0012	-.0065	.0000	-.0207	-.0129	.0002
#2	.0002	-.0087	.0022	.0002	-.0063	-.0094	.0003
#3	.0001	.0022	-.0045	.0004	-.0121	.0999	.0009

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0142	.0003	-.0007	.0002
SDev	.0042	.0002	.0005	.0001
%RSD	29.58	67.82	65.59	71.11
#1	.0166	.0002	-.0010	.0001
#2	.0093	.0006	-.0002	.0001
#3	.0166	.0002	-.0010	.0003

Analysis Report QC Standard Wed 02-07-96 10:18:12 AM page 1

Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS
Run Time: 02/07/96 10:16:53
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Pass * 56-N/A DRS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4927	10.14	2.544	2.101	.5070	.0988	24.62
SDev	.0013	.06	.012	.013	.0032	.0005	.14
%RSD	.2530	.5843	.4827	.6266	.6288	.5365	.5727
#1	.4940	10.21	2.545	2.116	.5106	.0994	24.78
#2	.4923	10.13	2.532	2.093	.5061	.0986	24.58
#3	.4916	10.10	2.556	2.093	.5044	.0984	24.51
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	25.74	.5080	.0043	1.048	1.046	.9909	-.0000
SDev	.12	.0024	.0031	.005	.006	.0042	.0004
%RSD	.4534	.4771	70.98	.5097	.6041	.4188	2175.
#1	25.87	.5098	.0012	1.054	1.053	.9956	-.0005
#2	25.68	.5053	.0045	1.047	1.045	.9894	.0001
#3	25.66	.5090	.0074	1.043	1.041	.9878	.0004
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0018	21.03	24.61	.0020	1.996	33.81	.5241
SDev	.0002	.12	.16	.0010	.021	.16	.0025
%RSD	10.56	.5680	.6645	50.28	1.039	.4690	.4708
#1	.0016	21.16	24.70	.0009	2.016	33.99	.5268
#2	.0018	20.98	24.42	.0022	1.997	33.76	.5234
#3	.0020	20.94	24.70	.0029	1.974	33.68	.5220
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.047	37.37	42.73	.0064	1.048	5.140	2.627
SDev	.008	.23	.64	.0045	.001	.019	.009
%RSD	.8014	.6032	1.494	70.21	.0665	.3778	.3463
#1	1.056	37.60	42.51	.0012	1.048	5.162	2.637
#2	1.048	37.37	42.23	.0091	1.047	5.127	2.627
#3	1.039	37.14	43.45	.0089	1.049	5.130	2.619
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	1.000	36.70			1.000		2.500

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Range	.1000	3.670			.1000		.2500
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0302	-.0084	-.0169	Q2.776	2.569	19.03	.2500
SDev	.0085	.0024	.0038	.016	.002	.09	.0301
%RSD	28.11	28.66	22.71	.5893	.0688	.4692	12.05
#1	-.0319	-.0083	-.0209	Q2.794	2.567	19.13	.2228
#2	-.0376	-.0109	-.0164	Q2.762	2.570	18.99	.2449
#3	-.0210	-.0061	-.0133	Q2.771	2.570	18.97	.2823
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	QC Pass	QC Pass	NOCHECK
Value				2.500	2.500	20.00	
Range				.2500	.2500	2.000	

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5143	.0526	.0267	1.019	2.500	.0846	.9824
SDev	.0032	.0038	.0042	.006	.035	.0397	.0051
%RSD	.6329	7.186	15.86	.6212	1.409	46.97	.5191
#1	.5179	.0491	.0309	1.027	2.528	.0436	.9882
#2	.5133	.0566	.0225	1.017	2.511	.0873	.9804
#3	.5116	.0522	.0268	1.015	2.460	.1229	.9786
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.5000			1.000	2.500		1.000
Range	.0500			.1000	.2500		.1000

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0410	.0013	1.043	2.041
SDev	.0046	.0003	.009	.011
%RSD	11.34	24.61	.8627	.5612
#1	.0462	.0010	1.051	2.054
#2	.0392	.0013	1.044	2.036
#3	.0374	.0016	1.033	2.032
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass
Value			1.000	2.000
Range			.1000	.2000

Analysis Report QC Standard Wed 02-07-96 10:21:40 AM page 1

Method: ICP1A Sample Name: QC_MCVB 9601061901 Operator: DRS
Run Time: 02/07/96 10:20:21
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Pass (X) Th. N/A DRS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0133	.5561	.2561	2.061	.0022	.0006	.0838
SDev	.0006	.0019	.0123	.003	.0001	.0000	.0125
%RSD	4.199	.3407	4.801	.1498	3.662	1.078	14.88
#1	-.0138	.5583	.2701	2.062	.0023	.0007	.0823
#2	-.0127	.5554	.2513	2.064	.0022	.0006	.0969
#3	-.0134	.5547	.2469	2.058	.0022	.0006	.0721
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0285	.0019	1.982	-.0022	.0056	.0350	1.985
SDev	.0018	.0017	.003	.0004	.0016	.0017	.001
%RSD	6.346	91.91	.1467	19.29	29.36	4.850	.0683
#1	.0304	.0003	1.978	-.0026	.0039	.0364	1.986
#2	.0283	.0016	1.983	-.0022	.0058	.0331	1.983
#3	.0268	.0037	1.984	-.0018	.0072	.0355	1.98[illegible]
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value			2.000				2.000
Range			10.00				10.00

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.001	.0234	-1.227	.9943	-.0002	-.1251	.0011
SDev	.001	.0016	.136	.0027	.0018	.0071	.0002
%RSD	.0652	7.517	11.10	.2692	1136.	5.668	17.55
#1	2.003	.0249	-1.306	.9963	.0019	-.1192	.0012
#2	2.000	.0240	-1.306	.9912	-.0015	-.1232	.0011
#3	2.001	.0215	-1.070	.9953	-.0010	-.1330	.0009
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value	2.000			1.000			
Range	10.00			10.00			

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0094	1.519	52.70	1.965	.0199	.1231	.2664
SDev	.0005	.033	.06	.009	.0022	.0104	.0028
%RSD	5.592	2.175	.1099	.4594	11.08	8.457	1.067
#1	.0088	1.500	52.65	1.960	.0225	.1205	.2632
#2	.0094	1.557	52.76	1.959	.0186	.1141	.2678
#3	.0099	1.500	52.69	1.975	.0186	.1345	.2683
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value				2.000			

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Range				10.00			
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.185	2.024	2.001	.1204	.0761	21.71	2.154
SDev	.025	.005	.006	.0089	.0042	.28	.019
%RSD	1.155	.2617	.2938	7.349	5.518	1.268	.8644
#1	2.160	2.019	2.003	.1305	.0738	21.44	2.134
#2	2.185	2.023	1.994	.1140	.0809	21.68	2.171
#3	Q2.210	2.029	2.005	.1167	.0735	21.99	2.156
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	2.000	2.000	2.000				2.000
Range	10.00	10.00	10.00				10.00

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0030	2.040	Q6.876	.0066	.0095	24.56	-.0004
SDev	.0001	.001	.009	.0002	.0125	.07	.0004
%RSD	2.419	.0726	.1346	2.708	131.7	.2985	113.9
#1	.0031	2.038	Q6.884	.0064	-.0021	24.50	-.0003
#2	.0029	2.040	Q6.878	.0067	.0227	24.54	.0000
#3	.0029	2.041	Q6.866	.0068	.0077	24.65	-.0008
Errors	NOCHECK	QC Pass	QC Fail	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		2.000	5.000			25.00	
Range		10.00	10.00			10.00	

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	2.023	.9803	.0049	.0041
SDev	.008	.0007	.0001	.0009
%RSD	.4014	.0718	2.861	23.11
#1	2.022	.9811	.0050	.0031
#2	2.016	.9797	.0047	.0040
#3	2.032	.9803	.0049	.0050
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	2.000	1.000		
Range	10.00	10.00		

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Method: ICP1A Sample Name: QC SSTA 9512061902 Operator: DRS
Run Time: 02/07/96 10:24:19
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0268	256.2	.2036	.0497	.0088	-.0017	198.9
SDev	.0006	1.5	.0093	.0006	.0001	.0000	1.1
%RSD	2.390	.5938	4.561	1.249	.9199	1.824	.5555
#1	-.0262	255.4	.2005	.0504	.0088	-.0017	198.4
#2	-.0268	255.1	.2140	.0494	.0088	-.0017	198.2
#3	-.0275	257.9	.1962	.0493	.0089	-.0018	200.2

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	254.3	.0668	.0716	.0060	.2490	-.0887	.0237
SDev	1.2	.0021	.0039	.0011	.0020	.0028	.0008
%RSD	.4658	3.169	5.505	18.12	.8014	3.163	3.183
#1	253.8	.0666	.0684	.0058	.2479	-.0866	.0229
#2	253.5	.0648	.0703	.0072	.2479	-.0876	.0243
#3	255.7	.0690	.0760	.0050	.2513	-.0919	.0240

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0871	204.0	102.8	50.28	.0330	-.8518	.0195
SDev	.0005	1.0	.5	.35	.0007	.0048	.0002
%RSD	.5966	.4861	.5323	.7043	2.257	.5457	1.122
#1	.0869	203.6	102.5	50.05	.0336	-.8514	.0194
#2	.0867	203.4	102.4	50.11	.0321	-.8567	.0193
#3	.0877	205.2	103.4	50.69	.0331	-.8474	.0197

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1077	.8272	406.8	.1590	199.5	207.6	1.042
SDev	.0006	.0200	3.0	.0039	1.1	1.0	.007
%RSD	.5661	2.418	.7452	2.431	.5633	.4881	.6864
#1	.1070	.8082	404.9	.1584	198.9	207.1	1.034
#2	.1079	.8252	405.3	.1555	198.9	207.0	1.043
#3	.1082	.8481	410.3	.1632	200.8	208.8	1.048

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.133	.2231	-.0822	.5469	1.510	-.3133	3.261
SDev	.009	.0027	.0049	.0055	.011	.0127	.045
%RSD	.8354	1.203	6.012	.9987	.7190	4.052	1.384
#1	1.137	.2258	-.0869	.5530	1.506	-.3042	3.244
#2	1.122	.2205	-.0771	.5453	1.503	-.3078	3.226
#3	1.140	.2230	-.0825	.5425	1.523	-.3278	3.312

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0199	.7002	-.2900	.0041	.3405	204.0	.0317
SDev	.0001	.0155	.0232	.0007	.0091	1.3	.0002

%RSD	.7143	2.218	7.985	17.21	2.684	.6544	.6900
#1	.0198	.7000	-.3051	.0035	.3310	203.3	.0316
#2	.0198	.6848	-.2634	.0049	.3492	203.1	.0316
#3	.0201	.7158	-.3017	.0039	.3414	205.5	.0320

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.5663	.0180	.0833	.0679
SDev	.0045	.0001	.0005	.0014
%RSD	.7903	.6529	.5807	2.008
#1	.5668	.0182	.0836	.0685
#2	.5705	.0180	.0828	.0664
#3	.5616	.0180	.0835	.0689

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Method: ICP1A Sample Name: QC SSTMCV 951208I903 Operator: DRS
Run Time: 02/07/96 10:28:26
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5017	5.137	2.093	-.0013	.1032	.1020	1.636
SDev	.0028	.030	.023	.0021	.0007	.0006	.007
%RSD	.5576	.5931	1.086	152.7	.6838	.6052	.4428
#1	.4985	5.110	2.078	-.0001	.1025	.1014	1.628
#2	.5037	5.170	2.119	-.0037	.1039	.1026	1.642
#3	.5028	5.130	2.081	-.0002	.1031	.1019	1.637

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.093	.2055	-.0051	-.0021	.3213	.0012	-.0003
SDev	.006	.0004	.0058	.0002	.0040	.0008	.0009
%RSD	.5678	.2149	115.1	9.431	1.242	68.38	272.7
#1	1.088	.2060	-.0010	-.0018	.3259	.0021	.0007
#2	1.100	.2053	-.0117	-.0021	.3197	.0005	-.0011
#3	1.091	.2051	-.0025	-.0022	.3184	.0010	-.0006

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0071	.5856	50.46	.0109	.0013	-.1046	.1074
SDev	.0002	.0016	.20	.0012	.0006	.0062	.0005
%RSD	2.961	.2709	.3977	10.65	43.30	5.943	.4396
#1	.0072	.5856	50.24	.0107	.0019	-.1038	.1070
#2	.0069	.5873	50.61	.0099	.0010	-.1112	.1079
#3	.0072	.5841	50.54	.0122	.0010	-.0989	.1072

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0056	5.144	42.17	-.0016	.6825	4.230	3.202
SDev	.0007	.059	.19	.0069	.0055	.017	.020
%RSD	12.81	1.139	.4475	421.1	.8051	.4099	.6298
#1	.0049	5.080	42.02	.0020	.6812	4.220	3.193
#2	.0056	5.194	42.11	-.0096	.6885	4.220	3.225
#3	.0063	5.160	42.38	.0026	.6777	4.250	3.188

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0162	-.0002	-.0049	2.308	2.592	2.938	.0894
SDev	.0273	.0071	.0028	.017	.035	.020	.0258
%RSD	167.9	3140.	57.42	.7568	1.349	.6884	28.90
#1	.0288	.0040	-.0045	2.303	2.563	2.917	.1193
#2	-.0150	-.0085	-.0079	2.327	2.631	2.957	.0742
#3	.0349	.0038	-.0023	2.292	2.582	2.938	.0748

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0014	.0097	-.0260	-.0001	.0045	20.23	.5026
SDev	.0000	.0158	.0082	.0002	.0026	.11	.0032

%RSD	.0584	163.5	31.33	330.1	58.49	.5483	.6460
#1	.0014	.0167	-.0311	.0001	.0015	20.15	.4994
#2	.0014	-.0084	-.0166	-.0003	.0061	20.36	.5059
#3	.0014	.0207	-.0304	.0000	.0059	20.18	.5023

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0269	-.0007	-.0015	.5246
SDev	.0083	.0006	.0006	.0017
%RSD	30.88	80.26	43.79	.3234
#1	.0205	-.0006	-.0008	.5226
#2	.0240	-.0013	-.0016	.5256
#3	.0363	-.0002	-.0020	.5255

Analysis Report QC Standard Wed 02-07-96 10:34:06 AM page 1

Method: ICP1A Sample Name: QC_SRM-1643d 108518 Operator: DRS
Run Time: 02/07/96 10:32:47
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0-.0077	.1299	0.0539	.1481	.5276	0.0126	.0362
SDev	.0004	.0032	.0142	.0032	.0006	.0001	.0040
%RSD	4.844	2.498	26.36	2.130	.1218	.4766	11.18
#1	0-.0077	0.1332	0.0404	.1516	.5281	0.0126	.0316
#2	0-.0073	.1297	0.0527	.1454	.5269	.0125	.0386
#3	0-.0080	.1267	0.0687	.1474	.5277	0.0127	.0386
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass	QC Fail	NOCHECK
Value	.0013	.1276	.0560	.1448	.5065	.0125	
Range	.0570	3.500	.7300	5.200	8.900	.2800	

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	032.21	0.0071	.0038	0.0255	0.0225	0.0155	-.0012
SDev	.04	.0007	.0030	.0003	.0011	.0018	.0002
%RSD	.1089	9.293	79.87	1.048	4.951	11.84	14.75
#1	032.25	0.0067	.0004	0.0257	0.0233	0.0135	-.0013
#2	032.19	0.0079	.0063	0.0256	0.0212	0.0171	-.0010
#3	032.20	0.0068	.0047	0.0252	0.0230	0.0160	-.0014
Errors	QC Fail	QC Fail	NOCHECK	QC Fail	QC Fail	QC Fail	NOCHECK
Value	31.04	.0065		.0250	.0155	.0205	
Range	.6400	.3700		.5900	.2000	3.800	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0007	0.0990	01.943	.0027	0.0183	08.866	0.0409
SDev	.0003	.0013	.144	.0006	.0007	.017	.0002
%RSD	45.22	1.348	7.421	23.82	4.055	.1924	.5557
#1	.0004	0.1005	01.786	.0034	0.0190	08.884	0.0407
#2	.0010	0.0983	01.975	.0025	0.0185	08.850	0.0410
#3	.0006	0.0981	02.069	.0021	0.0175	08.864	0.0411
Errors	NOCHECK	QC Fail	QC Fail	NOCHECK	QC Fail	QC Fail	QC Fail
Value		.0912	2.356		.0165	7.989	.0377
Range		3.900	.0350		.5500	.0350	.8300

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.1188	022.47	21.46	.0035	0.1345	.0117	0.0152
SDev	.0014	.04	.74	.0033	.0023	.0075	.0038
%RSD	1.136	.1652	3.447	93.89	1.680	64.51	24.96
#1	0.1176	022.51	20.62	-.0002	0.1346	.0101	0.0195
#2	0.1186	022.43	21.78	.0060	0.1367	.0050	0.0140
#3	0.1203	022.47	21.99	.0046	0.1322	.0198	0.0122
Errors	QC Fail	QC Fail	NOCHECK	NOCHECK	QC Fail	NOCHECK	QC Fail
Value	.1129	22.07			.0581		.0181

Analysis Report QC Standard Wed 02-07-96 10:34:06 AM page 2

Range	1.700	.6400			2.700		.6400
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0280	-.0118	-.0036	0.0579	0.0183	2.766	-.0449
SDev	.0045	.0022	.0011	.0049	.0090	.009	.0109
%RSD	16.22	18.99	32.23	8.461	49.31	.3297	24.21
#1	-.0283	-.0144	-.0045	0.0556	0.0236	2.776	-.0548
#2	-.0324	-.0103	-.0039	0.0635	0.0079	2.760	-.0465
#3	-.0234	-.0107	-.0023	.0546	0.0234	2.761	-.0333
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	QC Fail	NOCHECK	NOCHECK
Value				.0541	.0114		
Range				1.100	.1700		

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.3082	.0004	-.0154	.0002	0.0125	.1129	0.0334
SDev	.0003	.0077	.0024	.0002	.0104	.0420	.0002
%RSD	.1010	1988.	15.32	104.9	83.38	37.17	.6719
#1	0.3086	-.0007	-.0127	.0001	0.0035	.0647	0.0332
#2	0.3079	-.0067	-.0166	.0005	0.0100	.1418	0.0336
#3	0.3082	.0085	-.0170	.0001	0.0238	.1321	0.0333
Errors	QC Fail	NOCHECK	NOCHECK	NOCHECK	QC Fail	NOCHECK	QC Fail
Value	.2943				.0073		.0351
Range	3.400				.2500		1.400

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0004	.0004	0.0762	.0003
SDev	.0062	.0002	.0010	.0003
%RSD	1421.	43.36	1.325	104.2
#1	-.0061	.0002	0.0753	.0000
#2	.0010	.0005	0.0761	.0006
#3	.0064	.0005	0.0773	.0003
Errors	NOCHECK	NOCHECK	QC Fail	NOCHECK
Value			.0725	
Range			.6500	

Analysis Report Wed 02-07-96 10:38:41 AM page 1

Method: ICP1A Sample Name: QC CCV1 960126H901 Operator: DRS
Run Time: 02/07/96 10:37:22
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0081	1.998	2.030	2.096	1.009	1.022	1.979
SDev	.0002	.003	.013	.007	.004	.004	.011
%RSD	2.904	.1600	.6235	.3463	.4260	.3599	.5399
#1	-.0081	1.995	2.043	2.105	1.014	1.026	1.991
#2	-.0084	2.002	2.029	2.094	1.009	1.022	1.971
#3	-.0079	1.998	2.018	2.091	1.005	1.018	1.975

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.063	1.031	-.0103	1.058	.5234	2.062	-.0005
SDev	.007	.007	.0018	.003	.0026	.005	.0006
%RSD	.3209	.6815	17.57	.2613	.4940	.2668	109.8
#1	2.070	1.026	-.0112	1.061	.5227	2.065	-.0011
#2	2.064	1.039	-.0116	1.059	.5263	2.065	-.0004
#3	2.056	1.029	-.0093	1.055	.5213	2.055	.0000

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	2.103	4.413	-.0031	2.025	2.162	1.054
SDev	.0002	.007	.093	.0009	.002	.002	.002
%RSD	207.3	.3410	2.226	29.11	.1000	.1009	.1766
#1	-.0004	2.109	4.382	-.0041	2.030	2.164	1.056
#2	.0000	2.104	4.335	-.0027	2.027	2.160	1.054
#3	.0000	2.095	4.523	-.0024	2.026	2.161	1.052

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.055	8.575	7.702	-.0071	2.163	5.030	2.101
SDev	.011	.043	1.253	.0022	.006	.046	.007
%RSD	.5258	.5024	16.27	30.65	.2818	.9049	.3304
#1	2.062	8.581	6.256	-.0075	2.164	5.083	2.108
#2	2.061	8.530	8.400	-.0091	2.169	5.005	2.102
#3	2.043	8.615	8.451	-.0048	2.157	5.003	2.094

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0277	-.0153	-.0032	.0105	2.025	4.760	.0329
SDev	.0151	.0069	.0010	.0132	.015	.005	.0125
%RSD	54.54	44.90	32.93	125.8	.7264	.1132	37.82
#1	-.0452	-.0231	-.0044	.0053	2.042	4.766	.0186
#2	-.0195	-.0127	-.0025	.0254	2.015	4.758	.0389
#3	-.0185	-.0101	-.0026	.0007	2.019	4.756	.0413

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.039	.0225	.0036	.0001	1.967	-.1477	.9602
SDev	.007	.0023	.0051	.0004	.018	.0706	.0028

%RSD	.3361	10.10	141.9	306.5	.9316	47.78	.2901
#1	2.046	.0250	.0094	-.0003	1.948	-.2282	.9630
#2	2.039	.0205	-.0003	.0006	1.985	-.1186	.9604
#3	2.032	.0221	.0017	.0001	1.969	-.0963	.9574

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0075	-.0002	1.055	-.0013
SDev	.0020	.0005	.003	.0008
%RSD	26.18	200.3	.2631	64.82
#1	.0053	-.0007	1.058	-.0022
#2	.0087	-.0004	1.055	-.0009
#3	.0086	.0003	1.053	-.0007

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Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 10:43:15
Comment: (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0088	-.0037	-.0046	-.0011	-.0005	.0002	.0042
SDev	.0008	.0031	.0109	.0017	.0001	.0001	.0060
%RSD	8.770	83.37	237.8	151.6	17.85	28.65	144.5
#1	-.0079	-.0007	-.0162	.0008	-.0004	.0003	.0034
#2	-.0093	-.0035	-.0028	-.0024	-.0005	.0002	.0105
#3	-.0092	-.0070	.0053	-.0017	-.0005	.0002	-.0014

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0037	-.0117	-.0007	-.0005	-.0006	-.0015
SDev	.0007	.0013	.0049	.0006	.0005	.0017	.0001
%RSD	164.7	35.60	41.20	86.86	112.8	307.6	9.109
#1	.0004	-.0027	-.0112	-.0001	.0001	.0014	-.0014
#2	-.0010	-.0052	-.0167	-.0007	-.0005	-.0014	-.0017
#3	-.0007	-.0032	-.0071	-.0014	-.0010	-.0017	-.0015

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	-.0050	-.4956	-.0034	-.0008	-.0246	.0003
SDev	.0003	.0003	.0983	.0012	.0015	.0069	.0001
%RSD	59.76	7.035	19.83	34.91	183.3	28.01	30.74
#1	-.0008	-.0049	-.3855	-.0040	-.0024	-.0212	.0004
#2	-.0006	-.0053	-.5743	-.0041	-.0005	-.0201	.0002
#3	-.0002	-.0046	-.5271	-.0020	.0005	-.0325	.0004

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0007	-.0413	-1.978	-.0094	.0375	-.0202	-.0108
SDev	.0015	.0174	.214	.0014	.0012	.0066	.0049
%RSD	209.3	42.04	10.83	15.04	3.250	32.80	44.97
#1	.0012	-.0261	-2.220	-.0104	.0374	-.0157	-.0153
#2	.0019	-.0375	-1.814	-.0099	.0388	-.0278	-.0057
#3	-.0010	-.0603	-1.899	-.0078	.0363	-.0170	-.0115

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0333	-.0169	-.0043	-.0080	.0030	-.0128	-.0388
SDev	.0106	.0030	.0031	.0062	.0065	.0047	.0109
%RSD	31.96	17.77	72.71	77.30	214.1	36.42	28.12
#1	-.0396	-.0151	-.0022	-.0095	.0060	-.0075	-.0456
#2	-.0393	-.0204	-.0029	-.0132	.0074	-.0144	-.0262
#3	-.0210	-.0154	-.0079	-.0012	-.0044	-.0164	-.0445

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	-.0089	-.0021	-.0005	.0024	-.1655	-.0011
SDev	.0001	.0036	.0060	.0003	.0100	.0352	.0003

%RSD	19.34	40.55	282.4	52.18	412.8	21.24	29.96
#1	.0005	-.0124	.0045	-.0004	.0138	-.1755	-.0011
#2	.0003	-.0052	-.0037	-.0008	-.0014	-.1265	-.0013
#3	.0003	-.0091	-.0072	-.0003	-.0051	-.1946	-.0007

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	-.0083	-.0005	-.0004	-.0015
SDev	.0071	.0002	.0007	.0002
%RSD	86.25	41.56	166.8	11.55
#1	-.0006	-.0003	-.0007	-.0014
#2	-.0147	-.0004	-.0009	-.0017
#3	-.0095	-.0007	.0004	-.0013

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Method: ICP1A Sample Name: 96-2605-BLK Operator: DRS
Run Time: 02/07/96 10:45:11
Comment: KOH-KNO3 PREP BLANK (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0020	.0850	.0390	.0290	.0014	.0003	.0446
SDev	.0006	.0039	.0095	.0007	.0003	.0000	.0026
%RSD	30.23	4.635	24.49	2.498	24.92	11.32	5.708
#1	-.0026	.0805	.0461	.0296	.0010	.0003	.0461
#2	-.0014	.0870	.0427	.0291	.0015	.0003	.0417
#3	-.0019	.0876	.0281	.0282	.0017	.0003	.0461

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3717	-.0008	.0381	.0109	.0110	.0105	.0059
SDev	.0011	.0016	.0047	.0009	.0008	.0011	.0003
%RSD	.2841	202.1	12.47	8.150	7.445	10.33	5.580
#1	.3717	-.0007	.0367	.0114	.0101	.0118	.0061
#2	.3706	-.0025	.0342	.0114	.0116	.0102	.0060
#3	.3727	.0008	.0434	.0099	.0113	.0097	.0055

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0018	.0274	2529.	.0083	.0052	.0184	.0651
SDev	.0003	.0009	6.	.0008	.0020	.0039	.0002
%RSD	16.29	2.796	.2402	9.850	39.03	21.03	.2918
#1	.0015	.0266	2533.	.0074	.0029	.0174	.0649
#2	.0019	.0282	2522.	.0086	.0068	.0227	.0653
#3	.0021	.0275	2531.	.0090	.0059	.0151	.0652

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0086	1.149	7.996	.0376	.6463	.0857	.0486
SDev	.0009	.032	.711	.0059	.0066	.0269	.0061
%RSD	10.73	2.764	8.889	15.60	1.023	31.40	12.62
#1	.0075	1.154	7.319	.0322	.6458	.0640	.0434
#2	.0091	1.177	8.737	.0438	.6399	.0773	.0471
#3	.0091	1.114	7.933	.0367	.6531	.1158	.0553

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0895	.0536	.0195	.0321	.0432	.0917	.2079
SDev	.0112	.0083	.0014	.0073	.0152	.0043	.0058
%RSD	12.47	15.49	7.186	22.77	35.29	4.654	2.783
#1	.0793	.0487	.0181	.0263	.0347	.0909	.2129
#2	.0878	.0490	.0209	.0403	.0608	.0879	.2094
#3	.1014	.0633	.0195	.0297	.0340	.0963	.2016

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0025	.0393	-.0011	.0037	.0181	.5735	.0047
SDev	.0001	.0041	.0056	.0003	.0056	.0211	.0004

%RSD	2.874	10.38	532.8	8.310	31.24	3.686	7.505
#1	.0025	.0370	-.0045	.0034	.0203	.5952	.0048
#2	.0024	.0369	.0055	.0041	.0116	.5530	.0050
#3	.0025	.0440	-.0041	.0037	.0222	.5724	.0043

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0142	.0020	.0057	.0048
SDev	.0019	.0002	.0010	.0003
%RSD	13.40	10.38	17.13	5.556
#1	.0160	.0019	.0047	.0047
#2	.0142	.0023	.0067	.0046
#3	.0122	.0019	.0057	.0051

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Method: ICP1A Sample Name: 96-2605 @5 Operator: DRS
Run Time: 02/07/96 10:48:46
Comment: 118.1AA.F @5X DIL (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Si
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0070	.5584	-.0041	.0032	.0006	-.0000	.7007
SDev	.0004	.0031	.0060	.0010	.0001	.0000	.0053
%RSD	5.758	.5555	144.4	31.43	14.09	143.9	.7611
#1	-.0065	.5560	-.0110	.0032	.0006	-.0000	.6951
#2	-.0071	.5619	-.0002	.0041	.0005	.0000	.7013
#3	-.0073	.5573	-.0012	.0021	.0006	-.0000	.7057

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0945	.0006	.0035	.0021	.0599	-.0002	.0006
SDev	.0004	.0017	.0078	.0008	.0008	.0022	.0011
%RSD	.4010	271.5	225.0	37.74	1.310	1399.	187.5
#1	.0945	.0005	.0102	.0030	.0599	.0020	.0008
#2	.0949	-.0010	-.0051	.0016	.0606	-.0024	-.0006
#3	.0942	.0025	.0054	.0017	.0590	-.0001	.0015

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.3691	502.8	-.0012	.0107	-.0155	.0165
SDev	.0002	.0026	3.1	.0010	.0010	.0041	.0003
%RSD	102.0	.7033	.6249	83.95	9.091	26.75	2.000
#1	.0002	.3708	502.7	-.0001	.0107	-.0111	.0167
#2	.0000	.3705	506.0	-.0021	.0097	-.0193	.0161
#3	.0004	.3661	499.8	-.0013	.0117	-.0162	.0167

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	4.032	4.026	.0051	.1565	.8556	-.0015
SDev	.0009	.027	1.126	.0051	.0014	.0226	.0033
%RSD	103.7	.6698	27.95	100.2	.8868	2.635	224.8
#1	.0017	4.053	4.565	.0088	.1579	.8515	.0023
#2	-.0001	4.041	2.735	-.0007	.1551	.8799	-.0030
#3	.0010	4.001	4.786	.0073	.1565	.8354	-.0038

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0034	-.0011	-.0018	-.0030	.0065	.2438	.0159
SDev	.0054	.0061	.0030	.0069	.0075	.0016	.0307
%RSD	159.4	579.9	166.1	228.0	115.6	.6629	193.6
#1	-.0014	.0039	-.0022	-.0033	-.0013	.2438	.0499
#2	.0023	-.0079	-.0045	-.0098	.0137	.2422	-.0099
#3	.0093	.0009	.0014	.0040	.0071	.2454	.0076

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0056	-.0048	.0011	.0008	.0059	.0584	.0004
SDev	.0000	.0114	.0069	.0003	.0054	.0950	.0002

%RSD	.0113	238.0	609.5	42.00	90.60	162.6	62.56
#1	.0056	.0082	.0072	.0007	.0002	.1114	.0005
#2	.0056	-.0093	-.0064	.0005	.0109	-.0512	.0001
#3	.0056	-.0132	.0026	.0011	.0067	.1151	.0005

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0015	.0001	.0002	.0012
SDev	.0057	.0002	.0007	.0001
%RSD	378.6	329.6	311.2	4.255
#1	-.0027	-.0002	-.0006	.0013
#2	-.0008	.0003	.0005	.0012
#3	.0080	.0002	.0008	.0012

Analysis Report Wed 02-07-96 10:53:47 AM page 1

Method: ICP1A Sample Name: 96-2605 Operator: DRS
Run Time: 02/07/96 10:52:28
Comment: 118.1AA.F (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	2.842	.0472	.0307	.0045	.0002	3.555
SDev	.0003	.011	.0029	.0020	.0001	.0000	.014
%RSD	247.7	.3881	6.097	6.621	1.799	13.24	.3875
#1	-.0001	2.839	.0466	.0315	.0045	.0002	3.539
#2	.0000	2.855	.0448	.0322	.0044	.0002	3.566
#3	.0005	2.833	.0504	.0284	.0045	.0002	3.560

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5115	.0031	.0721	.0154	.3069	.0141	.0090
SDev	.0019	.0011	.0054	.0007	.0024	.0009	.0006
%RSD	.3624	35.76	7.521	4.813	.7949	6.403	7.239
#1	.5115	.0024	.0696	.0146	.3095	.0146	.0092
#2	.5133	.0025	.0683	.0160	.3047	.0130	.0083
#3	.5096	.0043	.0783	.0157	.3066	.0146	.0096

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0030	1.870	2463.	.0138	.0510	.0380	.0836
SDev	.0002	.010	18.	.0012	.0015	.0038	.0006
%RSD	5.916	.5214	.7204	8.673	2.919	10.10	.7744
#1	.0030	1.867	2460.	.0147	.0497	.0416	.0830
#2	.0029	1.881	2482.	.0124	.0526	.0385	.0843
#3	.0032	1.863	2446.	.0143	.0507	.0339	.0835

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0136	20.03	33.06	.0582	.6817	4.514	.0691
SDev	.0009	.19	1.24	.0079	.0076	.019	.0105
%RSD	6.601	.9280	3.738	13.63	1.122	.4133	15.22
#1	.0144	19.95	32.72	.0626	.6868	4.492	.0795
#2	.0138	20.24	32.02	.0491	.6854	4.526	.0588
#3	.0127	19.90	34.43	.0630	.6729	4.524	.0686

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1495	.0731	.0280	.0505	.0625	1.317	.2851
SDev	.0121	.0119	.0019	.0048	.0067	.006	.0323
%RSD	8.105	16.24	6.760	9.492	10.72	.4315	11.34
#1	.1453	.0790	.0272	.0449	.0683	1.318	.2744
#2	.1401	.0594	.0267	.0532	.0552	1.322	.2594
#3	.1632	.0808	.0302	.0532	.0642	1.310	.3214

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0277	.0557	-.0007	.0067	.0359	1.051	.0073
SDev	.0001	.0058	.0016	.0001	.0089	.014	.0005

%RSD	.2593	10.41	215.2	2.104	24.71	1.311	6.984
#1	.0277	.0581	-.0002	.0069	.0285	1.067	.0074
#2	.0277	.0491	-.0025	.0067	.0334	1.043	.0068
#3	.0276	.0600	.0005	.0066	.0457	1.044	.0078

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0340	.0030	.0100	.0117
SDev	.0052	.0003	.0000	.0007
%RSD	15.32	11.77	.3483	6.157
#1	.0280	.0026	.0100	.0121
#2	.0371	.0030	.0099	.0108
#3	.0368	.0033	.0100	.0121

Analysis Report Wed 02-07-96 10:57:24 AM page 1

Method: ICP1A Sample Name: 96-2605 PS-A Operator: DRS
Run Time: 02/07/96 10:56:05
Comment: 118.1AA.F POST SPIKE (MCVA) (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2422	6.494	1.332	1.065	.2521	.0503	14.11
SDev	.0015	.037	.008	.009	.0015	.0003	.08
%RSD	.6026	.5623	.6087	.8494	.6101	.6574	.5658
#1	.2414	6.481	1.330	1.062	.2515	.0501	14.08
#2	.2439	6.535	1.325	1.076	.2538	.0507	14.20
#3	.2414	6.465	1.341	1.059	.2508	.0501	14.05

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	13.29	.2609	.0532	.5374	.6790	.5117	.0066
SDev	.07	.0037	.0038	.0032	.0036	.0041	.0006
%RSD	.5174	1.438	7.213	.5884	.5319	.8009	9.135
#1	13.26	.2643	.0489	.5364	.6749	.5099	.0070
#2	13.37	.2568	.0560	.5410	.6807	.5164	.0059
#3	13.24	.2615	.0548	.5349	.6814	.5088	.0068

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0031	11.49	1257.	.0120	1.002	17.08	.3065
SDev	.0001	.06	7.	.0017	.004	.11	.0016
%RSD	3.360	.5578	.5300	14.16	.3960	.6465	.5382
#1	.0031	11.46	1253.	.0118	1.000	17.03	.3058
#2	.0031	11.56	1265.	.0104	1.006	17.21	.3084
#3	.0033	11.44	1253.	.0137	.9991	17.00	.3054

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5385	28.67	41.20	.0446	.8773	4.845	1.389
SDev	.0038	.19	1.15	.0058	.0042	.056	.018
%RSD	.6975	.6667	2.800	13.07	.4810	1.159	1.305
#1	.5382	28.48	40.71	.0471	.8745	4.811	1.374
#2	.5423	28.86	40.37	.0380	.8822	4.814	1.409
#3	.5348	28.66	42.51	.0488	.8752	4.910	1.384

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0847	.0552	.0138	1.451	1.354	10.40	.3240
SDev	.0143	.0100	.0025	.012	.015	.05	.0238
%RSD	16.83	18.04	17.91	.7939	1.137	.5149	7.361
#1	.0974	.0537	.0119	1.444	1.368	10.37	.3130
#2	.0693	.0461	.0166	1.464	1.356	10.46	.3076
#3	.0873	.0659	.0130	1.444	1.338	10.36	.3514

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2681	.0665	.0148	.5147	1.271	.7717	.4988
SDev	.0015	.0124	.0041	.0029	.004	.0633	.0027

%RSD	.5498	18.61	27.56	.5619	.3034	8.200	.5399
#1	.2674	.0787	.0164	.5137	1.273	.7974	.4966
#2	.2698	.0539	.0178	.5180	1.273	.6996	.5018
#3	.2671	.0670	.0102	.5125	1.266	.8181	.4978

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0447	.0027	.5347	1.026
SDev	.0046	.0002	.0052	.006
%RSD	10.19	5.988	.9688	.5635
#1	.0496	.0028	.5301	1.022
#2	.0442	.0025	.5403	1.033
#3	.0405	.0028	.5337	1.024

Analysis Report Wed 02-07-96 11:01:12 AM page 1

Method: ICP1A Sample Name: MCVA @2 Operator: DRS
Run Time: 02/07/96 10:59:53
Comment: MCVA 9601301901 @2X DIL (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2484	5.240	1.310	1.095	.2623	.0513	12.72
SDev	.0005	.023	.009	.002	.0016	.0003	.03
%RSD	.1856	.4386	.7246	.1664	.6240	.5294	.2029
#1	.2482	5.261	1.315	1.097	.2637	.0515	12.73
#2	.2489	5.244	1.316	1.095	.2626	.0514	12.74
#3	.2480	5.215	1.299	1.093	.2605	.0510	12.69

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	13.35	.2612	-.0099	.5453	.5384	.5062	-.0015
SDev	.05	.0015	.0049	.0016	.0033	.0026	.0011
%RSD	.3902	.5746	49.17	.2990	.6119	.5082	71.44
#1	13.38	.2630	-.0154	.5459	.5418	.5092	-.0027
#2	13.37	.2603	-.0065	.5466	.5382	.5047	-.0011
#3	13.29	.2605	-.0077	.5435	.5353	.5047	-.0007

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	10.92	12.42	-.0016	1.038	17.60	.2723
SDev	.0004	.04	.10	.0012	.006	.08	.0009
%RSD	154.1	.4076	.7679	73.04	.5600	.4299	.3276
#1	.0000	10.95	12.41	-.0024	1.042	17.66	.2722
#2	.0000	10.94	12.33	-.0021	1.040	17.63	.2732
#3	.0008	10.87	12.52	-.0003	1.031	17.52	.2714

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5438	19.46	20.50	-.0066	.5683	2.668	1.365
SDev	.0032	.13	1.17	.0071	.0019	.032	.002
%RSD	.5979	.6561	5.699	107.2	.3361	1.206	.1562
#1	.5457	19.57	20.01	-.0136	.5696	2.704	1.366
#2	.5456	19.48	19.67	-.0066	.5693	2.657	1.363
#3	.5400	19.32	21.84	.0005	.5661	2.642	1.367

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0504	-.0182	-.0095	1.427	1.333	9.891	.0893
SDev	.0159	.0071	.0039	.009	.030	.052	.0221
%RSD	31.52	39.02	41.08	.6305	2.256	.5233	24.81
#1	-.0664	-.0241	-.0106	1.422	1.324	9.932	.0640
#2	-.0502	-.0202	-.0127	1.421	1.366	9.910	.1054
#3	-.0346	-.0103	-.0051	1.437	1.308	9.833	.0984

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2675	.0232	.0146	.5281	1.287	-.1173	.5089
SDev	.0016	.0058	.0027	.0024	.011	.0633	.0023

%RSD	.6150	24.84	18.11	.4601	.8863	53.98	.4569
#1	.2689	.0174	.0133	.5302	1.300	-.1836	.5109
#2	.2679	.0289	.0129	.5286	1.277	-.1108	.5096
#3	.2657	.0234	.0177	.5254	1.284	-.0574	.5064

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0318	.0000	.5451	1.057
SDev	.0074	.0001	.0057	.005
%RSD	23.38	1944.	1.040	.5121
#1	.0378	.0001	.5400	1.062
#2	.0235	-.0000	.5512	1.058
#3	.0341	-.0000	.5442	1.051

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Method: ICP1A Sample Name: 96-2605 PS-B Operator: DRS
Run Time: 02/07/96 11:03:51
Comment: 118.1AA.F POST SPIKE (MCVB) (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0029	1.687	.1691	1.020	.0041	.0005	1.775
SDev	.0011	.008	.0146	.007	.0002	.0000	.014
%RSD	37.56	.4743	8.653	.6897	3.968	7.056	.7740
#1	-.0041	1.696	.1761	1.018	.0040	.0005	1.785
#2	-.0024	1.681	.1790	1.014	.0043	.0005	1.782
#3	-.0021	1.685	.1523	1.028	.0040	.0005	1.760

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2758	.0035	1.019	.0104	.1505	.0259	.9607
SDev	.0025	.0010	.009	.0006	.0004	.0014	.0037
%RSD	.8990	27.49	.8927	6.292	.2394	5.351	.3809
#1	.2773	.0031	1.013	.0102	.1503	.0255	.9633
#2	.2771	.0046	1.029	.0111	.1501	.0274	.9585
#3	.2729	.0027	1.014	.0098	.1506	.0247	.9620

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9625	.9301	1207.	.4967	.0294	-.0080	.0421
SDev	.0047	.0014	5.	.0026	.0007	.0035	.0003
%RSD	.4897	.1471	.4368	.5335	2.532	43.46	.8032
#1	.9655	.9305	1210.	.4952	.0302	-.0039	.0418
#2	.9571	.9286	1201.	.4951	.0292	-.0041	.0421
#3	.9649	.9313	1209.	.4997	.0287	-.0109	.0424

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0141	10.56	47.01	.9996	.3602	2.218	.1773
SDev	.0014	.04	1.08	.0022	.0014	.006	.0044
%RSD	9.896	.3513	2.307	.2155	.3898	.2704	2.473
#1	.0130	10.60	46.04	.9972	.3617	2.212	.1722
#2	.0156	10.53	46.82	1.001	.3589	2.219	.1801
#3	.0137	10.57	48.18	1.000	.3600	2.224	.1795

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.157	1.049	1.012	.0982	.0773	10.72	1.287
SDev	.015	.007	.000	.0121	.0106	.09	.023
%RSD	1.280	.6546	.0397	12.36	13.75	.8086	1.798
#1	1.156	1.043	1.012	.0951	.0849	10.65	1.261
#2	1.172	1.056	1.012	.1116	.0820	10.70	1.294
#3	1.142	1.049	1.012	.0879	.0652	10.82	1.305

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0154	1.055	3.363	.0083	.0297	12.52	.0064
SDev	.0001	.003	.015	.0005	.0056	.07	.0005

%RSD	.4636	.2679	.4340	5.512	18.73	.5280	7.332
#1	.0155	1.058	3.374	.0080	.0233	12.59	.0059
#2	.0154	1.056	3.346	.0088	.0329	12.50	.0068
#3	.0154	1.052	3.369	.0081	.0330	12.47	.0066

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	1.020	.4800	.0087	.0063
SDev	.013	.0024	.0002	.0004
%RSD	1.250	.4979	2.199	6.389
#1	1.005	.4813	.0089	.0060
#2	1.028	.4772	.0087	.0067
#3	1.026	.4814	.0086	.0061

Analysis Report Wed 02-07-96 11:08:40 AM page 1

Method: ICP1A Sample Name: MCVB 02 Operator: DRS
Run Time: 02/07/96 11:07:21
Comment: MCVB 960206I901 02X DIL (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0074	.3026	.1393	1.015	.0017	.0003	.0476
SDev	.0001	.0038	.0117	.001	.0002	.0000	.0097
%RSD	1.919	1.243	8.360	.0886	12.63	1.041	20.35
#1	-.0075	.2996	.1383	1.015	.0015	.0003	.0365
#2	-.0073	.3015	.1514	1.014	.0019	.0003	.0537
#3	-.0073	.3068	.1282	1.016	.0017	.0003	.0528

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0144	.0036	.9956	.0018	.0044	.0170	.9760
SDev	.0010	.0001	.0026	.0008	.0020	.0003	.0010
%RSD	7.153	2.389	.2620	46.56	44.60	1.572	.1074
#1	.0132	.0037	.9979	.0010	.0022	.0172	.9772
#2	.0150	.0035	.9927	.0016	.0058	.0170	.9751
#3	.0151	.0037	.9961	.0026	.0053	.0167	.9757

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9841	.0074	.8339	.4987	.0018	-.0516	.0009
SDev	.0010	.0004	.0594	.0018	.0017	.0026	.0002
%RSD	.1011	5.439	7.122	.3525	95.78	4.954	19.02
#1	.9853	.0072	.8889	.4968	.0000	-.0542	.0007
#2	.9836	.0079	.8417	.4990	.0019	-.0522	.0010
#3	.9834	.0072	.7709	.5003	.0034	-.0491	.0010

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0062	.7692	30.56	.9837	.0388	.0810	.1504
SDev	.0007	.0087	.32	.0028	.0035	.0110	.0047
%RSD	11.88	1.130	1.032	.2844	9.089	13.62	3.095
#1	.0060	.7768	30.34	.9826	.0357	.0913	.1451
#2	.0056	.7597	30.92	.9817	.0426	.0693	.1531
#3	.0070	.7711	30.42	.9869	.0381	.0823	.1531

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.129	1.033	1.009	.0648	.0540	10.20	1.167
SDev	.013	.006	.002	.0026	.0155	.09	.009
%RSD	1.148	.6108	.1636	4.072	28.75	.8597	.7832
#1	1.136	1.026	1.010	.0671	.0465	10.12	1.159
#2	1.114	1.035	1.008	.0619	.0719	10.20	1.177
#3	1.137	1.038	1.011	.0653	.0437	10.29	1.166

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0017	1.029	3.402	.0046	.0079	12.30	.0025
SDev	.0001	.003	.010	.0003	.0059	.06	.0005

%RSD	4.102	.3034	.2904	7.403	74.75	.4654	18.59
#1	.0017	1.026	3.413	.0045	.0031	12.26	.0028
#2	.0017	1.031	3.394	.0043	.0060	12.36	.0020
#3	.0018	1.031	3.398	.0050	.0144	12.27	.0028

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	1.018	.4846	.0033	.0009
SDev	.010	.0003	.0003	.0003
%RSD	.9544	.0721	8.351	27.62
#1	1.009	.4850	.0029	.0006
#2	1.018	.4846	.0034	.0011
#3	1.028	.4843	.0035	.0009

Analysis Report Wed 02-07-96 11:12:09 AM page 1

Method: ICP1A Sample Name: 96-2605 DUP Operator: DRS
Run Time: 02/07/96 11:10:50
Comment: 118.1AA.F DUPLICATE (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0031	3.887	.0340	.0319	.0050	.0002	4.780
SDev	.0014	.038	.0062	.0015	.0002	.0000	.046
%RSD	43.44	.9719	18.31	4.721	4.888	16.24	.9528
#1	-.0045	3.920	.0296	.0302	.0048	.0001	4.828
#2	-.0031	3.895	.0411	.0330	.0048	.0002	4.775
#3	-.0018	3.846	.0312	.0325	.0052	.0001	4.737

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.002	.0016	.0539	.0125	.4052	.0093	.0067
SDev	.006	.0017	.0098	.0010	.0041	.0019	.0012
%RSD	.6001	108.2	18.11	8.318	1.002	20.61	18.52
#1	1.008	-.0002	.0520	.0118	.4025	.0071	.0053
#2	1.003	.0018	.0452	.0121	.4033	.0100	.0070
#3	.9960	.0031	.0644	.0137	.4099	.0107	.0078

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0026	2.406	2500.	.0089	.0643	.0272	.1004
SDev	.0003	.019	26.	.0022	.0010	.0078	.0006
%RSD	10.29	.7991	1.060	25.05	1.515	28.69	.6217
#1	.0023	2.423	2522.	.0068	.0643	.0289	.1009
#2	.0027	2.410	2506.	.0085	.0653	.0187	.1005
#3	.0029	2.385	2471.	.0112	.0633	.0341	.0997

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0138	26.97	34.95	.0347	.6063	6.104	.0500
SDev	.0018	.37	1.13	.0119	.0053	.086	.0095
%RSD	12.87	1.356	3.226	34.32	.8807	1.403	18.99
#1	.0121	27.32	33.85	.0236	.6125	6.142	.0423
#2	.0138	26.99	34.90	.0333	.6027	6.164	.0470
#3	.0156	26.59	36.11	.0472	.6038	6.006	.0606

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0825	.0458	.0190	.0308	.0564	1.859	.1690
SDev	.0175	.0141	.0041	.0105	.0207	.011	.0258
%RSD	21.19	30.87	21.48	34.09	36.70	.5876	13.63
#1	.0639	.0349	.0155	.0203	.0588	1.861	.1910
#2	.0852	.0407	.0181	.0413	.0346	1.870	.1622
#3	.0986	.0618	.0235	.0307	.0757	1.848	.2136

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0380	.0450	.0029	.0067	.0170	.8163	.0049
SDev	.0004	.0057	.0074	.0006	.0141	.1401	.0012

%RSD	.9954	12.71	252.6	8.456	82.77	17.16	24.79
#1	.0384	.0404	.0078	.0063	.0032	.6803	.0045
#2	.0381	.0432	-.0056	.0066	.0166	.8086	.0040
#3	.0376	.0514	.0066	.0074	.0313	.9602	.0063

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0214	.0022	.0103	.0116
SDev	.0091	.0006	.0010	.0011
%RSD	42.39	28.62	10.19	9.477
#1	.0217	.0015	.0091	.0106
#2	.0304	.0025	.0109	.0113
#3	.0122	.0027	.0110	.0128

Analysis Report QC Standard Wed 02-07-96 11:15:44 AM page 1

Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS

Run Time: 02/07/96 11:14:26

Comment: (BX-112, CORE 118)K.SILVERS

Mode: CONC Corr. Factor: 1

Pass * DRS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4921	10.21	2.588	2.125	.5100	.0995	24.77
SDev	.0040	.10	.033	.015	.0049	.0010	.20
%RSD	.8158	.9436	1.282	.6941	.9584	1.013	.7925
#1	.4954	10.29	2.619	2.132	.5134	.1003	24.89
#2	.4934	10.24	2.591	2.135	.5123	.0999	24.89
#3	.4876	10.10	2.553	2.108	.5044	.0984	24.55
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	25.92	.5108	-.0017	1.060	1.052	.9931	-.0002
SDev	.19	.0031	.0068	.009	.011	.0053	.0013
%RSD	.7305	.6029	396.4	.8384	1.055	.5290	538.9
#1	26.06	.5108	-.0079	1.068	1.054	.9953	-.0014
#2	25.99	.5124	-.0023	1.061	1.063	.9969	-.0005
#3	25.70	.5073	.0056	1.050	1.041	.9871	.0012
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0017	21.16	25.72	.0015	2.002	33.98	.5279
SDev	.0002	.18	.41	.0008	.024	.27	.0044
%RSD	12.64	.8607	1.592	53.71	1.175	.7892	.8389
#1	.0016	21.30	26.07	.0010	2.021	34.19	.5313
#2	.0016	21.22	25.81	.0010	2.009	34.08	.5295
#3	.0020	20.95	25.27	.0024	1.976	33.68	.5229
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.059	37.76	42.33	.0041	1.073	5.166	2.649
SDev	.010	.38	.80	.0048	.008	.087	.012
%RSD	.9677	.9960	1.897	118.6	.7704	1.683	.4354
#1	1.069	38.10	41.61	-.0005	1.070	5.264	2.646
#2	1.060	37.84	42.20	.0036	1.082	5.140	2.662
#3	1.049	37.36	43.20	.0091	1.066	5.096	2.639
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	1.000	36.70			1.000		2.500

Range	.1000	3.670			.1000		.2500
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0435	-.0087	-.0100	Q2.836	2.605	19.14	.2196
SDev	.0164	.0092	.0051	.024	.025	.14	.0227
%RSD	37.70	105.7	51.54	.8469	.9770	.7500	10.32
#1	-.0544	-.0177	-.0129	Q2.856	2.612	19.24	.2426
#2	-.0515	-.0089	-.0130	Q2.844	2.627	19.19	.1972
#3	-.0246	.0006	-.0040	Q2.810	2.577	18.97	.2190
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	QC Pass	QC Pass	NOCHECK
Value				2.500	2.500	20.00	
Range				.2500	.2500	2.000	

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5197	.0551	.0348	1.029	2.481	-.0120	.9891
SDev	.0053	.0060	.0052	.009	.026	.1617	.0076
%RSD	1.015	10.80	15.06	.8648	1.041	1346.	.7646
#1	.5236	.0528	.0393	1.035	2.462	-.1307	.9945
#2	.5218	.0507	.0361	1.032	2.510	-.0774	.9924
#3	.5137	.0619	.0291	1.019	2.470	.1721	.9805
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.5000			1.000	2.500		1.000
Range	.0500			.1000	.2500		.1000

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0422	.0011	1.052	2.063
SDev	.0134	.0004	.009	.019
%RSD	31.81	38.28	.8564	.9041
#1	.0267	.0007	1.056	2.077
#2	.0498	.0010	1.058	2.070
#3	.0500	.0016	1.042	2.041
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass
Value			1.000	2.000
Range			.1000	.2000

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Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 11:18:29
Comment: 118.1AA.F DUPLICATE (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0105	-.0098	-.0002	-.0014	-.0007	-.0000	.0045
SDev	.0004	.0049	.0100	.0009	.0002	.0000	.0003
%RSD	4.076	50.50	6169.	61.81	23.56	90.94	5.925
#1	-.0107	-.0081	-.0044	-.0014	-.0005	-.0000	.0044
#2	-.0100	-.0059	-.0074	-.0006	-.0008	-.0000	.0048
#3	-.0108	-.0153	.0113	-.0023	-.0008	-.0000	.0043

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0064	-.0003	-.0228	-.0014	.0004	-.0040	-.0026
SDev	.0002	.0003	.0012	.0010	.0002	.0006	.0007
%RSD	3.540	79.58	5.301	70.96	41.51	15.23	24.97
#1	.0066	-.0005	-.0222	-.0002	.0004	-.0041	-.0022
#2	.0064	-.0000	-.0220	-.0019	.0006	-.0034	-.0023
#3	.0061	-.0005	-.0242	-.0019	.0002	-.0046	-.0034

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0002	-1.109	-.0070	-.0024	-.0148	-.0001
SDev	.0002	.0005	.119	.0018	.0019	.0061	.0003
%RSD	21.43	255.1	10.71	26.46	72.11	40.90	358.8
#1	-.0007	.0008	-.9991	-.0052	-.0010	-.0116	-.0004
#2	-.0009	.0001	-1.093	-.0089	-.0019	-.0111	.0002
#3	-.0012	-.0003	-1.235	-.0067	-.0044	-.0218	-.0000

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0583	-4.189	-.0193	.0123	-.0226	-.0097
SDev	.0005	.0033	.389	.0037	.0004	.0084	.0031
%RSD	133.8	5.767	9.275	19.37	3.257	37.24	32.11
#1	-.0009	-.0545	-3.773	-.0175	.0127	-.0130	-.0066
#2	.0001	-.0602	-4.542	-.0236	.0120	-.0285	-.0128
#3	-.0004	-.0603	-4.253	-.0169	.0120	-.0264	-.0097

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0594	-.0302	-.0090	-.0036	-.0004	.0006	-.0605
SDev	.0103	.0023	.0037	.0041	.0086	.0074	.0122
%RSD	17.26	7.566	41.30	47.24	2426.	1170.	20.12
#1	-.0494	-.0292	-.0113	-.0053	-.0004	.0080	-.0527
#2	-.0699	-.0328	-.0111	-.0074	.0082	.0009	-.0543
#3	-.0589	-.0285	-.0047	-.0132	-.0089	-.0069	-.0745

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0175	.0041	-.0010	-.0083	-.3639	-.0018
SDev	.0000	.0067	.0054	.0001	.0049	.0507	.0003

%RSD	1.108	38.15	130.7	14.11	59.10	13.93	14.86
#1	-.0000	-.0124	-.0013	-.0009	-.0050	-.3125	-.0016
#2	-.0000	-.0251	.0042	-.0011	-.0060	-.4139	-.0016
#3	-.0000	-.0151	.0095	-.0009	-.0139	-.3654	-.0021

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	-.0098	-.0011	-.0001	-.0017
SDev	.0091	.0002	.0003	.0007
%RSD	93.30	18.01	344.6	41.38
#1	-.0074	-.0013	.0002	-.0010
#2	-.0199	-.0012	-.0003	-.0016
#3	-.0021	-.0009	-.0000	-.0024

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Method: ICP1A Sample Name: 96-2607 Operator: DRS
Run Time: 02/07/96 11:20:35
Comment: 118.2A.F (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	4.303	.0373	.0360	.0053	.0002	5.476
SDev	.0006	.009	.0054	.0026	.0001	.0000	.033
%RSD	45.63	.2087	14.35	7.161	1.515	15.84	.6069
#1	-.0019	4.313	.0331	.0355	.0052	.0002	5.512
#2	-.0011	4.300	.0434	.0337	.0054	.0003	5.447
#3	-.0008	4.295	.0356	.0388	.0054	.0002	5.469

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4653	.0015	.0716	.0142	.4596	.0125	.0072
SDev	.0013	.0013	.0058	.0001	.0036	.0018	.0003
%RSD	.2758	83.87	8.112	.6020	.7861	14.33	4.891
#1	.4661	.0029	.0650	.0142	.4578	.0124	.0068
#2	.4638	.0015	.0737	.0141	.4637	.0107	.0071
#3	.4660	.0003	.0760	.0143	.4571	.0143	.0075

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0025	2.482	2524.	.0112	.0106	.0463	.0876
SDev	.0002	.003	7.	.0024	.0010	.0051	.0004
%RSD	8.003	.1158	.2956	21.87	9.608	10.97	.4436
#1	.0025	2.485	2533.	.0109	.0102	.0410	.0876
#2	.0023	2.481	2521.	.0089	.0117	.0511	.0872
#3	.0027	2.480	2519.	.0138	.0097	.0469	.0880

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0187	29.25	39.99	.0364	.6685	7.359	.0679
SDev	.0021	.10	1.22	.0053	.0036	.019	.0049
%RSD	10.99	.3515	3.052	14.68	.5306	.2565	7.184
#1	.0166	29.32	39.04	.0303	.6725	7.379	.0623
#2	.0189	29.30	39.57	.0389	.6670	7.341	.0700
#3	.0207	29.13	41.37	.0401	.6659	7.358	.0714

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1151	.0614	.0220	.0412	.0614	1.895	.2424
SDev	.0066	.0039	.0039	.0074	.0140	.016	.0120
%RSD	5.701	6.328	17.52	17.98	22.77	.8673	4.962
#1	.1077	.0572	.0177	.0491	.0476	1.911	.2546
#2	.1175	.0621	.0229	.0404	.0612	1.879	.2420
#3	.1201	.0648	.0253	.0343	.0756	1.895	.2305

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0370	.0549	-.0004	.0074	.0353	.9323	.0061
SDev	.0000	.0020	.0032	.0002	.0075	.0549	.0003

%RSD	.0018	3.568	891.6	2.665	21.31	5.894	4.625
#1	.0370	.0527	.0026	.0074	.0267	.8844	.0059
#2	.0370	.0561	.0002	.0072	.0404	.9204	.0060
#3	.0370	.0560	-.0038	.0076	.0389	.9922	.0065

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0241	.0021	.0103	.0144
SDev	.0037	.0002	.0012	.0009
%RSD	15.41	7.747	11.46	6.312
#1	.0230	.0020	.0090	.0138
#2	.0282	.0020	.0104	.0139
#3	.0211	.0023	.0113	.0154

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Method: ICP1A Sample Name: 96-2607 DUP Operator: DRS
Run Time: 02/07/96 11:23:59
Comment: 118.2A.F DUPLICATE (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	3.965	.0465	.0472	.0059	.0002	4.831
SDev	.0005	.012	.0074	.0010	.0001	.0000	.013
%RSD	37.61	.3113	15.95	2.101	2.357	17.88	.2716
#1	-.0019	3.977	.0384	.0483	.0058	.0002	4.827
#2	-.0011	3.953	.0481	.0466	.0061	.0002	4.846
#3	-.0009	3.965	.0529	.0466	.0059	.0002	4.821

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.124	.0006	.0611	.0151	.4164	.0117	.0073
SDev	.002	.0014	.0032	.0016	.0028	.0016	.0004
%RSD	.0704	224.3	5.173	10.77	.6756	14.00	6.147
#1	2.123	.0014	.0587	.0135	.4173	.0099	.0070
#2	2.122	-.0010	.0599	.0168	.4132	.0123	.0078
#3	2.125	.0015	.0647	.0149	.4186	.0130	.0072

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0027	2.367	2500.	.0109	.0107	.0397	.1189
SDev	.0001	.006	5.	.0008	.0013	.0064	.0005
%RSD	4.342	.2560	.2056	6.927	12.03	16.06	.4404
#1	.0027	2.369	2503.	.0113	.0093	.0367	.1187
#2	.0029	2.360	2494.	.0114	.0117	.0471	.1185
#3	.0027	2.371	2503.	.0100	.0112	.0354	.1195

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0170	26.74	37.80	.0466	.9907	6.743	.0592
SDev	.0016	.08	.93	.0018	.0061	.005	.0034
%RSD	9.378	.3020	2.464	3.812	.6134	.0758	5.799
#1	.0152	26.78	38.53	.0455	.9847	6.748	.0558
#2	.0175	26.64	38.11	.0456	.9906	6.738	.0590
#3	.0182	26.79	36.75	.0486	.9969	6.742	.0627

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1165	.0616	.0240	.0446	.0528	1.763	.2567
SDev	.0160	.0052	.0012	.0128	.0061	.003	.0297
%RSD	13.72	8.410	4.944	28.76	11.61	.1696	11.56
#1	.1048	.0558	.0252	.0343	.0496	1.767	.2274
#2	.1347	.0656	.0228	.0406	.0599	1.762	.2867
#3	.1099	.0634	.0240	.0590	.0489	1.761	.2559

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0377	.0605	-.0024	.0091	.0344	.9175	.0060
SDev	.0001	.0019	.0014	.0002	.0079	.0615	.0002

%RSD	.1888	3.096	57.22	2.372	23.07	6.702	4.021
#1	.0376	.0595	-.0009	.0089	.0364	.8681	.0058
#2	.0376	.0593	-.0028	.0093	.0412	.9864	.0060
#3	.0377	.0626	-.0036	.0089	.0257	.8980	.0063

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0182	.0025	.0085	.0187
SDev	.0026	.0002	.0012	.0003
%RSD	14.54	8.405	13.96	1.346
#1	.0159	.0024	.0077	.0187
#2	.0211	.0023	.0098	.0189
#3	.0175	.0027	.0079	.0184

Analysis Report Wed 02-07-96 11:29:01 AM page 1

Method: ICP1A Sample Name: 96-2609 Operator: DRS
Run Time: 02/07/96 11:27:42
Comment: 118.3A.F (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0015	2.834	.0461	.0201	.0034	.0002	4.856
SDev	.0006	.016	.0095	.0008	.0003	.0000	.050
%RSD	42.78	.5513	20.61	4.244	8.638	5.030	1.026
#1	-.0011	2.837	.0351	.0209	.0033	.0002	4.848
#2	-.0022	2.848	.0519	.0201	.0031	.0002	4.910
#3	-.0011	2.817	.0512	.0192	.0037	.0002	4.811

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3039	-.0021	.0600	.0152	.3981	.0097	.0069
SDev	.0003	.0016	.0098	.0016	.0019	.0008	.0006
%RSD	.0934	76.57	16.41	10.67	.4895	8.503	8.428
#1	.3036	-.0012	.0643	.0150	.4004	.0102	.0068
#2	.3040	-.0011	.0488	.0137	.3969	.0102	.0064
#3	.3042	-.0039	.0670	.0169	.3971	.0088	.0076

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0023	2.278	2502.	.0110	.0119	.0230	.0993
SDev	.0003	.016	19.	.0011	.0006	.0116	.0007
%RSD	12.71	.7160	.7668	9.634	4.745	50.30	.6790
#1	.0023	2.272	2497.	.0106	.0112	.0317	.0999
#2	.0021	2.296	2524.	.0102	.0122	.0099	.0994
#3	.0027	2.265	2486.	.0122	.0122	.0276	.0986

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0144	20.69	30.45	.0413	.9683	4.626	.0641
SDev	.0015	.24	1.16	.0037	.0088	.008	.0056
%RSD	10.34	1.155	3.821	9.063	.9121	.1633	8.726
#1	.0132	20.65	29.86	.0378	.9701	4.634	.0641
#2	.0140	20.94	29.70	.0408	.9760	4.619	.0585
#3	.0161	20.47	31.79	.0453	.9587	4.624	.0697

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1122	.0572	.0245	.0465	.0683	1.540	.2451
SDev	.0103	.0077	.0026	.0098	.0089	.002	.0124
%RSD	9.208	13.47	10.75	21.02	13.01	.1507	5.066
#1	.1191	.0564	.0253	.0510	.0761	1.538	.2470
#2	.1003	.0499	.0216	.0353	.0586	1.543	.2318
#3	.1171	.0653	.0267	.0531	.0702	1.539	.2564

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0340	.0505	-.0072	.0063	.0380	.8198	.0056
SDev	.0002	.0077	.0048	.0006	.0112	.0800	.0003

%RSD	.5562	15.35	66.73	9.351	29.45	9.759	5.876
#1	.0339	.0509	-.0117	.0060	.0252	.7775	.0058
#2	.0342	.0425	-.0079	.0059	.0430	.7699	.0053
#3	.0338	.0580	-.0021	.0070	.0459	.9121	.0059

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0331	.0022	.0314	.0106
SDev	.0043	.0005	.0008	.0007
%RSD	13.14	21.57	2.595	6.738
#1	.0337	.0021	.0321	.0111
#2	.0285	.0018	.0316	.0098
#3	.0371	.0027	.0305	.0109

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Method: ICP1A Sample Name: 96-2609 DUP Operator: DRS
Run Time: 02/07/96 11:30:58
Comment: 118.3A.F DUPLICATE (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0015	4.023	.0538	.0222	.0054	.0002	6.839
SDev	.0003	.015	.0092	.0029	.0001	.0000	.061
%RSD	22.43	.3841	17.12	12.90	2.602	14.54	.8899
#1	.0018	4.012	.0445	.0255	.0055	.0002	6.780
#2	.0017	4.017	.0540	.0204	.0054	.0002	6.836
#3	.0011	4.041	.0629	.0207	.0052	.0003	6.902

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5626	.0007	.0978	.0180	.5641	.0121	.0106
SDev	.0022	.0002	.0027	.0008	.0032	.0005	.0002
%RSD	.3831	26.17	2.801	4.641	.5701	4.015	1.751
#1	.5614	.0005	.0990	.0172	.5615	.0126	.0106
#2	.5614	.0008	.0996	.0181	.5632	.0116	.0103
#3	.5651	.0006	.0946	.0189	.5677	.0120	.0107

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	3.351	2457.	.0155	.0192	.0419	.1141
SDev	.0001	.015	10.	.0001	.0023	.0048	.0004
%RSD	3.053	.4604	.4148	.3557	12.01	11.48	.3760
#1	.0036	3.339	2450.	.0154	.0200	.0411	.1136
#2	.0034	3.345	2453.	.0156	.0166	.0373	.1143
#3	.0036	3.368	2469.	.0155	.0209	.0470	.1144

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0185	28.60	41.88	.0603	.8597	6.592	.0772
SDev	.0004	.11	.94	.0038	.0033	.042	.0099
%RSD	2.177	.4014	2.237	6.311	.3853	.6311	12.79
#1	.0183	28.50	41.07	.0646	.8614	6.563	.0842
#2	.0183	28.59	41.66	.0573	.8559	6.574	.0659
#3	.0190	28.72	42.91	.0588	.8618	6.640	.0815

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1523	.0832	.0318	.0650	.0845	2.226	.3295
SDev	.0043	.0045	.0024	.0068	.0119	.009	.0257
%RSD	2.815	5.416	7.580	10.49	14.07	.4148	7.803
#1	.1477	.0872	.0292	.0729	.0779	2.222	.3591
#2	.1562	.0839	.0325	.0615	.0773	2.219	.3167
#3	.1530	.0783	.0338	.0607	.0982	2.236	.3127

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0480	.0731	-.0026	.0095	.0401	1.212	.0080
SDev	.0002	.0071	.0020	.0001	.0056	.025	.0003

%RSD	.4461	9.677	77.37	1.071	13.96	2.051	4.248
#1	.0479	.0771	-.0047	.0094	.0343	1.231	.0084
#2	.0479	.0773	-.0006	.0095	.0404	1.184	.0081
#3	.0482	.0649	-.0026	.0095	.0455	1.222	.0077

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0343	.0032	.0437	.0148
SDev	.0082	.0003	.0008	.0004
%RSD	23.79	10.62	1.732	2.784
#1	.0438	.0032	.0437	.0150
#2	.0296	.0028	.0445	.0143
#3	.0297	.0035	.0430	.0151

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Method: ICP1A Sample Name: SRM2709 Operator: DRS
Run Time: 02/07/96 11:35:00
Comment: LCS BX112/C118 (BX-112, CORE 118)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	22.22	.0810	.0456	.2737	.0023	.0704
SDev	.0010	.13	.0151	.0012	.0019	.0000	.0064
%RSD	164.5	.5927	18.59	2.608	.7115	.8913	11.93
#1	-.0004	22.31	.0983	.0465	.2750	.0023	.0698
#2	.0007	22.27	.0733	.0461	.2747	.0023	.0623
#3	.0016	22.07	.0713	.0443	.2714	.0023	.0791

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	7.188	.0008	.0688	.0220	.0596	.0158	.0099
SDev	.032	.0012	.0120	.0012	.0027	.0010	.0013
%RSD	.4475	146.2	17.51	5.252	4.511	6.355	13.46
#1	7.218	.0004	.0599	.0214	.0597	.0147	.0093
#2	7.192	.0022	.0640	.0213	.0623	.0160	.0090
#3	7.154	-.0001	.0826	.0234	.0569	.0167	.0114

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	10.83	2463.	.0205	.0222	4.818	.2488
SDev	.0003	.05	16.	.0021	.0007	.015	.0002
%RSD	9.209	.5020	.6532	10.13	3.345	.3208	.0797
#1	.0034	10.87	2476.	.0187	.0224	4.832	.2490
#2	.0034	10.84	2467.	.0200	.0214	4.822	.2487
#3	.0040	10.77	2445.	.0227	.0229	4.801	.2487

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0130	4.640	15.03	.0595	2.565	.3315	.1391
SDev	.0019	.054	1.97	.0044	.019	.0057	.0045
%RSD	14.34	1.174	13.13	7.408	.7024	1.732	3.255
#1	.0137	4.645	14.26	.0563	2.580	.3352	.1341
#2	.0108	4.691	13.56	.0577	2.569	.3249	.1400
#3	.0143	4.583	17.28	.0645	2.545	.3345	.1430

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1482	.0746	.0255	.0920	.1541	86.36	.3978
SDev	.0135	.0067	.0032	.0171	.0033	.45	.0147
%RSD	9.127	9.011	12.71	18.54	2.162	.5249	3.689
#1	.1352	.0766	.0267	.0935	.1542	86.75	.3953
#2	.1471	.0671	.0218	.1083	.1573	86.47	.3846
#3	.1622	.0801	.0280	.0743	.1507	85.86	.4136

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0727	.0941	.0076	.9466	.0718	.8350	.0403
SDev	.0004	.0048	.0029	.0050	.0067	.0880	.0004

%RSD	.6133	5.132	38.86	.5280	9.404	10.54	1.114
#1	.0731	.0885	.0091	.9511	.0682	.8139	.0399
#2	.0728	.0963	.0042	.9474	.0677	.7595	.0402
#3	.0722	.0974	.0095	.9412	.0796	.9317	.0408

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0422	.0079	.0426	.0223
SDev	.0116	.0003	.0011	.0004
%RSD	27.53	3.770	2.493	2.044
#1	.0298	.0076	.0435	.0218
#2	.0441	.0080	.0428	.0222
#3	.0528	.0082	.0414	.0227

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Method: ICP1A Sample Name: 96-2611-BLK Operator: DRS
Run Time: 02/07/96 11:39:54
Comment: KOH-KNO3 PREP BLANK (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0008	.1260	.0439	.0316	.0032	.0002	.0568
SDev	.0009	.0031	.0012	.0010	.0001	.0000	.0036
%RSD	116.6	2.425	2.701	3.091	2.500	3.003	6.302
#1	.0017	.1283	.0432	.0305	.0033	.0002	.0526
#2	.0005	.1225	.0432	.0322	.0031	.0002	.0588
#3	.0000	.1272	.0453	.0322	.0033	.0002	.0588

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9714	-.0002	.0593	.0141	.0102	.0112	.0095
SDev	.0006	.0010	.0021	.0008	.0018	.0008	.0003
%RSD	.0649	502.4	3.606	5.307	17.49	7.244	3.594
#1	.9708	-.0007	.0612	.0147	.0087	.0121	.0094
#2	.9720	.0010	.0570	.0133	.0121	.0109	.0099
#3	.9715	-.0008	.0598	.0143	.0097	.0106	.0092

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0030	.0419	2467.	.0148	.0078	.0770	.0986
SDev	.0002	.0009	6.	.0016	.0013	.0033	.0003
%RSD	6.524	2.045	.2364	10.84	16.54	6.896	.3593
#1	.0032	.0429	2461.	.0165	.0073	.0823	.0986
#2	.0028	.0414	2468.	.0133	.0093	.0717	.0992
#3	.0030	.0415	2473.	.0146	.0068	.0770	.0986

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0092	1.213	12.69	.0593	.3740	.1104	.0612
SDev	.0013	.023	.50	.0011	.0016	.0271	.0074
%RSD	15.81	1.903	3.960	1.819	.4185	24.58	12.15
#1	.0078	1.158	13.07	.0604	.3739	.1374	.0684
#2	.0096	1.217	12.88	.0582	.3725	.1107	.0617
#3	.0071	1.234	12.12	.0594	.3756	.0831	.0535

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1628	.0783	.0304	.0516	.0630	.2258	.3002
SDev	.0058	.0066	.0031	.0134	.0124	.0010	.0109
%RSD	3.550	6.417	10.11	25.92	19.73	.4327	3.641
#1	.1672	.0857	.0334	.0385	.0552	.2252	.3069
#2	.1649	.0764	.0272	.0511	.0565	.2252	.2875
#3	.1562	.0729	.0307	.0653	.0773	.2269	.3060

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0043	.0525	-.0096	.0063	.0409	.8622	.0072
SDev	.0001	.0028	.0097	.0001	.0036	.0515	.0003

%RSD	1.651	5.410	101.2	1.016	8.694	5.976	3.577
#1	.0044	.0555	-.0101	.0064	.0369	.8509	.0070
#2	.0043	.0523	-.0191	.0063	.0437	.9184	.0075
#3	.0043	.0498	.0004	.0062	.0420	.8172	.0071

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0279	.0030	.0036	.0078
SDev	.0019	.0002	.0007	.0007
%RSD	6.837	6.026	20.15	8.987
#1	.0260	.0031	.0027	.0080
#2	.0280	.0030	.0039	.0084
#3	.0298	.0028	.0041	.0070

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Method: ICP1A Sample Name: 96-2611 @5 Operator: DRS
Run Time: 02/07/96 11:43:26
Comment: 119.1A.F @5X DIL (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0087	1.161	.0056	.0000	.0010	-.0000	1.421
SDev	.0015	.009	.0054	.0017	.0004	.0000	.020
%RSD	16.95	.7938	96.41	3522.	35.60	67.75	1.411
#1	-.0076	1.153	.0115	.0003	.0013	-.0000	1.403
#2	-.0081	1.160	.0042	.0016	.0012	-.0001	1.443
#3	-.0104	1.171	.0010	-.0016	.0006	-.0000	1.418

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5355	.0012	-.0043	.0009	.0950	-.0034	-.0006
SDev	.0039	.0022	.0070	.0004	.0021	.0010	.0012
%RSD	.7306	186.6	162.8	48.07	2.174	28.43	194.5
#1	.5329	-.0011	.0007	.0009	.0964	-.0030	.0002
#2	.5336	.0014	-.0013	.0013	.0926	-.0028	-.0001
#3	.5400	.0033	-.0124	.0005	.0959	-.0046	-.0019

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.7937	497.2	-.0016	.0013	.0040	.0270
SDev	.0004	.0099	5.4	.0016	.0015	.0091	.0003
%RSD	180.1	1.248	1.095	99.60	114.6	227.5	1.020
#1	-.0000	.7885	492.9	-.0017	.0029	.0146	.0269
#2	.0000	.7909	495.4	.0000	.0010	-.0015	.0268
#3	-.0007	.8047	503.3	-.0031	.0000	-.0010	.0272

Elem	Mo	Na	Nah	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0034	6.169	4.492	-.0091	.1063	1.443	.0030
SDev	.0008	.091	.986	.0110	.0011	.023	.0089
%RSD	22.93	1.468	21.96	121.2	.9987	1.604	293.8
#1	.0042	6.135	5.090	.0001	.1051	1.432	-.0009
#2	.0030	6.101	5.032	-.0061	.1065	1.427	.0131
#3	.0028	6.272	3.353	-.0212	.1072	1.470	-.0033

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0257	-.0079	.0010	.0036	.0178	.5025	.0139
SDev	.0266	.0107	.0008	.0033	.0140	.0040	.0237
%RSD	103.7	136.0	81.77	90.13	78.55	.7867	167.9
#1	-.0090	.0017	.0020	.0002	.0091	.4999	.0232
#2	-.0116	-.0059	.0006	.0040	.0104	.5005	.0311
#3	-.0563	-.0195	.0005	.0067	.0339	.5070	-.0126

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0108	-.0041	.0009	.0008	.0071	-.0322	.0003
SDev	.0001	.0073	.0003	.0006	.0012	.1128	.0005

%RSD	1.145	179.6	36.72	79.94	17.15	350.2	279.1
#1	.0107	-.0109	.0006	.0008	.0057	.0702	.0008
#2	.0109	.0036	.0013	.0014	.0079	-.0138	.0007
#3	.0108	-.0048	.0009	.0001	.0077	-.1531	-.0006

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0082	-.0002	.0070	.0018
SDev	.0048	.0001	.0007	.0008
%RSD	58.44	62.75	10.30	43.11
#1	.0098	-.0002	.0078	.0018
#2	.0028	-.0001	.0065	.0025
#3	.0120	-.0003	.0067	.0010

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Method: ICP1A Sample Name: 96-2611 Operator: DRS
Run Time: 02/07/96 11:47:08
Comment: 119.1A.F (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0017	5.670	.0624	.0302	.0081	.0002	6.973
SDev	.0004	.008	.0123	.0022	.0001	.0000	.009
%RSD	23.42	.1461	19.79	7.328	.9995	16.66	.1268
#1	.0013	5.664	.0654	.0286	.0082	.0002	6.983
#2	.0018	5.668	.0489	.0292	.0081	.0002	6.968
#3	.0021	5.680	.0730	.0327	.0081	.0003	6.967

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9295	-.0001	.0844	.0174	.4722	.0130	.0109
SDev	.0015	.0009	.0041	.0008	.0024	.0007	.0004
%RSD	.1626	1167.	4.815	4.896	.5130	5.082	3.738
#1	.9280	-.0003	.0873	.0173	.4739	.0123	.0113
#2	.9293	.0009	.0861	.0166	.4694	.0137	.0105
#3	.9310	-.0008	.0798	.0183	.4732	.0132	.0109

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	3.904	2386.	.0147	.0073	.1079	.1325
SDev	.0001	.009	5.	.0008	.0005	.0149	.0002
%RSD	2.522	.2243	.2288	5.809	6.667	13.77	.1774
#1	.0036	3.896	2380.	.0154	.0073	.0936	.1327
#2	.0035	3.902	2388.	.0149	.0068	.1069	.1322
#3	.0036	3.913	2390.	.0138	.0078	.1233	.1326

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0190	30.18	44.03	.0593	.4988	7.392	.0849
SDev	.0014	.07	.92	.0028	.0037	.057	.0044
%RSD	7.471	.2334	2.101	14.87	.7512	.7669	5.212
#1	.0179	30.12	44.97	.0668	.4972	7.328	.0832
#2	.0184	30.16	44.00	.0496	.5031	7.412	.0815
#3	.0206	30.26	43.13	.0615	.4961	7.436	.0899

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1742	.0839	.0316	.0623	.0870	2.577	.3657
SDev	.0100	.0015	.0017	.0062	.0049	.007	.0105
%RSD	5.721	1.734	5.416	9.956	5.588	.2560	2.864
#1	.1857	.0853	.0328	.0557	.0824	2.571	.3695
#2	.1684	.0824	.0324	.0633	.0921	2.584	.3539
#3	.1685	.0841	.0297	.0680	.0864	2.577	.3738

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0520	.0718	-.0041	.0100	.0401	1.316	.0068
SDev	.0002	.0074	.0005	.0003	.0031	.064	.0003

%RSD	.3631	10.27	12.82	2.626	7.650	4.824	3.516
#1	.0518	.0682	-.0035	.0103	.0409	1.388	.0086
#2	.0519	.0670	-.0041	.0098	.0367	1.294	.0086
#3	.0522	.0803	-.0046	.0100	.0426	1.267	.0092

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0367	.0030	.0164	.0207
SDev	.0094	.0004	.0009	.0003
%RSD	25.72	11.82	5.540	1.629
#1	.0296	.0034	.0172	.0203
#2	.0474	.0028	.0154	.0208
#3	.0331	.0028	.0164	.0209

Analysis Report Wed 02-07-96 11:52:11 AM page 1

Method: ICP1A Sample Name: 96-2611 PS-A Operator: DRS
Run Time: 02/07/96 11:50:53
Comment: 119.1A.F POST SPIKE (MCVA) (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2459	8.163	1.367	1.100	.2623	.0520	16.25
SDev	.0003	.078	.022	.013	.0033	.0005	.20
%RSD	.1341	.9585	1.632	1.206	1.263	.9945	1.242
#1	.2456	8.083	1.351	1.091	.2588	.0515	16.05
#2	.2459	8.239	1.358	1.115	.2654	.0526	16.46
#3	.2462	8.168	1.393	1.094	.2628	.0520	16.25

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	13.93	.2654	.0338	.5557	.7851	.5245	.0039
SDev	.11	.0015	.0098	.0062	.0076	.0068	.0015
%RSD	.8084	.5570	29.00	1.118	.9659	1.302	38.61
#1	13.82	.2670	.0447	.5500	.7840	.5180	.0056
#2	14.04	.2642	.0312	.5623	.7932	.5316	.0033
#3	13.92	.2650	.0256	.5547	.7782	.5239	.0028

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0023	12.91	1255.	.0066	1.003	17.62	.3409
SDev	.0004	.13	13.	.0031	.013	.15	.0032
%RSD	16.89	.9750	1.062	47.69	1.280	.8407	.9476
#1	.0027	12.79	1241.	.0102	.9889	17.46	.3384
#2	.0022	13.04	1267.	.0047	1.014	17.76	.3446
#3	.0020	12.92	1258.	.0049	1.007	17.63	.3399

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5589	34.97	43.53	.0240	.8086	6.439	1.418
SDev	.0045	.46	1.98	.0114	.0075	.068	.011
%RSD	.8006	1.310	4.559	47.54	.9322	1.055	.7793
#1	.5541	34.46	45.73	.0372	.8005	6.367	1.407
#2	.5630	35.35	42.97	.0177	.8155	6.448	1.429
#3	.5595	35.10	41.83	.0171	.8099	6.502	1.419

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0482	.0318	.0132	1.506	1.412	11.35	.2531
SDev	.0254	.0126	.0051	.020	.014	.10	.0411
%RSD	52.71	39.44	38.75	1.315	1.004	.9107	16.26
#1	.0770	.0463	.0185	1.487	1.410	11.24	.3001
#2	.0390	.0256	.0083	1.527	1.427	11.45	.2358
#3	.0287	.0236	.0127	1.504	1.399	11.35	.2234

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2915	.0613	.0168	.5340	1.336	.5418	.5132
SDev	.0035	.0102	.0030	.0060	.011	.1471	.0048

%RSD	1.189	16.58	17.78	1.115	.8467	27.15	.9310
#1	.2877	.0719	.0157	.5276	1.332	.7110	.5081
#2	.2945	.0517	.0202	.5393	1.349	.4700	.5176
#3	.2923	.0603	.0146	.5350	1.327	.4444	.5137

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0342	.0019	.5584	1.071
SDev	.0097	.0003	.0103	.010
%RSD	28.51	16.10	1.841	.9648
#1	.0405	.0022	.5505	1.060
#2	.0229	.0017	.5700	1.080
#3	.0390	.0017	.5547	1.072

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Method: ICP1A Sample Name: MCVA @2 Operator: DRS
Run Time: 02/07/96 11:54:37
Comment: MCVA 960130I901 @2X DIL (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2493	5.281	1.353	1.100	.2640	.0518	12.81
SDev	.0004	.047	.008	.011	.0024	.0004	.15
%RSD	.1747	.8933	.6127	1.015	.9279	.8512	1.166
#1	.2493	5.262	1.349	1.095	.2633	.0517	12.79
#2	.2497	5.335	1.362	1.113	.2667	.0523	12.96
#3	.2488	5.247	1.346	1.092	.2619	.0514	12.66

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	13.70	.2633	-.0136	.5501	.5458	.5066	-.0009
SDev	.08	.0030	.0078	.0025	.0030	.0043	.0009
%RSD	.6171	1.153	56.91	.4521	.5528	.8370	91.75
#1	13.66	.2643	-.0173	.5483	.5444	.5052	-.0009
#2	13.79	.2658	-.0189	.5529	.5493	.5134	-.0019
#3	13.63	.2599	-.0047	.5489	.5437	.5073	-.0002

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	11.03	12.55	-.0028	1.030	17.72	.2752
SDev	.0005	.08	.11	.0001	.010	.13	.0017
%RSD	118.5	.7003	.8619	3.603	.9833	.7338	.6267
#1	.0002	11.02	12.67	-.0029	1.034	17.66	.2749
#2	.0000	11.11	12.45	-.0027	1.038	17.87	.2770
#3	.0010	10.96	12.52	-.0029	1.019	17.62	.2736

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5524	19.55	20.31	-.0084	.5607	2.668	1.364
SDev	.0036	.11	.63	.0076	.0059	.029	.014
%RSD	.6491	.5697	3.102	91.14	1.058	1.098	1.040
#1	.5520	19.56	21.03	-.0114	.5568	2.640	1.354
#2	.5562	19.66	19.90	-.0140	.5675	2.698	1.358
#3	.5491	19.44	19.99	.0003	.5578	2.667	1.380

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0456	-.0169	-.0028	1.443	1.371	9.958	.1234
SDev	.0097	.0062	.0027	.008	.022	.070	.0305
%RSD	21.30	36.99	94.71	.5590	1.637	.7035	24.71
#1	-.0435	-.0172	-.0017	1.435	1.393	9.948	.1409
#2	-.0562	-.0229	-.0059	1.452	1.372	10.03	.0882
#3	-.0371	-.0105	-.0009	1.443	1.348	9.893	.1410

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2704	.0255	.0144	.5330	1.311	-.1546	.5120
SDev	.0025	.0048	.0038	.0039	.006	.0903	.0033

%RSD	.9126	18.97	26.03	.7250	.4907	58.42	.6516
#1	.2698	.0311	.0107	.5319	1.305	-.1059	.5104
#2	.2731	.0228	.0144	.5373	1.311	-.2589	.5158
#3	.2683	.0226	.0182	.5298	1.318	-.0991	.5097

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0240	-.0001	.5513	1.070
SDev	.0098	.0001	.0056	.009
%RSD	40.77	154.5	1.010	.8565
#1	.0341	.0000	.5508	1.069
#2	.0146	-.0003	.5571	1.080
#3	.0234	-.0000	.5460	1.062

Analysis Report QC Standard Wed 02-07-96 11:59:30 AM page 1

Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS
Run Time: 02/07/96 11:58:11
Comment: (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Fail-B, Mg, Z
DRS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5063	10.59	2.687	Q2.204	.5294	.1035	25.56
SDev	.0008	.06	.032	.006	.0034	.0006	.11
%RSD	.1500	.5227	1.176	.2904	.6509	.5830	.4219
#1	.5070	10.65	2.723	Q2.204	.5330	.1041	25.62
#2	.5055	10.57	2.663	Q2.210	.5291	.1035	25.62
#3	.5064	10.54	2.675	2.197	.5262	.1029	25.43
Errors	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	26.87	.5282	-.0189	1.098	1.084	1.025	-.0021
SDev	.09	.0082	.0073	.006	.008	.002	.0008
%RSD	.3365	1.559	38.60	.5140	.7592	.2316	39.38
#1	26.97	.5375	-.0256	Q1.102	1.091	1.027	-.0030
#2	26.85	.5219	-.0199	1.099	1.087	1.022	-.0019
#3	26.80	.5252	-.0111	1.091	1.075	1.026	-.0014
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0011	21.94	24.13	-.0016	2.076	Q35.14	.5476
SDev	.0005	.11	.10	.0005	.013	.14	.0028
%RSD	43.93	.5003	.3953	30.55	.6300	.3976	.5053
#1	.0007	Q22.06	24.04	-.0022	2.090	Q35.30	Q.5508
#2	.0010	21.93	24.11	-.0016	2.074	Q35.08	.5465
#3	.0016	21.84	24.23	-.0012	2.064	Q35.03	.5456
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Fail	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.099	39.23	41.73	-.0123	1.098	5.305	2.724
SDev	.006	.13	1.17	.0060	.006	.028	.016
%RSD	.5106	.3288	2.808	48.73	.5806	.5269	.5709
#1	Q1.105	39.38	40.42	-.0190	1.093	5.280	2.742
#2	1.096	39.15	42.68	-.0108	1.096	5.336	2.715
#3	1.095	39.17	42.07	-.0073	Q1.106	5.300	2.715
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	1.000	36.70			1.000		2.500

Analysis Report QC Standard Wed 02-07-96 11:59:30 AM page 2

Range	.1000	3.670			.1000		.2500
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0799	-.0259	-.0072	Q2.903	2.698	19.77	.2112
SDev	.0258	.0089	.0030	.024	.014	.09	.0376
%RSD	32.25	34.49	41.28	.8335	.5238	.4410	17.79
#1	-.1031	-.0353	-.0103	Q2.930	2.714	19.86	.1839
#2	-.0844	-.0250	-.0070	Q2.883	2.693	19.77	.1957
#3	-.0521	-.0175	-.0043	Q2.896	2.687	19.69	.2541
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	QC Pass	QC Pass	NOCHECK
Value				2.500	2.500	20.00	
Range				.2500	.2500	2.000	

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5421	.0464	.0332	1.068	2.616	-.1567	1.025
SDev	.0035	.0093	.0043	.006	.010	.1040	.004
%RSD	.6385	20.14	13.03	.5435	.3942	66.37	.4130
#1	.5457	.0372	.0324	1.074	2.622	-.2050	1.029
#2	.5420	.0461	.0379	1.066	2.604	-.2277	1.024
#3	.5387	.0559	.0293	1.063	2.622	-.0373	1.021
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.5000			1.000	2.500		1.000
Range	.0500			.1000	.2500		.1000

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0470	.0003	Q1.101	2.149
SDev	.0067	.0003	.006	.014
%RSD	14.36	113.7	.5370	.6416
#1	.0423	.0001	Q1.107	2.164
#2	.0547	.0001	1.100	2.148
#3	.0439	.0007	1.096	2.136
Errors	NOCHECK	NOCHECK	QC Fail	QC Pass
Value			1.000	2.000
Range			.1000	.2000

Analysis Report QC Standard Wed 02-07-96 12:05:58 PM page 1

Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS
Run Time: 02/07/96 12:04:39
Comment: (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Pass* DWS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4927	9.999	2.564	2.089	.4978	.0975	24.09
SDev	.0006	.021	.008	.002	.0017	.0003	.04
%RSD	.1161	.2084	.3184	.0969	.3384	.2960	.1458
#1	.4921	9.976	2.556	2.089	.4961	.0972	24.05
#2	.4932	10.02	2.564	2.087	.4994	.0978	24.11
#3	.4928	10.01	2.572	2.091	.4979	.0975	24.11
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	25.49	.4908	.0343	1.044	1.036	.9755	.0047
SDev	.04	.0013	.0067	.002	.006	.0031	.0010
%RSD	.1379	.2728	19.53	.1779	.6245	.3214	20.58
#1	25.46	.4899	.0395	1.042	1.030	.9719	.0051
#2	25.53	.4900	.0267	1.044	1.043	.9765	.0036
#3	25.49	.4923	.0366	1.045	1.035	.9779	.0055
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0034	20.75	24.94	.0118	1.964	33.34	.5180
SDev	.0003	.04	.05	.0013	.007	.08	.0013
%RSD	9.819	.2127	.1964	11.14	.3796	.2370	.2556
#1	.0037	20.70	24.99	.0127	1.961	33.26	.5165
#2	.0031	20.79	24.90	.0103	1.973	33.41	.5186
#3	.0035	20.75	24.92	.0124	1.959	33.36	.5189
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.039	37.24	49.18	.0384	1.048	5.091	2.620
SDev	.003	.02	.26	.0028	.006	.028	.012
%RSD	.3136	.0443	.5277	7.379	.5678	.5414	.4604
#1	1.035	37.23	48.91	.0415	1.055	5.085	2.631
#2	1.041	37.26	49.19	.0377	1.048	5.066	2.622
#3	1.041	37.23	49.43	.0360	1.043	5.120	2.607
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	1.000	36.70			1.000		2.500

Range	.1000	3.670			.1000		.2500
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0669	.0381	.0084	Q2.776	2.566	18.76	.3435
SDev	.0138	.0064	.0028	.020	.022	.04	.0268
%RSD	20.59	16.71	33.01	.7158	.8401	.2332	7.818
#1	.0777	.0452	.0115	Q2.761	2.584	18.71	.3445
#2	.0514	.0328	.0072	Q2.798	2.572	18.80	.3161
#3	.0717	.0362	.0064	Q2.769	2.542	18.76	.3698
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	QC Pass	QC Pass	NOCHECK
Value				2.500	2.500	20.00	
Range				.2500	.2500	2.000	

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5094	.0534	.0262	1.008	2.491	.5707	.9702
SDev	.0020	.0051	.0070	.003	.013	.1018	.0033
%RSD	.3882	9.592	26.79	.2698	.5233	17.83	.3369
#1	.5074	.0539	.0262	1.005	2.478	.6625	.9668
#2	.5114	.0480	.0331	1.011	2.489	.4613	.9733
#3	.5094	.0582	.0191	1.009	2.504	.5885	.9706
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.5000			1.000	2.500		1.000
Range	.0500			.1000	.2500		.1000

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0570	.0029	1.046	2.026
SDev	.0048	.0001	.005	.005
%RSD	8.364	5.284	.4719	.2238
#1	.0516	.0031	1.051	2.021
#2	.0588	.0029	1.047	2.030
#3	.0605	.0028	1.041	2.027
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass
Value			1.000	2.000
Range			.1000	.2000

Analysis Report Wed 02-07-96 12:09:53 PM page 1

Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 12:08:34
Comment: MCVA 960130I901 @2X DIL (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0076	-.0019	-.0005	-.0005	-.0000	-.0100
SDev	.0009	.0021	.0068	.0008	.0001	.0000	.0027
%RSD	212.3	26.89	362.8	154.0	16.25	98.99	26.75
#1	-.0015	-.0060	-.0080	.0001	-.0005	.0000	-.0106
#2	-.0000	-.0070	-.0030	-.0002	-.0006	-.0000	-.0124
#3	.0002	-.0099	.0054	-.0014	-.0005	-.0000	-.0071

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0141	-.0016	-.0002	.0000	.0002	.0009	.0003
SDev	.0026	.0006	.0106	.0004	.0001	.0016	.0011
%RSD	18.78	37.21	5683.	1521.	60.97	189.5	345.4
#1	-.0111	-.0023	-.0124	-.0004	.0002	.0000	-.0009
#2	-.0161	-.0013	.0060	.0004	.0002	-.0002	.0008
#3	-.0150	-.0012	.0058	.0000	.0001	.0027	.0010

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0089	.0392	.0013	.0000	-.0191	-.0003
SDev	.0003	.0020	.2624	.0032	.0015	.0112	.0004
%RSD	89.62	22.91	669.0	238.8	170e6	59.01	133.3
#1	.0000	-.0066	-.2589	-.0023	-.0016	-.0070	.0001
#2	.0006	-.0106	.2353	.0032	.0013	-.0293	-.0003
#3	.0004	-.0093	.1412	.0031	.0003	-.0209	-.0007

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0015	-.0090	.3747	.0027	.0002	.0067	.0012
SDev	.0012	.0151	2.098	.0046	.0023	.0045	.0060
%RSD	81.57	166.7	559.9	170.4	1526.	66.73	522.3
#1	-.0019	-.0262	-1.931	-.0024	.0013	.0069	.0052
#2	-.0025	-.0033	.8844	.0064	-.0025	.0021	.0040
#3	-.0001	.0023	2.171	.0040	.0017	.0110	-.0058

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0027	.0004	.0035	.0063	-.0032	-.0011	.0149
SDev	.0238	.0056	.0011	.0119	.0125	.0005	.0129
%RSD	885.5	1351.	30.73	188.0	391.0	45.93	86.66
#1	-.0239	-.0059	.0024	-.0062	-.0177	-.0007	.0234
#2	.0218	.0048	.0035	.0174	.0037	-.0010	.0212
#3	.0102	.0023	.0046	.0078	.0044	-.0017	.0000

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0025	-.0040	-.0004	-.0109	.0541	-.0006
SDev	.0000	.0004	.0050	.0005	.0137	.1488	.0009

%RSD	.3431	16.13	124.2	128.8	126.5	275.0	162.3
#1	-.0002	-.0026	-.0049	-.0010	.0005	-.1048	-.0017
#2	-.0002	-.0029	-.0084	-.0001	-.0261	.1902	-.0000
#3	-.0002	-.0021	.0014	-.0001	-.0069	.0769	-.0001

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	-.0065	-.0000	-.0015	-.0001
SDev	.0028	.0006	.0006	.0007
%RSD	42.32	1797.	42.36	570.4
#1	-.0058	-.0006	-.0020	-.0006
#2	-.0096	.0006	-.0008	.0007
#3	-.0042	-.0001	-.0016	-.0004

Standardization Rpt. Wed 02-07-96 01:15:42 PM page 1

Method: ICP1A Standard: ICP1.0

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	.7744	.2463	.1864	.1226	.0360	.0210	.1746
SDev	.0030	.0008	.0009	.0017	.0002	.0000	.0026
%RSD	.3875	.3101	.5098	1.389	.4811	.0000	1.463
#1	.7711	.2456	.1864	.1225	.0358	.0210	.1754
#2	.7770	.2471	.1874	.1210	.0361	.0210	.1766
#3	.7750	.2461	.1855	.1244	.0361	.0210	.1717

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	.1435	.0568	.7337	.1703	.0544	.0585	.2263
SDev	.0005	.0006	.0025	.0002	.0008	.0003	.0007
%RSD	.3219	.9691	.3440	.1223	1.379	.4304	.2898
#1	.1432	.0574	.7308	.1702	.0537	.0585	.2256
#2	.1440	.0563	.7349	.1705	.0544	.0587	.2269
#3	.1432	.0568	.7354	.1701	.0552	.0582	.2264

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	.0400	.0675	.2278	.1165	.0457	.2812	.0233
SDev	.0001	.0001	.0006	.0003	.0002	.0013	.0003
%RSD	.2884	.1481	.2573	.2479	.4558	.4447	1.237
#1	.0399	.0674	.2271	.1163	.0456	.2803	.0235
#2	.0401	.0676	.2282	.1168	.0455	.2826	.0235
#3	.0401	.0675	.2280	.1163	.0459	.2806	.0230

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Avge	.0956	.0477	1.086	.4308	.0579	.1518	1.617
SDev	.0004	.0007	.003	.0011	.0003	.0037	.013
%RSD	.4229	1.397	.2837	.2546	.4570	2.437	.7808
#1	.0952	.0471	1.084	.4296	.0582	.1555	1.603
#2	.0955	.0475	1.089	.4317	.0577	.1518	1.620
#3	.0960	.0484	1.085	.4312	.0578	.1481	1.628

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Avge	1.750	1.766	.5101	.3048	.1694	.4518	.8022
SDev	.004	.006	.0023	.0013	.0025	.0013	.0043
%RSD	.2116	.3130	.4453	.4155	1.466	.2765	.5298
#1	1.747	1.763	.5075	.3038	.1665	.4504	.7980
#2	1.754	1.773	.5117	.3043	.1708	.4528	.8065
#3	1.750	1.764	.5111	.3062	.1708	.4522	.8022

Elem	Sr	Te	Th	Ti	Tl	U	V
Avge	.0175	1.201	.2726	.0750	.0429	1.966	.1137
SDev	.0000	.013	.0011	.0001	.0003	.003	.0004
%RSD	.0000	1.120	.3888	.1539	.7499	.1384	.3518
#1	.0175	1.194	.2716	.0749	.0431	1.964	.1133
#2	.0175	1.217	.2724	.0751	.0425	1.969	.1141
#3	.0175	1.193	.2737	.0751	.0430	1.966	.1137

Elem	W	Y	Zn	Zr
Avge	.0378	.0287	.0416	.0922
SDev	.0004	.0001	.0008	.0004

%RSD	1.001	.3484	1.877	.4385
#1	.0374	.0286	.0412	.0918
#2	.0380	.0288	.0425	.0926
#3	.0381	.0287	.0411	.0921

Standardization Rpt. Wed 02-07-96 01:17:18 PM page 1

Method: ICP1A Standard: ICP1.1B

Elem	Ba	Co	Cr	Cu	Fe	Mg	Mo
Avge	.7785	2.019	1.289	.4543	7.509	4.723	1.301
SDev	.0021	.004	.006	.0013	.015	.008	.003
%RSD	.2695	.2219	.5008	.2878	.1936	.1666	.2374
#1	.7778	2.016	1.296	.4537	7.503	4.721	1.299
#2	.7769	2.017	1.285	.4534	7.498	4.717	1.299
#3	.7809	2.024	1.285	.4558	7.525	4.732	1.305

Elem	Na	Ni	Pb	Sr	Ti	Zn	Zr
Avge	.5112	.6914	7.768	.8774	1.478	3.028	2.630
SDev	.0023	.0021	.010	.0021	.004	.007	.008
%RSD	.4522	.2972	.1239	.2426	.2414	.2403	.2919
#1	.5100	.6890	7.758	.8770	1.477	3.029	2.628
#2	.5098	.6924	7.769	.8755	1.475	3.020	2.624
#3	.5139	.6927	7.777	.8797	1.482	3.035	2.639

Standardization Rpt. Wed 02-07-96 01:20:41 PM page 1

Method: ICP1A Standard: ICP1.1A

Elem	Ba	Co	Cr	Cu	Fe	Mg	Mo
Avge	7.393	17.72	11.79	3.933	70.10	40.62	11.67
SDev	.050	.09	.07	.025	.38	.21	.06
%RSD	.6755	.4901	.5532	.6244	.5458	.5226	.5475
#1	7.432	17.79	11.84	3.949	70.44	40.80	11.72
#2	7.337	17.62	11.72	3.904	69.68	40.39	11.60
#3	7.409	17.75	11.80	3.945	70.18	40.68	11.69

Elem	Na	Ni	Pb	Sr	Ti	Zn	Zr
Avge	4.631	6.048	59.88	8.509	14.03	28.49	24.80
SDev	.029	.031	.25	.057	.09	.13	.15
%RSD	.6360	.5131	.4170	.6659	.6065	.4525	.6216
#1	4.654	6.070	60.07	8.551	14.09	28.57	24.93
#2	4.598	6.012	59.60	8.444	13.93	28.34	24.63
#3	4.641	6.061	59.97	8.531	14.05	28.56	24.84

Standardization Rpt. Wed 02-07-96 01:24:10 PM page 1

Method: ICP1A Standard: ICP1.2

Elem	Al	B	Ca	Cd	K	Li	Mn
Avge	62.86	42.53	84.52	9.093	2.351	10.56	6.476
SDev	.55	.36	.59	.059	.017	.10	.049
%RSD	.8808	.8498	.6971	.6471	.7068	.9801	.7542
#1	62.75	42.44	84.44	9.076	2.346	10.49	6.469
#2	63.46	42.92	85.14	9.159	2.369	10.68	6.528
#3	62.38	42.22	83.97	9.045	2.337	10.50	6.432

Elem	P
Avge	12.52
SDev	.09
%RSD	.7317
#1	12.49
#2	12.62
#3	12.44

Standardization Rpt. Wed 02-07-96 01:27:53 PM page 1

Method: ICP1A Standard: ICP1.3

Elem	Dy	Eu	La	Nd	Ru	Th
Avge	42.17	10.33	5.569	14.46	36.36	11.82
SDev	.09	.02	.010	.03	.05	.02
%RSD	.2208	.1717	.1823	.2294	.1385	.1763
#1	42.23	10.34	5.572	14.47	36.33	11.82
#2	42.22	10.35	5.577	14.49	36.42	11.84
#3	42.07	10.31	5.557	14.42	36.33	11.80

Standardization Rpt. Wed 02-07-96 01:31:57 PM page 1

Method: ICP1A Standard: ICP1.4

Elem	As	Ce	Sb	V	Y
Avge	22.09	22.29	29.62	11.62	2.892
SDev	.05	.04	.07	.02	.008
%RSD	.2101	.2009	.2201	.1956	.2722
#1	22.08	22.25	29.57	11.60	2.888
#2	22.04	22.28	29.60	11.61	2.886
#3	22.14	22.34	29.69	11.64	2.901

Standardization Rpt. Wed 02-07-96 01:35:30 PM page 1

Method: ICP1A Standard: ICP1.5

Elem	U
Avge	44.82
SDev	.15
%RSD	.3304
#1	44.72
#2	44.99
#3	44.76

Standardization Rpt. Wed 02-07-96 01:39:09 PM page 1

Method: ICP1A Standard: ICP1.6

Elem	Be	Si	Te
Avge	1.721	71.60	48.09
SDev	.011	.39	.23
%RSD	.6378	.5410	.4860
#1	1.733	72.01	48.35
#2	1.719	71.53	48.03
#3	1.712	71.24	47.89

Standardization Rpt. Wed 02-07-96 01:42:53 PM page 1

Method: ICP1A Standard: ICP1.7

Elem	Ag	Bi	Se	Tl
Avge	27.59	22.48	3.301	1.187
SDev	.04	.07	.013	.005
%RSD	.1576	.3129	.3946	.3973
#1	27.54	22.40	3.288	1.182
#2	27.62	22.53	3.300	1.192
#3	27.61	22.50	3.314	1.188

Standardization Rot. Wed 02-07-96 01:45:59 PM page 1

Method: ICP1A Standard: ICP1.8

Elem	Pd	Rh	Sn	W
Avge	18.29	42.67	7.576	2.830
SDev	.06	.18	.009	.009
%RSD	.3013	.4278	.1177	.3199
#1	18.35	42.85	7.584	2.840
#2	18.29	42.67	7.578	2.829
#3	18.24	42.48	7.567	2.822

Standardization Rpt. Wed 02-07-96 01:49:32 PM page 1

Method: ICP1A Standard: ICPI.9

Elem	Na+
Avge	15.62
SDev	.25
%RSD	1.585
#1	15.88
#2	15.57
#3	15.39

Standardization Report Wed 02-07-96 01:49:56 PM page 1

Method: ICP1A Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardize
Ag	328.068	ICP1.7	ICP1.0	.372965	-.288812	02/07/96 01:48:1
Al	308.215	ICP1.2	ICP1.0	7.98515	-1.96648	02/07/96 01:48:1
As	193.600	ICP1.4	ICP1.0	4.56600	-.851255	02/07/96 01:48:1
B	249.600	ICP1.2	ICP1.0	1.17915	-.144603	02/07/96 01:48:1
Ba	493.400	Multiple	Standards	1.35303	-.048751	02/07/96 01:19:2
Be	313.042	ICP1.6	ICP1.0	.588178	-.012352	02/07/96 01:48:1
Bi	223.061	ICP1.7	ICP1.0	4.48377	-.782717	02/07/96 01:48:1
Ca	317.900	ICP1.2	ICP1.0	2.96298	-.425089	02/07/96 01:48:1
Cd	228.800	ICP1.2	ICP1.0	1.10664	-.062894	02/07/96 01:48:1
Ce	418.659	ICP1.4	ICP1.0	2.31978	-1.70202	02/07/96 01:48:1
Co	228.600	Multiple	Standards	1.11001	-.189466	02/07/96 01:19:2
Cr	205.500	Multiple	Standards	1.66177	-.090911	02/07/96 01:19:2
Cu	324.700	Multiple	Standards	5.10724	-.298796	02/07/96 01:19:2
Dy	353.170	ICP1.3	ICP1.0	1.19197	-.269742	02/07/96 01:48:1
Eu	381.900	ICP1.3	ICP1.0	1.94314	-.077791	02/07/96 01:48:14
Fe	259.900	Multiple	Standards	2.76966	-.192393	02/07/96 01:19:24
K	766.500	ICP1.2	ICP1.0	235.545	-53.6494	02/07/96 01:48:14
La	398.852	ICP1.3	ICP1.0	3.66813	-.427215	02/07/96 01:48:14
Li	670.700	ICP1.2	ICP1.0	4.75710	-.217241	02/07/96 01:48:14
Mg	279.078	Multiple	Standards	5.90010	-1.66970	02/07/96 01:19:2
Mn	257.600	ICP1.2	ICP1.0	1.54970	-.036160	02/07/96 01:48:14
Mo	202.000	Multiple	Standards	1.69289	-.162149	02/07/96 01:19:2
Na	588.900	Multiple	Standards	54.2371	-2.58657	02/07/96 01:19:24
Na+	330.200	ICP1.9	ICP1.0	344.118	-373.712	02/07/96 01:48:14
Nd	406.106	ICP1.3	ICP1.0	3.56449	-1.53570	02/07/96 01:48:14
Ni	231.600	Multiple	Standards	3.24601	-.188445	02/07/96 01:19:24
P	214.900	ICP1.2	ICP1.0	8.08641	-1.22782	02/07/96 01:48:14
Pb	220.300	Multiple	Standards	.835013	-1.35124	02/07/96 01:19:24
Pd	360.959	ICP1.8	ICP1.0	3.02277	-5.29015	02/07/96 01:48:14
Rh	343.489	ICP1.8	ICP1.0	1.22246	-2.15932	02/07/96 01:48:14
Ru	240.271	ICP1.3	ICP1.0	1.39467	-.711422	02/07/96 01:48:14
Sb	206.838	ICP1.4	ICP1.0	3.41130	-1.03965	02/07/96 01:48:14
Se	196.026	ICP1.7	ICP1.0	6.38719	-1.08178	02/07/96 01:48:14
Si	288.100	ICP1.6	ICP1.0	2.81122	-1.27011	02/07/96 01:48:14
Sn	242.950	ICP1.8	ICP1.0	7.38127	-5.92150	02/07/96 01:48:14
Sr	421.500	Multiple	Standards	1.17029	-.020537	02/07/96 01:19:24
Te	214.275	ICP1.6	ICP1.0	1.06634	-1.28074	02/07/96 01:48:14
Th	283.730	ICP1.3	ICP1.0	4.33030	-1.18030	02/07/96 01:48:14
Ti	334.900	Multiple	Standards	1.42950	-.107311	02/07/96 01:19:24
Tl	190.864	ICP1.7	ICP1.0	17.4769	-.749177	02/07/96 01:48:14
U	378.280	ICP1.5	ICP1.0	11.6667	-22.9403	02/07/96 01:48:14
V	292.402	ICP1.4	ICP1.0	1.73852	-.197669	02/07/96 01:48:14
W	224.875	ICP1.8	ICP1.0	17.9051	-.677410	02/07/96 01:48:14
Y	371.030	ICP1.4	ICP1.0	3.49272	-.100241	02/07/96 01:48:14
Zn	213.800	Multiple	Standards	.686054	-.028976	02/07/96 01:19:24
Zr	339.100	Multiple	Standards	1.99663	-.184625	02/07/96 01:19:24

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Method: ICP1A Slope = IR/Conc(SIR)

Element	Wavelen	High std	Low std	Slope	BEC	Date Standardized
Ag	328.068	ICP1.7	ICP1.0	2.68122	.288812	02/07/96 01:48:14
Al	308.215	ICP1.2	ICP1.0	.125233	1.96648	02/07/96 01:48:14
As	193.600	ICP1.4	ICP1.0	.219010	.851255	02/07/96 01:48:14
B	249.600	ICP1.2	ICP1.0	.848072	.144603	02/07/96 01:48:14
Ba	493.400	Multiple	Standards	.739080	.048751	02/07/96 01:19:24
Be	313.042	ICP1.6	ICP1.0	1.70017	.012352	02/07/96 01:48:14
Bi	223.061	ICP1.7	ICP1.0	.223027	.782717	02/07/96 01:48:14
Ca	317.900	ICP1.2	ICP1.0	.337498	.425089	02/07/96 01:48:14
Cd	228.800	ICP1.2	ICP1.0	.903637	.062894	02/07/96 01:48:14
Ce	418.659	ICP1.4	ICP1.0	.431075	1.70202	02/07/96 01:48:14
Co	228.600	Multiple	Standards	.900893	.189466	02/07/96 01:19:24
Cr	205.500	Multiple	Standards	.601768	.090911	02/07/96 01:19:24
Cu	324.700	Multiple	Standards	.195800	.298796	02/07/96 01:19:24
Dy	353.170	ICP1.3	ICP1.0	.838949	.269742	02/07/96 01:48:14
Eu	381.900	ICP1.3	ICP1.0	.514630	.077791	02/07/96 01:48:14
Fe	259.900	Multiple	Standards	.361055	.192393	02/07/96 01:19:24
K	766.500	ICP1.2	ICP1.0	.004245	53.6494	02/07/96 01:48:14
La	398.852	ICP1.3	ICP1.0	.272618	.427215	02/07/96 01:48:14
Li	670.700	ICP1.2	ICP1.0	.210212	.217241	02/07/96 01:48:14
Mg	279.078	Multiple	Standards	.169489	1.66970	02/07/96 01:19:24
Mn	257.600	ICP1.2	ICP1.0	.645287	.036160	02/07/96 01:48:14
Mo	202.000	Multiple	Standards	.590705	.162149	02/07/96 01:19:24
Na	588.900	Multiple	Standards	.018438	2.58657	02/07/96 01:19:24
Na+	330.200	ICPI.9	ICP1.0	.002906	373.712	02/07/96 01:48:14
Nd	406.106	ICP1.3	ICP1.0	.280545	1.53570	02/07/96 01:48:14
Ni	231.600	Multiple	Standards	.308071	.188445	02/07/96 01:19:24
P	214.900	ICP1.2	ICP1.0	.123634	1.22782	02/07/96 01:48:14
Pb	220.300	Multiple	Standards	1.19759	1.35124	02/07/96 01:19:24
Pd	360.959	ICP1.8	ICP1.0	.330823	5.29015	02/07/96 01:48:14
Rh	343.489	ICP1.8	ICP1.0	.818021	2.15932	02/07/96 01:48:14
Ru	240.271	ICP1.3	ICP1.0	.717015	.711422	02/07/96 01:48:14
Sb	206.838	ICP1.4	ICP1.0	.293144	1.03965	02/07/96 01:48:14
Se	196.026	ICP1.7	ICP1.0	.156563	1.08178	02/07/96 01:48:14
Si	288.100	ICP1.6	ICP1.0	.355717	1.27011	02/07/96 01:48:14
Sn	242.950	ICP1.8	ICP1.0	.135478	5.92150	02/07/96 01:48:14
Sr	421.500	Multiple	Standards	.854488	.020537	02/07/96 01:19:24
Te	214.275	ICP1.6	ICP1.0	.937791	1.28074	02/07/96 01:48:14
Th	283.730	ICP1.3	ICP1.0	.230931	1.18030	02/07/96 01:48:14
Ti	334.900	Multiple	Standards	.699544	.107311	02/07/96 01:19:24
Tl	190.864	ICP1.7	ICP1.0	.057218	.749177	02/07/96 01:48:14
U	378.280	ICP1.5	ICP1.0	.085714	22.9403	02/07/96 01:48:14
V	292.402	ICP1.4	ICP1.0	.575203	.197669	02/07/96 01:48:14
W	224.875	ICP1.8	ICP1.0	.055850	.677410	02/07/96 01:48:14
Y	371.030	ICP1.4	ICP1.0	.286310	.100241	02/07/96 01:48:14
Zn	213.800	Multiple	Standards	1.45761	.028976	02/07/96 01:19:24
Zr	339.100	Multiple	Standards	.500844	.184625	02/07/96 01:19:24

Standardization Readback Report Wed 02-07-96 01:50:40 PM page 1

Method: ICP1A

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ag	328.068	ICP1.0	.000000	-.000000	.000000
		ICP1.7	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Al	308.215	ICP1.0	.000000	.000000	-.000000
		ICP1.2	500.000	500.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
As	193.600	ICP1.0	.000000	.000000	-.000000
		ICP1.4	100.000	100.0000	.000008

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
B	249.600	ICP1.0	.000000	-.000000	.000000
		ICP1.2	50.0000	50.0000	-.000004

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ba	493.400	ICP1.0	.000000	-.000042	.000042
		ICP1.1B	1.00000	1.00463	-.004631
		ICP1.1A	10.0000	9.95369	.046311

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Be	313.042	ICP1.0	.000000	-.000000	.000000
		ICP1.6	1.00000	1.00000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Bi	223.061	ICP1.0	.000000	.000000	-.000000
		ICP1.7	100.000	100.0000	.000008

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ca	317.900	ICP1.0	.000000	.000000	-.000000
		ICP1.2	250.000	250.000	-.000015

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cd	228.800	ICP1.0	.000000	-.000000	.000000
		ICP1.2	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ce	418.659	ICP1.0	.000000	-.000000	.000000
		ICP1.4	50.0000	50.0000	.000004

Standardization Readback Report Wed 02-07-96 01:50:40 PM page 2

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Co	228.600	ICP1.0	.000000	-.000468	.000468
		ICP1.1B	2.00000	2.05201	-.052013
		ICP1.1A	20.0000	19.4799	.520136
CorCoef:	0.99999				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cr	205.500	ICP1.0	.000000	-.000455	.000455
		ICP1.1B	2.00000	2.05056	-.050557
		ICP1.1A	20.0000	19.4944	.505568
CorCoef:	0.99999				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cu	324.700	ICP1.0	.000000	-.000193	.000193
		ICP1.1B	2.00000	2.02142	-.021423
		ICP1.1A	20.0000	19.7858	.214231
CorCoef:	1.00000				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Dy	353.170	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Eu	381.900	ICP1.0	.000000	-.000000	.000000
		ICP1.3	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Fe	259.900	ICP1.0	.000000	-.005441	.005441
		ICP1.1B	20.0000	20.6045	-.604513
		ICP1.1A	200.000	193.955	6.04512
CorCoef:	0.99998				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
K	766.500	ICP1.0	.000000	-.000002	.000002
		ICP1.2	500.000	500.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
La	398.852	ICP1.0	.000000	.000000	-.000000
		ICP1.3	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Li	670.700	ICP1.0	.000000	.000000	-.000000
		ICP1.2	50.0000	50.0000	-.000004

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mg	279.078	ICP1.0	.000000	-.010788	.010788
		ICP1.1B	25.0000	26.1986	-1.19863
		ICP1.1A	250.000	238.014	11.9863
CorCoef:	0.99995				

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mn	257.600	ICP1.0	.000000	.000000	-.000000
		ICP1.2	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mo	202.000	ICP1.0	.000000	-.000365	.000365
		ICP1.1B	2.00000	2.04053	-.040530
		ICP1.1A	20.0000	19.5947	.405302

CorCoef: 0.99999

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Na	588.900	ICP1.0	.000000	-.001271	.001271
		ICP1.1B	25.0000	25.1413	-.141256
		ICP1.1A	250.000	248.587	1.41258

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Na+	330.200	ICP1.0	.000000	-.000012	.000012
		ICPI.9	5000.00	5000.00	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Nd	406.106	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ni	231.600	ICP1.0	.000000	-.000502	.000502
		ICP1.1B	2.00000	2.05574	-.055735
		ICP1.1A	20.0000	19.4426	.557354

CorCoef: 0.99998

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
P	214.900	ICP1.0	.000000	.000000	-.000000
		ICP1.2	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Pb	220.300	ICP1.0	.000000	-.001215	.001215
		ICP1.1B	5.00000	5.13500	-.135005
		ICP1.1A	50.0000	48.6499	1.35005

CorCoef: 0.99999

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Pd	360.959	ICP1.0	.000000	.000000	-.000000
		ICP1.8	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Rh	343.489	ICP1.0	.000000	.000000	-.000000
		ICP1.8	50.0000	50.0000	.000000

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ru	240.271	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sb	206.838	ICP1.0	.000000	-.000000	.000000
		ICP1.4	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Se	196.026	ICP1.0	.000000	.000000	-.000000
		ICP1.7	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Si	288.100	ICP1.0	.000000	-.000000	.000000
		ICP1.6	200.000	200.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sn	242.950	ICP1.0	.000000	.000000	-.000000
		ICP1.8	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sr	421.500	ICP1.0	.000000	-.000056	.000056
		ICP1.1B	1.00000	1.00628	-.006277
		ICP1.1A	10.0000	9.93723	.062766

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Te	214.275	ICP1.0	.000000	-.000000	.000000
		ICP1.6	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Th	283.730	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ti	334.900	ICP1.0	.000000	-.000051	.000051
		ICP1.1B	2.00000	2.00564	-.005638
		ICP1.1A	20.0000	19.9436	.056379

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Tl	190.864	ICP1.0	.000000	-.000000	.000000
		ICP1.7	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
U	378.280	ICP1.0	.000000	.000000	-.000000
		ICP1.5	500.000	500.000	.000000

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
V	292.402	ICP1.0	.000000	.000000	-.000000
		ICP1.4	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
W	224.875	ICP1.0	.000000	-.000000	.000000
		ICP1.8	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Y	371.030	ICP1.0	.000000	.000000	-.000000
		ICP1.4	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Zn	213.800	ICP1.0	.000000	-.000436	.000436
		ICP1.1B	2.00000	2.04846	-.048465
		ICP1.1A	20.0000	19.5154	.484644

CorCoef: 0.99999

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Zr	339.100	ICP1.0	.000000	-.000602	.000602
		ICP1.1B	5.00000	5.06685	-.066849
		ICP1.1A	50.0000	49.3315	.668491

CorCoef: 1.00000

Analysis Report Wed 02-07-96 02:02:34 PM page 1

Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 14:01:15
Comment: MCVA 960130I901 @2X DIL (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0064	.0091	.0127	.0040	.0003	-.0000	-.0033
SDev	.0004	.0072	.0066	.0029	.0002	.0000	.0090
%RSD	6.197	79.59	51.88	72.38	64.76	388.4	268.3
#1	.0067	.0048	.0149	.0014	.0004	-.0000	-.0125
#2	.0060	.0051	.0053	.0034	.0001	-.0000	-.0030
#3	.0067	.0175	.0178	.0071	.0005	.0000	.0055

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0014	.0001	.0138	.0007	-.0001	.0024	.0012
SDev	.0008	.0006	.0066	.0005	.0019	.0011	.0012
%RSD	55.82	738.6	47.98	70.30	1411.	46.96	93.31
#1	.0012	.0000	.0152	.0008	.0020	.0025	.0013
#2	.0007	.0007	.0066	.0002	-.0015	.0012	.0001
#3	.0022	-.0005	.0197	.0011	-.0009	.0035	.0024

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	-.0043	.3376	.0031	.0025	-.0044	.0000
SDev	.0002	.0010	.2040	.0014	.0008	.0106	.0001
%RSD	36.81	22.15	60.42	45.14	32.48	242.1	457.8
#1	.0005	-.0053	.4554	.0026	.0030	-.0076	.0000
#2	.0003	-.0043	.1021	.0021	.0016	-.0130	-.0001
#3	.0007	-.0034	.4554	.0047	.0030	.0074	.0002

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0981	2.974	.0116	-.0005	-.0094	-.0021
SDev	.0005	.0282	.420	.0055	.0003	.0154	.0104
%RSD	258.4	28.69	14.12	47.29	64.63	163.0	487.8
#1	-.0002	.1144	3.060	.0127	-.0002	-.0043	-.0084
#2	.0007	.0656	2.518	.0057	-.0005	-.0268	-.0079
#3	-.0000	.1144	3.345	.0165	-.0008	.0027	.0098

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0274	.0074	.0025	.0064	.0158	.0196	.0128
SDev	.0178	.0090	.0019	.0134	.0141	.0054	.0175
%RSD	64.91	122.5	75.57	208.1	88.94	27.68	136.3
#1	.0279	.0074	.0033	.0018	.0320	.0135	-.0065
#2	.0094	-.0017	.0003	-.0040	.0065	.0214	.0174
#3	.0450	.0164	.0039	.0215	.0089	.0240	.0275

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0079	-.0084	.0002	-.0036	.1997	.0005
SDev	.0001	.0035	.0049	.0004	.0094	.0612	.0009

%RSD	66.06	43.89	58.40	178.2	262.1	30.65	199.0
#1	.0002	.0081	-.0141	.0003	-.0054	.2262	.0006
#2	.0001	.0044	-.0056	-.0002	-.0120	.1297	-.0005
#3	.0003	.0114	-.0055	.0006	.0066	.2431	.0014

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0074	.0002	-.0006	.0002
SDev	.0044	.0003	.0002	.0006
%RSD	59.29	144.4	28.01	239.9
#1	.0079	.0002	-.0004	.0005
#2	.0027	-.0001	-.0008	-.0004
#3	.0114	.0005	-.0007	.0006

Analysis Report Ignore - Prior to Q.C DRS 2/7/96 Wed 02-07-96 02:05:09 PM page 1

Method: ICP1A Sample Name: 96-2611 PS-B Operator: DRS
Run Time: 02/07/96 14:03:50
Comment: 119.1A.F POST SPIKE (MCVB) (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0094	2.999	.1818	.9894	.0063	.0005	3.429
SDev	.0007	.034	.0052	.0146	.0001	.0000	.039
%RSD	7.420	1.119	2.879	1.478	2.142	7.105	1.137
#1	.0102	2.962	.1877	.9752	.0065	.0005	3.389
#2	.0090	3.006	.1800	.9885	.0062	.0005	3.430
#3	.0089	3.028	.1776	1.004	.0063	.0005	3.467

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4520	.0053	1.023	.0100	.2208	.0249	.9395
SDev	.0039	.0017	.007	.0017	.0031	.0006	.0130
%RSD	.8625	32.29	.7261	16.81	1.420	2.342	1.387
#1	.4479	.0061	1.020	.0119	.2174	.0255	.9246
#2	.4525	.0033	1.018	.0093	.2217	.0249	.9445
#3	.4556	.0065	1.032	.0087	.2235	.0243	.9492

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9391	1.814	1152.	.4828	.0098	.0192	.0632
SDev	.0129	.021	16.	.0060	.0012	.0064	.0011
%RSD	1.373	1.154	1.390	1.248	12.18	33.23	1.780
#1	.9247	1.791	1134.	.4761	.0111	.0230	.0620
#2	.9431	1.821	1157.	.4848	.0097	.0118	.0633
#3	.9496	1.832	1164.	.4876	.0087	.0227	.0643

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0134	14.98	59.58	.9792	.2314	3.429	.1684
SDev	.0003	.26	.75	.0066	.0031	.050	.0034
%RSD	2.317	1.752	1.263	.6686	1.349	1.458	1.997
#1	.0131	14.68	60.40	.9716	.2280	3.371	.1723
#2	.0137	15.11	58.91	.9828	.2319	3.455	.1663
#3	.0133	15.16	59.44	.9832	.2342	3.460	.1667

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.350	1.061	1.002	.1091	.0778	11.34	1.129
SDev	.005	.007	.007	.0067	.0088	.23	.006
%RSD	.3578	.6784	.6580	6.130	11.27	1.992	.5032
#1	1.353	1.054	.9939	.1075	.0866	11.10	1.127
#2	1.351	1.061	1.006	.1164	.0778	11.37	1.136
#3	1.344	1.068	1.005	.1033	.0691	11.55	1.125

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0259	1.062	3.224	.0090	.0263	12.47	.0075
SDev	.0003	.011	.043	.0004	.0031	.06	.0004

%RSD	1.041	1.067	1.326	3.968	11.59	.5021	5.555
#1	.0256	1.051	3.178	.0094	.0238	12.40	.0080
#2	.0260	1.062	3.230	.0090	.0297	12.52	.0073
#3	.0260	1.074	3.263	.0087	.0253	12.50	.0072

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	1.004	.4806	.0097	-.0002
SDev	.027	.0065	.0007	.0009
%RSD	2.720	1.358	7.648	500.1
#1	.9744	.4732	.0089	.0003
#2	1.028	.4829	.0103	.0004
#3	1.010	.4857	.0099	-.0012

Analysis Report QC Standard Wed 02-07-96 02:10:31 PM page 1

Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS
Run Time: 02/07/96 14:09:12
Comment: (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

PASS 2/7/96 DRS

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4889	9.699	2.475	2.012	.4797	.0975	24.38
SDev	.0011	.029	.035	.003	.0019	.0004	.12
%RSD	.2309	.2999	1.410	.1313	.3908	.4072	.4882
#1	.4881	9.681	2.458	2.011	.4787	.0972	24.26
#2	.4902	9.732	2.515	2.015	.4819	.0980	24.50
#3	.4884	9.683	2.451	2.011	.4787	.0974	24.37
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	24.68	.4902	.0236	.9801	.9826	.9219	.0026
SDev	.07	.0034	.0024	.0036	.0079	.0006	.0006
%RSD	.2748	.6842	10.12	.3640	.8084	.0601	22.44
#1	24.64	.4900	.0213	.9779	.9752	.9218	.0032
#2	24.75	.4869	.0260	.9842	.9910	.9225	.0020
#3	24.64	.4936	.0234	.9781	.9815	.9213	.0026
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0028	19.78	24.26	.0074	1.895	31.89	.5023
SDev	.0001	.08	.10	.0011	.008	.12	.0020
%RSD	3.808	.3806	.4042	14.82	.4219	.3641	.3916
#1	.0030	19.73	24.34	.0086	1.888	31.85	.5014
#2	.0028	19.86	24.15	.0073	1.903	32.02	.5045
#3	.0028	19.74	24.29	.0064	1.893	31.80	.5009
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9795	35.40	48.74	.0228	.9766	4.833	2.465
SDev	.0046	.16	.13	.0031	.0049	.058	.013
%RSD	.4748	.4651	.2596	13.44	.5024	1.208	.5437
#1	.9791	35.37	48.81	.0243	.9728	4.777	2.459
#2	.9843	35.58	48.82	.0192	.9822	4.893	2.480
#3	.9750	35.25	48.60	.0247	.9750	4.828	2.455
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	1.000	36.70			1.000		2.500

Analysis Report QC Standard Wed 02-07-96 02:10:31 PM page 2

Range	.1000	3.670			.1000		.2500
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0312	.0186	.0131	2.740	2.516	18.78	.1633
SDev	.0102	.0062	.0033	.025	.020	.06	.0156
%RSD	32.76	33.08	24.93	.8990	.7894	.3380	9.541
#1	.0430	.0223	.0162	2.734	2.496	18.73	.1696
#2	.0243	.0115	.0097	02.767	2.536	18.85	.1455
#3	.0264	.0221	.0134	2.718	2.516	18.76	.1747
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value				2.500	2.500	20.00	
Range				.2500	.2500	2.000	

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4860	.0550	.0255	.9583	2.453	.3953	.9641
SDev	.0020	.0026	.0031	.0031	.023	.0743	.0023
%RSD	.4052	4.739	12.18	.3215	.9305	18.79	.2359
#1	.4844	.0576	.0241	.9559	2.444	.4423	.9623
#2	.4862	.0524	.0290	.9618	2.479	.3096	.9667
#3	.4853	.0548	.0233	.9571	2.436	.4338	.9633
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.5000			1.000	2.500		1.000
Range	.0500			.1000	.2500		.1000

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0479	.0023	.9790	1.927
SDev	.0080	.0000	.0037	.006
%RSD	16.81	1.788	.3818	.3314
#1	.0473	.0023	.9773	1.921
#2	.0402	.0023	.9833	1.934
#3	.0562	.0023	.9764	1.925
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass
Value			1.000	2.000
Range			.1000	.2000

Analysis Report Wed 02-07-96 02:14:23 PM page 1

Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 14:13:04
Comment: 119.1A.F POST SPIKE (MCVB) (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0026	.0139	.0049	.0059	.0007	.0001	.0207
SDev	.0004	.0060	.0103	.0015	.0001	.0001	.0145
%RSD	15.93	43.07	210.4	25.36	10.77	67.35	69.85
#1	.0029	.0177	.0136	.0074	.0008	.0001	.0306
#2	.0027	.0070	-.0064	.0044	.0006	.0001	.0275
#3	.0021	.0169	.0074	.0059	.0008	.0000	.0041

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0159	.0029	.0156	.0016	-.0005	.0040	.0022
SDev	.0036	.0004	.0046	.0009	.0027	.0025	.0008
%RSD	22.79	12.53	29.24	55.62	583.5	62.77	37.38
#1	.0196	.0026	.0208	.0025	.0026	.0039	.0032
#2	.0158	.0029	.0122	.0008	-.0015	.0015	.0018
#3	.0123	.0033	.0138	.0014	-.0025	.0065	.0017

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0067	.4789	.0050	.0033	.0126	.0005
SDev	.0002	.0021	.1928	.0010	.0011	.0204	.0003
%RSD	33.22	31.31	40.26	20.66	32.99	162.1	57.84
#1	.0008	.0090	.6909	.0061	.0040	.0351	.0008
#2	.0005	.0061	.3141	.0041	.0021	.0073	.0002
#3	.0005	.0050	.4318	.0047	.0040	-.0047	.0006

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0024	.0728	2.824	.0119	.0021	.0174	.0013
SDev	.0003	.0226	1.411	.0072	.0021	.0159	.0025
%RSD	14.44	31.01	49.97	60.01	101.8	91.31	196.7
#1	.0024	.0981	4.439	.0199	-.0002	.0148	.0034
#2	.0027	.0548	1.828	.0061	.0024	.0345	-.0014
#3	.0020	.0656	2.206	.0098	.0040	.0030	.0018

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0400	.0209	.0018	.0191	.0083	.0407	.0461
SDev	.0194	.0028	.0018	.0142	.0070	.0066	.0116
%RSD	48.47	13.39	102.3	74.01	83.74	16.23	25.11
#1	.0615	.0239	.0012	.0187	.0025	.0481	.0568
#2	.0240	.0183	.0003	.0052	.0160	.0386	.0338
#3	.0344	.0206	.0038	.0335	.0065	.0354	.0476

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0069	-.0015	.0011	-.0083	.2306	.0018
SDev	.0001	.0009	.0063	.0001	.0027	.0425	.0006

%RSD	27.51	12.77	416.0	11.37	33.29	18.41	35.34
#1	.0006	.0062	-.0088	.0012	-.0090	.2715	.0025
#2	.0004	.0079	.0026	.0012	-.0105	.1867	.0013
#3	.0004	.0066	.0017	.0010	-.0052	.2334	.0017

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0056	.0007	-.0002	.0014
SDev	.0027	.0004	.0001	.0008
%RSD	48.58	57.27	24.98	57.11
#1	.0079	.0009	-.0002	.0023
#2	.0062	.0002	-.0002	.0009
#3	.0026	.0009	-.0003	.0009

Analysis Report Wed 02-07-96 02:16:26 PM page 1

Method: ICP1A Sample Name: 96-2611 PS-B Operator: DRS
Run Time: 02/07/96 14:15:07
Comment: 119.1A.F POST SPIKE (MCVB) (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0075	3.013	.1938	1.005	.0059	.0005	3.425
SDev	.0012	.028	.0060	.010	.0002	.0001	.038
%RSD	15.52	.9345	3.072	.9611	3.964	10.18	1.123
#1	.0062	3.045	.1976	1.016	.0058	.0005	3.455
#2	.0085	2.993	.1968	.9971	.0062	.0006	3.382
#3	.0078	3.000	.1869	1.002	.0058	.0005	3.438

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4571	.0056	1.027	.0097	.2248	.0253	.9441
SDev	.0036	.0011	.005	.0005	.0033	.0021	.0110
%RSD	.7773	20.66	.4703	4.820	1.477	8.231	1.168
#1	.4612	.0049	1.032	.0097	.2286	.0229	.9561
#2	.4551	.0049	1.023	.0101	.2233	.0269	.9344
#3	.4549	.0069	1.026	.0092	.2225	.0260	.9419

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9437	1.823	1154.	.4820	.0100	.0229	.0639
SDev	.0109	.016	13.	.0048	.0014	.0059	.0009
%RSD	1.154	.8778	1.114	.9974	14.55	25.52	1.414
#1	.9556	1.841	1168.	.4867	.0087	.0163	.0649
#2	.9342	1.811	1143.	.4771	.0116	.0252	.0632
#3	.9412	1.817	1152.	.4823	.0097	.0273	.0635

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0126	15.01	57.89	.9773	.2297	3.404	.1679
SDev	.0015	.18	1.11	.0033	.0007	.078	.0059
%RSD	11.66	1.201	1.918	.3360	.2940	2.298	3.537
#1	.0130	15.18	57.64	.9804	.2290	3.392	.1702
#2	.0110	14.82	59.10	.9777	.2303	3.333	.1724
#3	.0139	15.04	56.92	.9739	.2300	3.488	.1612

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.341	1.065	1.000	.1134	.0851	11.40	1.123
SDev	.009	.004	.004	.0145	.0094	.08	.022
%RSD	.6627	.4130	.4482	12.78	11.00	.6617	1.976
#1	1.330	1.068	1.005	.0984	.0743	11.43	1.102
#2	1.345	1.068	.9991	.1145	.0900	11.32	1.146
#3	1.347	1.060	.9962	.1274	.0909	11.46	1.120

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0261	1.050	3.228	.0089	.0278	12.43	.0073
SDev	.0003	.005	.046	.0004	.0088	.07	.0010

%RSD	1.129	.4381	1.413	4.692	31.62	.5341	13.55
#1	.0264	1.055	3.280	.0086	.0379	12.39	.0063
#2	.0258	1.049	3.194	.0094	.0215	12.39	.0083
#3	.0260	1.046	3.210	.0087	.0241	12.51	.0074

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	1.010	.4821	.0100	-.0002
SDev	.012	.0056	.0005	.0011
%RSD	1.174	1.165	4.744	678.3
#1	1.007	.4882	.0097	-.0014
#2	1.023	.4770	.0106	.0006
#3	.9995	.4811	.0098	.0001

Analysis Report Wed 02-07-96 02:19:53 PM page 1

Method: ICP1A Sample Name: MCVB Ø2 Operator: DRS
Run Time: 02/07/96 14:18:34
Comment: MCVB 960206I901 Ø2X DIL (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0043	.3389	.1737	.9986	.0023	.0005	.0453
SDev	.0003	.0055	.0087	.0007	.0001	.0000	.0094
%RSD	6.237	1.634	5.033	.0667	3.391	7.390	20.80
#1	.0042	.3376	.1815	.9989	.0023	.0004	.0459
#2	.0042	.3341	.1754	.9978	.0024	.0005	.0355
#3	.0047	.3449	.1642	.9991	.0023	.0005	.0543

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2259	.0076	1.011	.0030	.0032	.0198	.9548
SDev	.0005	.0019	.005	.0003	.0014	.0004	.0039
%RSD	.2349	25.31	.4569	8.478	41.66	1.899	.4120
#1	.2261	.0080	1.016	.0027	.0018	.0194	.9588
#2	.2253	.0055	1.007	.0032	.0045	.0199	.9548
#3	.2263	.0093	1.011	.0032	.0035	.0201	.9509

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9607	.0074	1.107	.4830	.0059	-.0371	.0012
SDev	.0039	.0006	.059	.0018	.0009	.0100	.0003
%RSD	.4050	8.529	5.355	.3733	16.22	26.92	25.99
#1	.9647	.0072	1.162	.4824	.0049	-.0257	.0009
#2	.9605	.0069	1.115	.4850	.0068	-.0414	.0015
#3	.9570	.0081	1.044	.4815	.0059	-.0442	.0014

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0064	.8409	37.56	.9768	.0096	.0976	.1368
SDev	.0003	.0256	.28	.0013	.0006	.0022	.0033
%RSD	5.535	3.047	.7447	.1306	6.790	2.202	2.392
#1	.0060	.8120	37.86	.9770	.0089	.0952	.1390
#2	.0065	.8608	37.31	.9780	.0096	.0994	.1330
#3	.0067	.8499	37.51	.9755	.0102	.0982	.1384

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.308	1.059	1.002	.0834	.0569	10.39	1.027
SDev	.012	.001	.000	.0094	.0065	.08	.016
%RSD	.9052	.0489	.0420	11.25	11.34	.8148	1.572
#1	1.299	1.059	1.002	.0752	.0638	10.31	1.009
#2	1.303	1.058	1.002	.0936	.0510	10.40	1.032
#3	1.321	1.059	1.002	.0813	.0559	10.48	1.040

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0019	1.044	3.274	.0045	.0117	12.07	.0034
SDev	.0001	.001	.015	.0005	.0090	.03	.0006

%RSD	3.654	.1420	.4470	11.68	77.09	.2793	17.63
#1	.0018	1.044	3.289	.0042	.0108	12.08	.0033
#2	.0018	1.043	3.273	.0042	.0212	12.11	.0029
#3	.0019	1.046	3.259	.0051	.0032	12.04	.0041

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.9860	.4861	.0053	-.0088
SDev	.0072	.0017	.0007	.0008
%RSD	.7326	.3569	12.73	8.860
#1	.9818	.4880	.0061	-.0095
#2	.9818	.4859	.0051	-.0091
#3	.9943	.4845	.0048	-.0080

Analysis Report Wed 02-07-96 02:23:38 PM page 1

Method: ICP1A Sample Name: 96-2611 DUP Operator: DRS
Run Time: 02/07/96 14:22:20
Comment: 119.1A.F DUPLICATE (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0122	5.057	.0554	.0435	.0085	.0003	6.448
SDev	.0009	.048	.0059	.0006	.0002	.0000	.038
%RSD	7.196	.9423	10.66	1.454	2.763	6.757	.5875
#1	.0119	5.101	.0515	.0438	.0083	.0003	6.468
#2	.0131	5.006	.0525	.0440	.0088	.0003	6.404
#3	.0115	5.064	.0622	.0428	.0083	.0003	6.471

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9475	.0034	.1040	.0172	.4212	.0175	.0136
SDev	.0073	.0011	.0084	.0006	.0052	.0007	.0008
%RSD	.7708	32.53	8.047	3.569	1.240	4.197	5.956
#1	.9539	.0037	.0947	.0166	.4253	.0172	.0133
#2	.9396	.0042	.1110	.0179	.4153	.0184	.0145
#3	.9490	.0021	.1063	.0172	.4230	.0170	.0129

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0054	3.391	2282.	.0231	.0133	.1161	.1268
SDev	.0002	.038	25.	.0011	.0007	.0044	.0013
%RSD	3.769	1.130	1.116	4.855	5.455	3.812	1.005
#1	.0053	3.424	2304.	.0221	.0125	.1174	.1281
#2	.0057	3.349	2254.	.0243	.0140	.1197	.1256
#3	.0053	3.400	2287.	.0230	.0135	.1112	.1267

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0177	26.71	48.78	.0817	.2783	6.500	.0912
SDev	.0011	.28	1.33	.0075	.0045	.036	.0039
%RSD	6.391	1.044	2.723	9.145	1.633	.5506	4.319
#1	.0166	26.92	47.25	.0740	.2803	6.536	.0887
#2	.0189	26.40	49.65	.0889	.2731	6.465	.0957
#3	.0175	26.82	49.44	.0822	.2815	6.498	.0891

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2459	.1118	.0370	.0756	.0709	2.455	.3321
SDev	.0175	.0067	.0028	.0036	.0070	.020	.0181
%RSD	7.102	5.976	7.562	4.788	9.894	.8178	5.444
#1	.2317	.1060	.0343	.0782	.0629	2.476	.3342
#2	.2654	.1191	.0368	.0772	.0760	2.435	.3490
#3	.2405	.1104	.0399	.0715	.0738	2.455	.3130

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0464	.0797	-.0005	.0107	.0275	1.587	.0108
SDev	.0004	.0124	.0031	.0005	.0038	.078	.0013

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%RSD	.9114	15.55	573.6	4.922	13.70	4.890	11.95
#1	.0467	.0775	.0030	.0101	.0283	1.514	.0096
#2	.0459	.0930	-.0018	.0110	.0307	1.668	.0122
#3	.0465	.0685	-.0029	.0111	.0234	1.579	.0106

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0390	.0047	.0130	.0175
SDev	.0138	.0003	.0012	.0005
%RSD	35.34	7.453	8.873	2.903
#1	.0349	.0045	.0117	.0170
#2	.0544	.0051	.0137	.0180
#3	.0277	.0045	.0137	.0176

Analysis Report Wed 02-07-96 02:27:17 PM page 1

Method: ICP1A Sample Name: 96-2613 Operator: DRS
Run Time: 02/07/96 14:25:58
Comment: 119.2A.F (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0113	3.582	.0483	.0380	.0081	.0003	5.256
SDev	.0009	.024	.0036	.0014	.0001	.0000	.020
%RSD	8.211	.6754	7.510	3.682	.9619	16.23	.3879
#1	.0108	3.599	.0454	.0373	.0081	.0003	5.253
#2	.0124	3.554	.0472	.0371	.0082	.0002	5.238
#3	.0108	3.592	.0524	.0396	.0081	.0003	5.278

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.003	.0049	.1028	.0159	.3749	.0178	.0125
SDev	.020	.0016	.0065	.0004	.0025	.0013	.0005
%RSD	.6766	31.80	6.295	2.652	.6672	7.524	3.633
#1	3.017	.0064	.1006	.0162	.3775	.0187	.0130
#2	2.979	.0033	.1101	.0154	.3725	.0183	.0125
#3	3.011	.0050	.0977	.0160	.3746	.0162	.0121

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0044	3.033	2311.	.0209	.0203	.1291	.1216
SDev	.0001	.023	18.	.0023	.0007	.0019	.0014
%RSD	2.239	.7670	.7709	10.97	3.580	1.478	1.175
#1	.0044	3.050	2324.	.0202	.0211	.1283	.1223
#2	.0045	3.006	2291.	.0235	.0197	.1313	.1199
#3	.0044	3.042	2319.	.0191	.0201	.1277	.1225

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0160	24.52	45.30	.0779	.1304	5.330	.0748
SDev	.0009	.20	.35	.0049	.0041	.037	.0036
%RSD	5.759	.8147	.7651	6.246	3.132	.7024	4.848
#1	.0171	24.65	45.66	.0777	.1342	5.373	.0771
#2	.0154	24.29	45.27	.0829	.1261	5.309	.0767
#3	.0156	24.61	44.97	.0731	.1309	5.307	.0707

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2231	.1083	.0373	.0762	.0779	2.095	.3052
SDev	.0104	.0048	.0015	.0040	.0097	.014	.0198
%RSD	4.653	4.454	4.042	5.178	12.46	.6749	6.472
#1	.2157	.1029	.0378	.0728	.0875	2.100	.3204
#2	.2350	.1123	.0357	.0806	.0681	2.079	.3124
#3	.2188	.1096	.0386	.0753	.0783	2.106	.2829

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0451	.0755	-.0043	.0107	.0411	1.457	.0099
SDev	.0003	.0083	.0083	.0002	.0060	.111	.0002

%RSD	.6875	10.96	192.2	1.498	14.74	7.641	1.635
#1	.0453	.0660	.0045	.0106	.0459	1.399	.0101
#2	.0448	.0311	-.0119	.0109	.0343	1.586	.0099
#3	.0452	.0793	-.0055	.0107	.0430	1.387	.0098

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0284	.0043	.0120	.0186
SDev	.0131	.0001	.0008	.0006
%RSD	46.27	2.985	7.014	2.989
#1	.0135	.0043	.0111	.0180
#2	.0330	.0045	.0123	.0190
#3	.0385	.0043	.0127	.0187

Analysis Report Wed 02-07-96 02:30:59 PM page 1

Method: ICP1A Sample Name: 96-2613 DUP Operator: DRS
Run Time: 02/07/96 14:29:40
Comment: 119.2A.F DUPLICATE (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0108	3.274	.0491	.0273	.0069	.0002	4.741
SDev	.0012	.031	.0060	.0016	.0003	.0000	.022
%RSD	10.90	.9355	12.25	5.827	4.053	15.40	.4632
#1	.0099	3.302	.0489	.0289	.0069	.0002	4.766
#2	.0103	3.279	.0432	.0257	.0067	.0003	4.732
#3	.0121	3.242	.0553	.0274	.0073	.0002	4.725

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9400	.0056	.0891	.0171	.3372	.0141	.0112
SDev	.0085	.0019	.0064	.0002	.0025	.0013	.0013
%RSD	.9047	33.35	7.213	1.229	.7406	8.986	11.61
#1	.9487	.0038	.0831	.0170	.3398	.0137	.0099
#2	.9397	.0053	.0884	.0174	.3348	.0131	.0111
#3	.9317	.0075	.0959	.0170	.3371	.0156	.0125

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0041	2.546	2288.	.0206	.0186	.1072	.0969
SDev	.0001	.025	24.	.0018	.0010	.0042	.0007
%RSD	2.226	.9682	1.065	8.822	5.338	3.918	.7478
#1	.0040	2.572	2313.	.0196	.0178	.1105	.0975
#2	.0040	2.544	2287.	.0195	.0182	.1086	.0971
#3	.0042	2.523	2264.	.0227	.0197	.1025	.0961

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0150	22.21	41.92	.0701	.4458	4.804	.0721
SDev	.0009	.26	2.01	.0071	.0019	.067	.0039
%RSD	6.238	1.189	4.794	10.18	.4369	1.399	5.470
#1	.0141	22.46	39.82	.0646	.4477	4.869	.0685
#2	.0151	22.24	42.10	.0674	.4438	4.809	.0715
#3	.0159	21.93	43.83	.0781	.4458	4.735	.0763

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2111	.0973	.0350	.0664	.0839	1.797	.2812
SDev	.0157	.0083	.0006	.0047	.0124	.014	.0290
%RSD	7.452	8.549	1.694	7.076	14.82	.7662	10.33
#1	.2046	.0887	.0356	.0713	.0771	1.810	.2663
#2	.1997	.0980	.0345	.0660	.0983	1.797	.2626
#3	.2290	.1052	.0349	.0620	.0764	1.783	.3147

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0369	.0592	.0024	.0082	.0307	1.344	.0083
SDev	.0003	.0078	.0037	.0004	.0068	.040	.0003

%RSD	.8411	13.12	153.1	4.773	22.06	2.986	3.041
#1	.0372	.0565	.0003	.0077	.0230	1.314	.0080
#2	.0370	.0532	.0066	.0084	.0356	1.327	.0085
#3	.0366	.0680	.0003	.0084	.0334	1.389	.0084

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0285	.0040	.0101	.0115
SDev	.0052	.0006	.0008	.0009
%RSD	18.09	14.37	8.061	7.868
#1	.0317	.0036	.0110	.0114
#2	.0226	.0036	.0095	.0107
#3	.0314	.0046	.0097	.0125

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Method: ICP1A Sample Name: 96-2615 Operator: DRS
Run Time: 02/07/96 14:35:31
Comment: 119.3A.F (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0113	3.372	.0463	.0276	.0065	.0002	4.919
SDev	.0009	.007	.0056	.0018	.0001	.0001	.044
%RSD	8.276	.2162	12.03	6.632	1.194	24.72	.8981
#1	.0112	3.378	.0510	.0293	.0065	.0002	4.966
#2	.0122	3.364	.0478	.0280	.0066	.0003	4.914
#3	.0104	3.373	.0402	.0257	.0066	.0002	4.878

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.241	.0037	.0952	.0158	.3993	.0158	.0114
SDev	.003	.0013	.0035	.0003	.0014	.0009	.0007
%RSD	.2769	34.28	3.682	1.869	.3398	5.527	6.546
#1	1.244	.0037	.0962	.0159	.3999	.0151	.0107
#2	1.237	.0024	.0980	.0160	.3977	.0168	.0122
#3	1.241	.0049	.0913	.0154	.4002	.0156	.0113

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0041	2.535	2317.	.0185	.0270	.1062	.0901
SDev	.0004	.010	13.	.0015	.0036	.0085	.0008
%RSD	9.586	.4112	.5700	8.157	13.25	8.048	.8500
#1	.0040	2.546	2330.	.0176	.0249	.1158	.0904
#2	.0046	2.526	2304.	.0203	.0311	.1032	.0892
#3	.0038	2.534	2317.	.0177	.0249	.0995	.0907

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0167	23.28	43.21	.0708	.6070	5.568	.0771
SDev	.0012	.05	1.27	.0065	.0007	.030	.0092
%RSD	7.301	.2250	2.936	9.236	.1113	.5376	11.97
#1	.0160	23.34	42.88	.0635	.6078	5.601	.0674
#2	.0181	23.24	44.61	.0761	.6065	5.559	.0782
#3	.0161	23.26	42.14	.0729	.6068	5.543	.0858

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2137	.1003	.0336	.0668	.0767	1.843	.2897
SDev	.0150	.0042	.0046	.0077	.0070	.002	.0211
%RSD	7.032	4.217	13.78	11.57	9.177	.1063	7.291
#1	.1982	.0992	.0285	.0595	.0695	1.845	.2687
#2	.2282	.1049	.0376	.0749	.0771	1.842	.3109
#3	.2145	.0967	.0345	.0660	.0835	1.842	.2896

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0393	.0663	-.0079	.0076	.0375	1.428	.0091
SDev	.0002	.0069	.0006	.0003	.0099	.086	.0001

%RSD	.4569	10.45	7.298	4.040	26.46	6.054	1.274
#1	.0395	.0653	-.0085	.0075	.0315	1.396	.0090
#2	.0391	.0737	-.0074	.0080	.0489	1.526	.0091
#3	.0393	.0599	-.0078	.0074	.0319	1.362	.0092

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0267	.0039	.0241	.0132
SDev	.0037	.0006	.0008	.0009
%RSD	13.73	14.08	3.129	7.027
#1	.0297	.0036	.0241	.0130
#2	.0278	.0045	.0249	.0142
#3	.0226	.0036	.0234	.0123

Analysis Report Wed 02-07-96 02:40:21 PM page 1

Method: ICP1A Sample Name: 96-2615 DUP Operator: DRS
Run Time: 02/07/96 14:39:02
Comment: 119.3A.F DUPLICATE (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0097	3.397	.0542	.0438	.0065	.0002	5.015
SDev	.0005	.031	.0143	.0025	.0002	.0000	.073
%RSD	5.166	.9013	26.33	5.613	2.388	7.069	1.454
#1	.0101	3.362	.0458	.0461	.0067	.0002	4.936
#2	.0098	3.421	.0706	.0412	.0065	.0002	5.028
#3	.0091	3.407	.0460	.0440	.0065	.0002	5.080

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.922	.0066	.0849	.0153	.4067	.0144	.0107
SDev	.013	.0022	.0068	.0014	.0057	.0008	.0014
%RSD	.7025	34.25	8.014	9.025	1.415	5.701	12.71
#1	1.907	.0053	.0916	.0168	.4002	.0153	.0123
#2	1.932	.0052	.0780	.0140	.4087	.0143	.0099
#3	1.927	.0092	.0850	.0152	.4112	.0137	.0099

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0038	2.581	2333.	.0175	.0260	.1103	.1290
SDev	.0003	.020	21.	.0022	.0015	.0055	.0013
%RSD	8.219	.7778	.8915	12.80	5.880	4.982	.9704
#1	.0042	2.558	2309.	.0199	.0249	.1121	.1276
#2	.0036	2.595	2347.	.0171	.0254	.1146	.1298
#3	.0036	2.590	2343.	.0155	.0277	.1041	.1296

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0173	24.75	43.04	.0655	.3128	5.710	.0678
SDev	.0014	.27	1.18	.0080	.0050	.053	.0087
%RSD	7.899	1.076	2.748	12.18	1.588	.9275	12.89
#1	.0171	24.44	44.39	.0742	.3186	5.672	.0779
#2	.0188	24.90	42.17	.0584	.3101	5.686	.0624
#3	.0161	24.91	42.56	.0639	.3098	5.770	.0632

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1909	.0894	.0313	.0708	.0609	1.965	.2747
SDev	.0160	.0071	.0013	.0133	.0069	.011	.0192
%RSD	8.382	7.958	4.032	18.79	11.25	.5499	6.976
#1	.2089	.0976	.0305	.0701	.0536	1.953	.2955
#2	.1784	.0859	.0307	.0845	.0620	1.973	.2709
#3	.1853	.0846	.0328	.0579	.0672	1.970	.2577

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0414	.0618	-.0042	.0091	.0363	1.349	.0083
SDev	.0003	.0031	.0027	.0004	.0089	.112	.0010

%RSD	.6544	4.968	63.37	4.648	24.56	8.288	12.41
#1	.0411	.0623	-.0033	.0096	.0319	1.477	.0095
#2	.0416	.0646	-.0073	.0087	.0304	1.267	.0078
#3	.0416	.0585	-.0022	.0090	.0465	1.304	.0077

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0162	.0035	.0255	.0130
SDev	.0051	.0003	.0008	.0009
%RSD	31.47	9.339	3.104	6.578
#1	.0190	.0039	.0255	.0139
#2	.0192	.0033	.0247	.0130
#3	.0103	.0033	.0263	.0122

Analysis Report Wed 02-07-96 02:44:24 PM page 1

Method: ICP1A Sample Name: SRM2709 Operator: DRS
Run Time: 02/07/96 14:43:05
Comment: LCS BX112/C119 (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0096	18.25	.0652	.0550	.2244	.0018	.0672
SDev	.0006	.13	.0044	.0035	.0016	.0000	.0114
%RSD	6.599	.6862	6.727	6.306	.6989	1.191	16.92
#1	.0089	18.37	.0631	.0590	.2261	.0018	.0738
#2	.0099	18.25	.0702	.0533	.2242	.0018	.0737
#3	.0101	18.12	.0622	.0527	.2229	.0018	.0541

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	6.923	.0100	.0770	.0218	.0468	.0215	.0111
SDev	.037	.0004	.0070	.0010	.0014	.0002	.0011
%RSD	.5381	4.187	9.125	4.804	2.899	.8756	10.10
#1	6.959	.0103	.0693	.0206	.0456	.0214	.0100
#2	6.925	.0102	.0830	.0220	.0483	.0214	.0110
#3	6.885	.0095	.0786	.0227	.0465	.0218	.0122

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0040	8.692	2215.	.0225	.0208	3.953	.2706
SDev	.0004	.052	15.	.0017	.0015	.024	.0020
%RSD	9.508	.5963	.6946	7.459	7.362	.5948	.7428
#1	.0036	8.741	2230.	.0214	.0197	3.977	.2725
#2	.0040	8.699	2216.	.0217	.0201	3.950	.2709
#3	.0044	8.638	2200.	.0244	.0225	3.931	.2685

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0106	3.970	19.28	.0694	1.183	.2876	.1190
SDev	.0006	.000	1.20	.0029	.013	.0245	.0050
%RSD	5.521	.0007	6.198	4.184	1.070	8.520	4.158
#1	.0099	3.970	18.13	.0667	1.190	.2713	.1170
#2	.0110	3.970	19.20	.0690	1.190	.3157	.1153
#3	.0109	3.970	20.52	.0724	1.168	.2756	.1246

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1870	.0866	.0312	.0878	.1356	68.85	.3040
SDev	.0212	.0060	.0015	.0059	.0124	.43	.0176
%RSD	11.32	6.956	4.757	6.680	9.114	.6173	5.794
#1	.1660	.0813	.0304	.0885	.1238	69.25	.2861
#2	.1866	.0852	.0329	.0816	.1485	68.89	.3048
#3	.2083	.0932	.0302	.0933	.1346	68.40	.3213

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0616	.0888	.0065	.7551	.0491	1.004	.0355
SDev	.0004	.0062	.0068	.0049	.0090	.182	.0004

%RSD	.5805	6.957	105.2	.6454	18.29	18.18	1.249
#1	.0620	.0959	.0142	.7597	.0448	.8023	.0355
#2	.0617	.0847	.0014	.7555	.0594	1.050	.0351
#3	.0613	.0858	.0038	.7500	.0431	1.158	.0360

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0413	.0080	.0307	.0113
SDev	.0119	.0002	.0015	.0007
%RSD	28.92	3.007	5.038	6.484
#1	.0354	.0078	.0314	.0106
#2	.0550	.0080	.0318	.0113
#3	.0334	.0083	.0289	.0120

Analysis Report QC Standard Wed 02-07-96 02:48:32 PM page 1

Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS
Run Time: 02/07/96 14:47:13
Comment: (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

PASS DRS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4871	9.689	2.467	2.012	.4793	.0975	24.34
SDev	.0033	.069	.026	.006	.0035	.0006	.18
%RSD	.6800	.7142	1.050	.3186	.7339	.6084	.7530
#1	.4857	9.651	2.439	2.009	.4774	.0972	24.27
#2	.4846	9.647	2.471	2.008	.4772	.0971	24.20
#3	.4908	9.769	2.491	2.020	.4834	.0982	24.55
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	24.62	.4906	.0169	.9781	.9784	.9188	.0021
SDev	.13	.0073	.0041	.0038	.0115	.0091	.0006
%RSD	.5381	1.498	24.21	.3873	1.175	.9915	29.77
#1	24.54	.4839	.0174	.9754	.9709	.9140	.0022
#2	24.55	.4895	.0208	.9764	.9727	.9130	.0027
#3	24.77	.4985	.0126	.9824	.9917	.9293	.0015
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0024	19.74	24.30	.0065	1.888	31.83	.5022
SDev	.0002	.12	.23	.0008	.017	.19	.0029
%RSD	7.262	.5848	.9314	12.30	.9084	.5999	.5741
#1	.0024	19.67	24.50	.0071	1.883	31.73	.5003
#2	.0026	19.66	24.34	.0067	1.874	31.72	.5007
#3	.0022	19.87	24.06	.0056	1.907	32.05	.5055
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9793	35.39	47.76	.0168	.9742	4.855	2.444
SDev	.0065	.22	1.81	.0062	.0022	.059	.011
%RSD	.6679	.6172	3.790	36.80	.2217	1.212	.4639
#1	.9734	35.25	47.98	.0175	.9718	4.892	2.436
#2	.9783	35.29	49.44	.0227	.9760	4.787	2.440
#3	.9863	35.64	45.84	.0103	.9747	4.886	2.457
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	1.000	36.70			1.000		2.500

Analysis Report QC Standard Wed 02-07-96 02:49:32 PM page 2

Range	.1000	3.670			.1000		.2500
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0170	.0129	.0111	2.739	2.519	18.76	.1642
SDev	.0125	.0083	.0030	.019	.050	.11	.0177
%RSD	73.50	64.47	26.77	.7121	1.966	.5709	10.77
#1	.0207	.0163	.0141	2.726	2.529	18.72	.1561
#2	.0273	.0191	.0082	2.729	2.466	18.68	.1644
#3	.0031	.0034	.0108	02.761	2.564	18.88	.1520
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value				2.500	2.500	20.00	
Range				.2500	.2500	2.000	

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4866	.0392	.0297	.9571	2.439	.2967	.9617
SDev	.0036	.0088	.0044	.0060	.026	.0533	.0059
%RSD	.7396	22.47	14.82	.6281	1.077	17.97	.6093
#1	.4849	.0468	.0327	.9542	2.447	.3155	.9584
#2	.4842	.0414	.0318	.9530	2.409	.3381	.9583
#3	.4908	.0295	.0247	.9640	2.460	.2365	.9685
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.5000			1.000	2.500		1.000
Range	.0500			.1000	.2500		.1000

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0445	.0017	.9794	1.930
SDev	.0073	.0000	.0031	.014
%RSD	16.32	2.163	.3178	.7334
#1	.0529	.0017	.9772	1.922
#2	.0403	.0016	.9781	1.921
#3	.0402	.0017	.9830	1.946
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass
Value			1.000	2.000
Range			.1000	.2000

Analysis Report QC Standard Wed 02-07-96 02:52:01 PM page 1

Method: ICP1A Sample Name: QC_MCVB 9602061901 Operator: DRS
Run Time: 02/07/96 14:50:42
Comment: (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Pass ① Pd-N/A DKS 2/7/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0039	.6289	.3112	1.943	.0031	.0007	.0789
SDev	.0009	.0051	.0042	.005	.0002	.0001	.0059
%RSD	22.85	.8175	1.335	.2591	6.634	6.903	7.516
#1	.0040	.6264	.3142	1.937	.0031	.0007	.0842
#2	.0048	.6256	.3130	1.945	.0033	.0008	.0725
#3	.0030	.6349	.3065	1.946	.0029	.0008	.0801
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0243	.0069	1.926	.0011	.0053	.0323	1.872
SDev	.0029	.0003	.005	.0010	.0016	.0016	.005
%RSD	11.72	3.582	.2632	97.55	31.05	5.029	.2598
#1	.0245	.0070	1.923	.0001	.0034	.0336	1.869
#2	.0270	.0071	1.924	.0022	.0060	.0329	1.870
#3	.0213	.0067	1.932	.0009	.0064	.0305	1.878
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value			2.000				2.000
Range			10.00				10.00

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.883	.0167	-.1727	.9329	.0044	-.0844	.0015
SDev	.006	.0011	.0952	.0024	.0017	.0050	.0004
%RSD	.3102	6.493	55.11	.2524	38.63	5.979	24.28
#1	1.878	.0169	-.1570	.9302	.0025	-.0787	.0017
#2	1.881	.0177	-.0864	.9340	.0059	-.0883	.0011
#3	1.890	.0155	-.2748	.9345	.0049	-.0862	.0016
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value	2.000			1.000			
Range	10.00			10.00			

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0105	1.502	64.25	1.873	.0182	.1270	.2484
SDev	.0005	.011	.38	.002	.0012	.0070	.0100
%RSD	5.090	.7527	.5870	.1313	6.738	5.507	4.036
#1	.0099	1.489	64.12	1.871	.0174	.1214	.2373
#2	.0109	1.506	64.67	1.873	.0196	.1249	.2569
#3	.0108	1.511	63.95	1.876	.0177	.1349	.2510
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value				2.000			

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Range 10.00

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	02.507	2.020	1.923	.1371	.0889	21.21	1.824
SDev	.012	.007	.004	.0073	.0066	.34	.018
%RSD	.4593	.3233	.2117	5.324	7.437	1.586	.9763
#1	02.499	2.023	1.923	.1333	.0846	20.86	1.808
#2	02.520	2.012	1.927	.1455	.0965	21.24	1.843
#3	02.501	2.024	1.919	.1325	.0855	21.53	1.821
Errors	QC Fail	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	2.000	2.000	2.000				2.000
Range	10.00	10.00	10.00				10.00

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0030	1.990	06.179	.0070	.0060	23.25	.0033
SDev	.0000	.005	.021	.0005	.0085	.08	.0006
%RSD	.0100	.2345	.3356	6.822	141.8	.3579	19.71
#1	.0030	1.993	06.155	.0070	.0157	23.18	.0040
#2	.0030	1.991	06.188	.0075	.0025	23.23	.0028
#3	.0030	1.984	06.194	.0066	-.0002	23.34	.0030
Errors	NOCHECK	QC Pass	QC Fail	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		2.000	5.000			25.00	
Range		10.00	10.00			10.00	

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	1.944	.9463	.0034	-.0128
SDev	.017	.0035	.0001	.0012
%RSD	.8763	.3718	4.045	9.716
#1	1.926	.9433	.0033	-.0115
#2	1.944	.9454	.0034	-.0139
#3	1.960	.9502	.0036	-.0130
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	2.000	1.000		
Range	10.00	10.00		

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Method: ICP1A Sample Name: QC SSTA 9512081902 Operator: DRS
Run Time: 02/07/96 14:54:33
Comment: LCS BX112/C119 (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0042	245.0	.2490	.0550	.0100	-.0009	196.9
SDev	.0006	1.1	.0039	.0012	.0002	.0001	.7
%RSD	14.57	.4560	1.575	2.234	2.350	9.116	.3565
#1	.0036	245.4	.2457	.0563	.0098	-.0010	197.1
#2	.0048	243.8	.2534	.0549	.0098	-.0009	196.1
#3	.0043	245.9	.2479	.0538	.0102	-.0009	197.4

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	245.3	.0713	.0999	.0067	.2418	-.0949	.0294
SDev	.7	.0033	.0043	.0011	.0024	.0010	.0003
%RSD	.2779	4.640	4.255	16.65	.9832	1.068	1.149
#1	245.5	.0751	.0950	.0068	.2444	-.0940	.0290
#2	244.5	.0700	.1024	.0055	.2413	-.0946	.0293
#3	245.9	.0689	.1023	.0077	.2398	-.0960	.0297

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0853	192.7	98.24	47.35	.0390	-.6722	.0192
SDev	.0004	.6	.54	.15	.0007	.0265	.0003
%RSD	.4222	.3007	.5480	.3119	1.863	3.944	1.514
#1	.0853	193.9	98.58	47.40	.0396	-.6857	.0189
#2	.0849	192.0	97.62	47.18	.0392	-.6417	.0192
#3	.0856	193.1	98.51	47.46	.0382	-.6893	.0194

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1023	.9070	444.8	.1808	187.3	196.0	.9650
SDev	.0004	.0191	2.3	.0107	.5	.7	.0042
%RSD	.4242	2.106	.5097	5.909	.2835	.3710	.4351
#1	.1024	.9251	445.2	.1746	187.2	196.3	.9649
#2	.1026	.8871	442.4	.1746	186.8	195.1	.9692
#3	.1018	.9089	446.8	.1931	187.8	196.4	.9608

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.146	.3292	.1528	.5727	1.488	-.1509	1.955
SDev	.019	.0125	.0034	.0202	.016	.0057	.014
%RSD	1.623	3.789	2.235	3.532	1.083	3.749	.7351
#1	1.142	.3364	.1511	.5628	1.470	-.1493	1.962
#2	1.129	.3148	.1568	.5594	1.493	-.1461	1.963
#3	1.166	.3364	.1506	.5960	1.501	-.1571	1.938

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0191	.7305	-.0345	.0018	.3394	195.7	.0497
SDev	.0001	.0053	.0177	.0003	.0101	1.0	.0016

%RSD	.3509	.7292	51.24	14.69	2.964	.5020	3.217
#1	.0191	.7364	-.0459	.0016	.3486	196.0	.0508
#2	.0190	.7262	-.0141	.0016	.3286	194.6	.0478
#3	.0191	.7289	-.0434	.0021	.3409	196.5	.0504

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.5580	.0233	.0662	.0436
SDev	.0084	.0007	.0020	.0016
%RSD	1.505	2.919	2.997	3.747
#1	.5514	.0232	.0640	.0438
#2	.5552	.0226	.0663	.0418
#3	.5675	.0240	.0679	.0450

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Method: ICP1A Sample Name: QC SSTMCV 9512081903 Operator: DRS
Run Time: 02/07/96 14:58:06
Comment: LCS BX112/C119 (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5114	5.094	2.042	.0036	.0998	.1022	1.700
SDev	.0033	.028	.010	.0020	.0009	.0008	.017
%RSD	.6413	.5480	.4662	55.45	.8889	.7584	1.006
#1	.5081	5.066	2.031	.0054	.0990	.1015	1.688
#2	.5114	5.094	2.046	.0014	.0997	.1021	1.692
#3	.5146	5.121	2.049	.0040	.1008	.1031	1.720

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.133	.2024	.0153	-.0005	.3100	.0009	.0024
SDev	.005	.0010	.0049	.0009	.0022	.0019	.0014
%RSD	.4545	.4875	31.95	174.4	.7240	198.9	59.35
#1	1.130	.2019	.0194	.0004	.3077	.0029	.0035
#2	1.131	.2018	.0165	-.0006	.3122	-.0008	.0028
#3	1.139	.2036	.0099	-.0013	.3099	.0006	.0008

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0077	.6095	49.10	.0267	.0059	-.0825	.1046
SDev	.0001	.0037	.25	.0009	.0017	.0083	.0007
%RSD	1.408	.6003	.4993	3.329	29.23	10.10	.6721
#1	.0079	.6068	48.91	.0259	.0073	-.0841	.1041
#2	.0077	.6080	49.02	.0277	.0040	-.0734	.1042
#3	.0077	.6136	49.38	.0264	.0063	-.0899	.1054

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0057	5.079	49.94	.0085	.6943	4.073	3.044
SDev	.0006	.040	.78	.0051	.0008	.025	.016
%RSD	11.11	.7879	1.565	60.57	.1078	.6244	.5395
#1	.0049	5.034	50.38	.0100	.6948	4.043	3.034
#2	.0059	5.110	50.41	.0126	.6948	4.088	3.034
#3	.0061	5.093	49.04	.0027	.6935	4.087	3.063

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0474	.0239	-.0008	2.304	2.582	2.977	.0785
SDev	.0119	.0057	.0021	.015	.003	.018	.0044
%RSD	25.10	23.93	255.9	.6355	.1321	.6167	5.559
#1	.0564	.0269	.0016	2.294	2.584	2.958	.0764
#2	.0518	.0275	-.0023	2.298	2.585	2.977	.0835
#3	.0339	.0173	-.0018	2.321	2.578	2.995	.0756

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0016	.0208	.0074	.0002	.0017	19.98	.5028
SDev	.0000	.0050	.0052	.0005	.0038	.18	.0032

%RSD	.0395	23.85	69.92	219.9	216.6	.9144	.6286
#1	.0016	.0151	.0099	.0007	.0060	19.85	.5001
#2	.0016	.0230	.0108	.0003	.0004	19.90	.5020
#3	.0016	.0242	.0014	-.0003	-.0012	20.19	.5063

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0282	.0008	-.0001	.5025
SDev	.0073	.0004	.0005	.0037
%RSD	25.70	56.31	983.7	.7324
#1	.0295	.0012	.0005	.4999
#2	.0347	.0008	-.0002	.5008
#3	.0204	.0003	-.0005	.5067

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Method: ICP1A Sample Name: QC_SRM-1643d 108518 Operator: DRS
Run Time: 02/07/96 15:01:48
Comment: (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.0051	0.1403	0.0767	.1517	.5026	.0126	.0482
SDev	.0004	.0041	.0034	.0007	.0019	.0000	.0100
%RSD	7.739	2.951	4.427	.4751	.3830	.2987	20.75
#1	0.0049	0.1365	0.0740	.1520	.5017	.0125	.0595
#2	0.0048	0.1447	0.0755	.1523	.5013	.0125	.0443
#3	0.0055	0.1398	0.0805	.1509	.5048	0.0126	.0407
Errors	QC Fail	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	NOCHECK
Value	.0013	.1276	.0560	.1448	.5065	.0125	
Range	.0570	3.500	.7300	5.200	8.900	.2800	

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	031.24	0.0072	.0261	0.0266	0.0207	0.0190	.0035
SDev	.11	.0025	.0076	.0003	.0005	.0021	.0007
%RSD	.3444	35.03	29.03	1.312	2.570	11.09	20.51
#1	31.15	0.0043	.0260	0.0264	0.0201	0.0169	.0033
#2	31.21	0.0089	.0336	0.0264	0.0211	0.0189	.0043
#3	031.36	0.0083	.0185	0.0270	0.0210	.0212	.0029
Errors	QC Fail	QC Fail	NOCHECK	QC Fail	QC Fail	QC Fail	NOCHECK
Value	31.04	.0065		.0250	.0165	.0205	
Range	.6400	.3700		.5900	.2000	3.800	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	.0941	02.717	.0101	0.0216	08.469	0.0404
SDev	.0000	.0010	.125	.0009	.0016	.031	.0001
%RSD	.9024	1.104	4.588	8.900	7.641	.3667	.1985
#1	.0020	.0941	02.764	.0091	0.0225	08.446	0.0404
#2	.0020	0.0951	02.811	.0104	0.0225	08.456	0.0405
#3	.0020	.0931	02.575	.0108	0.0197	08.504	0.0404
Errors	NOCHECK	QC Pass	QC Fail	NOCHECK	QC Fail	QC Fail	QC Fail
Value		.0912	2.356		.0165	7.989	.0377
Range		3.900	.0350		.5500	.0350	.8300

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.1149	021.59	28.78	.0289	0.1270	.0480	0.0261
SDev	.0001	.01	.56	.0057	.0060	.0287	.0073
%RSD	.0884	.0386	1.952	19.62	4.733	59.82	28.12
#1	0.1150	021.60	28.70	.0288	0.1316	.0694	0.0266
#2	.1148	021.58	29.38	.0347	0.1293	.0593	0.0332
#3	.1148	021.59	28.27	.0233	0.1202	.0154	0.0185
Errors	QC Fail	QC Fail	NOCHECK	NOCHECK	QC Fail	NOCHECK	QC Fail
Value	.1129	22.07			.0581		.0181

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Range	1.700	.6400			2.700		.6400
Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0578	.0268	.0069	0.0821	0.0179	2.792	.0603
SDev	.0098	.0044	.0030	.0124	.0130	.006	.0298
%RSD	16.98	16.53	43.83	15.16	72.64	.2088	49.44
#1	.0581	.0246	.0039	0.0829	0.0304	2.787	.0318
#2	.0674	.0319	.0100	0.0941	0.0190	2.791	.0913
#3	.0478	.0240	.0068	0.0693	0.0044	2.798	.0578
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	QC Fail	NOCHECK	NOCHECK
Value				.0541	.0114		
Range				1.100	.1700		

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2935	.0069	-.0100	.0013	0.0217	.4978	0.0358
SDev	.0011	.0012	.0036	.0002	.0015	.0403	.0008
%RSD	.3620	17.62	36.40	16.57	6.754	8.092	2.276
#1	.2931	.0067	-.0064	.0011	0.0200	.5050	.0348
#2	.2927	.0082	-.0100	.0015	0.0223	.5340	0.0362
#3	.2947	.0058	-.0137	.0014	0.0226	.4544	0.0363
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Fail	NOCHECK	QC Fail
Value	.2948				.0073		.0351
Range	3.400				.2500		1.400

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0130	.0014	.0726	.0022
SDev	.0093	.0000	.0020	.0006
%RSD	71.59	2.582	2.721	24.99
#1	.0238	.0014	0.0709	.0019
#2	.0076	.0014	.0722	.0028
#3	.0077	.0014	0.0748	.0020
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value			.0725	
Range			.6500	

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Method: ICP1A Sample Name: QC CCV1 960126H901 Operator: DRS
Run Time: 02/07/96 15:05:35
Comment: LCS BX112/C119 (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0075	1.947	1.995	2.016	.9624	1.015	1.989
SDev	.0005	.009	.016	.005	.0042	.004	.007
%RSD	6.274	.4420	.8246	.2373	.4372	.3858	.3327
#1	.0071	1.955	2.003	2.019	.9670	1.020	1.991
#2	.0073	1.938	2.005	2.010	.9614	1.014	1.982
#3	.0080	1.946	1.976	2.018	.9587	1.012	1.994

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.004	1.006	.0218	1.005	.4958	1.933	.0035
SDev	.009	.004	.0076	.003	.0028	.003	.0005
%RSD	.4492	.4231	34.93	.2898	.5574	.1526	15.52
#1	2.012	1.002	.0142	1.008	.4932	1.935	.0031
#2	2.004	1.010	.0295	1.005	.4987	1.934	.0041
#3	1.994	1.006	.0217	1.002	.4954	1.929	.0032

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	1.999	5.017	.0056	1.936	2.076	1.022
SDev	.0002	.006	.072	.0005	.012	.004	.003
%RSD	16.55	.2926	1.434	9.117	.5964	.1895	.3119
#1	.0011	2.006	5.001	.0052	1.949	2.080	1.026
#2	.0014	1.997	5.096	.0062	1.929	2.073	1.022
#3	.0014	1.995	4.954	.0056	1.930	2.073	1.019

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.951	8.296	14.64	.0167	2.049	4.829	2.024
SDev	.006	.044	.94	.0028	.015	.027	.011
%RSD	.3125	.5281	5.716	16.70	.7274	.5490	.5318
#1	1.957	8.335	14.63	.0137	2.057	4.855	2.033
#2	1.951	8.249	15.48	.0193	2.058	4.828	2.028
#3	1.945	8.303	13.81	.0171	2.032	4.802	2.012

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0496	.0207	.0082	.0339	1.996	4.786	.0654
SDev	.0057	.0032	.0015	.0126	.022	.011	.0266
%RSD	11.59	15.51	18.18	37.21	1.116	.2235	40.70
#1	.0432	.0197	.0098	.0464	2.001	4.798	.0348
#2	.0542	.0243	.0080	.0211	2.015	4.778	.0789
#3	.0516	.0182	.0068	.0342	1.971	4.782	.0826

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.943	.0331	.0093	.0012	1.977	.2683	.9532
SDev	.008	.0021	.0018	.0002	.019	.0262	.0034

%RSD	.4071	6.383	19.75	14.48	.9557	9.774	.3560
#1	1.952	.0315	.0074	.0014	1.999	.2635	.9569
#2	1.939	.0355	.0092	.0011	1.965	.2966	.9522
#3	1.937	.0323	.0111	.0011	1.968	.2448	.9504

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0161	.0010	.9953	.0011
SDev	.0073	.0002	.0089	.0005
%RSD	45.22	18.35	.8986	46.41
#1	.0227	.0009	1.006	.0008
#2	.0083	.0012	.9904	.0016
#3	.0173	.0009	.9899	.0008

Analysis Report Wed 02-07-96 03:10:26 PM page 1

Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/07/96 15:09:07
Comment: LCS BX112/C119 (BX-112, CORE 119)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0059	.0125	.0139	.0048	.0005	.0002	.0122
SDev	.0004	.0028	.0144	.0006	.0001	.0000	.0080
%RSD	6.470	22.17	103.1	13.02	27.09	21.61	65.69
#1	.0059	.0154	.0041	.0041	.0004	.0002	.0185
#2	.0062	.0099	.0304	.0053	.0006	.0001	.0149
#3	.0055	.0122	.0073	.0049	.0005	.0002	.0032

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0035	.0162	.0015	-.0025	.0046	.0025
SDev	.0005	.0032	.0040	.0008	.0007	.0003	.0008
%RSD	172.2	90.81	24.50	50.44	28.79	5.498	33.02
#1	.0007	.0072	.0173	.0016	-.0017	.0043	.0018
#2	.0004	.0019	.0196	.0008	-.0030	.0046	.0034
#3	-.0003	.0014	.0118	.0023	-.0028	.0047	.0023

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	-.0048	.1806	.0038	.0024	.0054	.0004
SDev	.0001	.0005	.0136	.0011	.0003	.0091	.0000
%RSD	14.30	11.48	7.531	27.56	11.55	150.0	3.393
#1	.0009	-.0054	.1727	.0039	.0025	.0117	.0004
#2	.0009	-.0047	.1727	.0049	.0021	-.0037	.0003
#3	.0007	-.0043	.1963	.0028	.0025	.0081	.0004

Elem	Mo	Na	Na+	Nd	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0022	.0439	2.581	.0118	.0437	.0157	-.0024
SDev	.0004	.0094	.510	.0018	.0023	.0114	.0055
%RSD	18.17	21.34	19.76	15.66	5.213	72.66	230.7
#1	.0024	.0492	3.168	.0129	.0459	.0289	.0001
#2	.0024	.0493	2.331	.0096	.0440	.0087	-.0087
#3	.0017	.0331	2.245	.0128	.0414	.0096	.0015

Elem	Pd	Rh	Ru	Sb	Se	Si	Sn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0366	.0150	.0032	.0146	.0183	.0192	.0215
SDev	.0011	.0040	.0023	.0027	.0153	.0058	.0114
%RSD	3.063	26.47	72.52	18.13	83.79	30.09	53.08
#1	.0367	.0152	.0056	.0154	.0026	.0215	.0196
#2	.0355	.0189	.0028	.0117	.0333	.0236	.0337
#3	.0377	.0109	.0010	.0168	.0190	.0127	.0112

Elem	Sr	Te	Th	Ti	Tl	U	V
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0075	-.0015	.0009	-.0002	.1410	.0017
SDev	.0000	.0072	.0063	.0003	.0074	.0400	.0002

%RSD	.0425	95.22	428.6	40.02	4757.	28.35	12.50
#1	.0005	.0049	.0036	.0005	-.0014	.1100	.0017
#2	.0005	.0021	-.0086	.0009	-.0069	.1861	.0015
#3	.0005	.0156	.0005	.0012	.0078	.1270	.0019

Elem	W	Y	Zn	Zr
Units	ppm	ppm	ppm	ppm
Avge	.0097	.0007	-.0009	.0008
SDev	.0140	.0002	.0002	.0005
%RSD	145.3	30.92	22.99	63.12
#1	.0007	.0010	-.0008	.0005
#2	.0024	.0006	-.0008	.0013
#3	.0259	.0006	-.0012	.0005

DATE TO QC: 03/15/96

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - ICP - Fusion

Data Package/Report - BX-112 & BX-104

Project No. - 22762

ACL Numbers - 96-2606, 96-2608, 96-2612, 96-2614, 96-2616
96-2979, 96-2982, 96-2984, 96-2985

PNL ACL Quality Representative

3/28/96
Date

Project: TWRS
Procedure: PNL-ALO-211

File: m022096a
Analyzed: 02/20/96

BX-112 Core 118

	1/2 Segment 1AB			1/2 Segment 2B					
Sam Log#:	96-02606	96-02606		96-02608	96-02608		96-02606		
Split#:	118.1AB.F	118.1AB.F		118.2B.F	118.2B.F		Blank		
ICP Dil:	1.00	1.00		1.00	1.00		1.00		
Dil Fctr:	3571.4	2744.2		3028.5	2721.8		2980.6		
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Post Spike Recoveries Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	102.7%	
0.060	Al	16,087	15,952	1	10,814	10,955	1	(813)	103.7%	
0.100	As	ND	ND		ND	ND		ND	113.8%	
0.050	B	ND	(544)		ND	ND		ND	104.2%	
0.010	Ba	ND	ND		ND	ND		ND	103.7%	
0.005	Be	ND	ND		ND	ND		ND	102.1%	
0.100	Bi	14,509	14,368	1	15,599	15,461	1	ND	100.7%	
0.250	Ca	(1,852)	(1,534)		(1,639)	(1,467)		(1,365)	103.4%	
0.030	Cd	ND	ND		ND	ND		ND	103.9%	
0.125	Ce	ND	ND		ND	ND		ND		102.0%
0.050	Co	ND	ND		ND	ND		ND	107.3%	
0.020	Cr	868	870	0	1,287	1,268	2	ND	106.3%	
0.050	Cu	ND	ND		ND	ND		ND	100.2%	
0.050	Dy	ND	ND		ND	ND		ND		98.7%
0.100	Eu	ND	ND		ND	ND		ND		98.1%
0.050	Fe	9,315	9,233	1	7,508	7,459	1	(155)	106.0%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		98.7%
0.030	Li	(292)	(284)		ND	ND		ND	100.2%	
0.100	Mg	(446)	(370)		(416)	(404)		(341)	106.3%	
0.050	Mn	(404)	(306)		(246)	(231)		(230)	106.4%	
0.030	Mo	ND	ND		ND	ND		ND	108.7%	
0.250	Na	83,988	82,081	2	80,930	80,424	1	(3,401)	106.3%	
0.100	Nd	ND	ND		ND	ND		ND		100.6%
0.030	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	21,274	20,108	6	17,506	17,498	0	ND	107.8%	
0.125	Pb	ND	ND		ND	ND		ND	110.1%	
0.300	Pd	ND	ND		ND	ND		ND		107.7%
0.300	Rh	ND	ND		ND	ND		ND		104.5%
0.100	Ru	ND	ND		ND	ND		ND		108.0%
0.100	Sb	ND	ND		ND	ND		ND	138.8%	
0.125	Se	ND	ND		ND	ND		ND	112.7%	
0.500	Si	(8,115)	23,355		(7,944)	(7,591)		(2,329)	98.8%	
1.000	Sn	ND	ND		ND	ND		ND		125.7%
0.015	Sr	(122)	(114)		(124)	(122)		ND	104.5%	
0.500	Te	ND	ND		ND	ND		ND		108.6%
0.800	Th	ND	ND		ND	ND		ND		44.6%
0.025	Ti	ND	ND		ND	ND		ND	104.5%	
0.500	Tl	ND	ND		ND	ND		ND	106.7%	
2.000	U	ND	ND		ND	ND		ND		100.2%
0.015	V	ND	ND		ND	ND		ND	104.4%	
0.500	W	ND	ND		ND	ND		ND		102.9%
0.010	Y	ND	ND		ND	ND		ND		94.1%
0.020	Zn	ND	ND		ND	ND		ND	106.7%	
0.025	Zr	ND	ND		ND	ND		ND	104.1%	

Note:
1) Method Detecion Limit (MDL) = 10x IDL; "( )" results <MDL but =>IDL.
2) Above 5 times MDL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the MDL, precision is estimated at +/-10% and accuracy at +/-15%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >MDL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0075

Analyzed Date: 02/20/96
Project: TWRS
Procedure: PNL-ALO-211
ICP Data Name: 96A0075
Tank ID: BX-112 Core 118

File: m022096a
Reported: 03/14/96
Data Page 1 of 2

Segment ID: 1/2 Segment 1AB 1/2 Segment 2B

Sample Log#	Sample 96-02606 118.1AB.F	Duplicate 96-02606 118.1AB.F	Sample 96-02608 118.2B.F	Duplicate 96-02608 118.2B.F	96-02606 Blank	96-02606 P.S. "A"	96-02606 P.S. "B"	96-02606 PS Base
Prep Type	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g	0.1400	0.1822	0.1651	0.1837	0.1678	0.1400	0.1400	0.1400
Makeup Vol-mL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dil: Smpl-mL	1	1	1	1	1	1	1	1
Dil: Vol-mL	5	5	5	5	5	5	5	5
Prep Factor	3571.4	2744.2	3028.5	2721.8	2980.6	3571.4	3571.4	3571.4
Spike ID						9601301901	9601231901	
Spike PreDil'n						2.0	2.0	2.0
ICP Dilution	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dil Fctr	3571.4	2744.2	3028.5	2721.8	2980.6	3571.4	3571.4	3571.4
Run Time	09:58	10:16	10:28	10:31	09:51	10:02	10:09	09:58
(ug/g) Ag	33.3	21.9	23.2	21.8	27.1	917.3	43.9	33.3
Al	16087.4	15952.0	10814.1	10954.8	813.2	26561.0	8103.5	16087.4
As	211.3	161.9	149.5	143.1	179.8	5080.0	717.4	211.3
B	8.1	544.3	84.5	38.9	51.3	3722.4	-75.9	8.1
Ba	26.7	22.7	22.6	22.9	11.1	925.5	17.4	26.7
Be	1.1	0.7	0.9	0.9	2.3	182.4	2.6	1.1
Bi	14509.2	14368.5	15598.6	15460.8	101.3	52201.6	7761.8	14509.2
Ca	1852.3	1533.9	1638.8	1466.5	1364.5	47072.2	1053.9	1852.3
Cd	25.1	-26.2	-35.8	11.1	-15.5	927.3	-17.1	25.1
Ce	279.4	218.2	230.4	216.8	156.5	194.2	3642.1	279.4
Co	55.8	45.3	44.6	41.2	49.7	1916.9	42.2	55.8
Cr	867.7	869.6	1287.3	1267.5	22.5	2331.9	448.7	867.7
Cu	58.0	35.0	47.1	40.3	57.5	1789.3	86.6	58.0
Dy	31.4	25.1	23.6	22.9	23.7	22.8	3524.9	31.4
Eu	12.2	13.0	10.4	8.9	8.5	12.6	3505.1	12.2
Fe	9314.9	9233.0	7508.5	7459.4	154.7	42505.8	4836.4	9314.9
K	8503446.7	6585383.8	7274897.5	6552986.9	7244351.7	4509885.1	4390920.1	8503446.7
La	60.3	45.0	49.2	43.4	48.9	56.0	1763.1	60.3
Li	291.8	283.9	59.8	50.2	22.7	3724.1	160.7	291.8
Mg	446.2	369.8	416.0	404.2	340.6	60990.3	238.3	446.2
Mn	404.2	305.5	246.1	231.1	230.3	1151.8	208.4	404.2
Mo	72.3	58.4	69.5	59.6	43.6	1940.3	59.1	72.3
Na	83987.8	82080.8	80929.9	80424.4	3400.7	111687.3	43804.6	83987.8
Nd	187.6	146.4	153.4	144.1	142.4	156.8	3592.4	187.6
Ni	3102.5	2666.8	1881.6	1653.3	2870.0	3471.2	1875.2	3102.5
P	21273.9	20107.7	17506.1	17497.7	233.4	20263.5	11002.0	21273.9
Pb	287.6	217.6	204.4	202.4	159.3	4913.4	660.0	287.6
Pd	595.2	425.3	479.0	436.9	470.8	413.0	3847.0	595.2
Rh	272.7	186.6	214.2	196.7	197.3	197.5	3732.9	272.7
Ru	140.1	107.7	118.7	109.0	98.2	114.2	3855.4	140.1
Sb	246.5	141.3	195.9	172.6	170.3	6197.9	474.5	246.5
Se	324.6	285.0	256.6	216.8	241.8	5030.2	387.0	324.6
Si	8114.8	23354.9	7943.8	7591.0	2328.8	39339.5	41616.1	8114.8
Sn	1009.1	776.6	775.8	799.0	677.5	979.9	4490.5	1009.1
Sr	122.1	113.9	123.7	122.1	13.2	993.6	68.9	122.1
Te	285.1	204.3	216.1	199.0	198.5	284.1	3877.5	285.1
Th	11.5	13.9	26.6	23.7	3.7	76.1	5418.2	11.5
Ti	40.4	51.1	32.0	29.9	23.4	1865.8	34.1	40.4
Tl	202.1	150.5	152.6	153.8	157.9	4764.7	222.2	202.1
U	3904.7	2816.0	3571.9	3408.0	2430.4	2940.7	44718.6	3904.7
V	31.2	25.0	25.6	22.2	23.8	1863.7	28.6	31.2
W	97.2	56.4	87.0	68.8	40.7	172.1	3674.6	97.2
Y	12.4	10.7	8.8	8.8	8.2	11.5	1680.3	12.4
Zn	38.5	31.6	31.6	29.2	16.7	1904.6	33.4	38.5
(ug/g) Zr	46.4	43.3	44.7	41.6	17.9	3716.9	-8.4	46.4

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m022096a

Analyzed: 02/20/96
Project: TWRS
Procedure: PNL-ALO-211
MT&E: JA ICP WB73520

BX-112 Core 118

Raw Data
Data Page 2 of 2

Analyst: Danny Sanders 3/14/96 Reviewer: [illegible] 3-14-96

Sample ID:		96-02606	96-02606	96-02608	96-02608	96-02606	96-02606	96-02606	96-02606	Post Spikes "A"	Post Spikes "B"
Split ID:		118.1AB.F	118.1AB.F	118.2B.F	118.2B.F	Blank	P.S. "A"	P.S. "B"	PS Base		
Run Time:		09:58	10:16	10:28	10:31	09:51	10:02	10:09	09:58	ug/mL	ug/mL
(ug/mL)	Ag	0.0093	0.0080	0.0077	0.0080	0.0091	0.2569	0.0123	0.0093	0.500	
	Al	4.5045	5.8129	3.5708	4.0248	0.2728	7.4371	2.2690	4.5045	10.000	
	As	0.0592	0.0590	0.0494	0.0526	0.0603	1.4224	0.2009	0.0592	2.500	
	B	0.0023	0.1984	0.0279	0.0143	0.0172	1.0423	-0.0212	0.0023	2.000	
	Ba	0.0075	0.0083	0.0075	0.0084	0.0037	0.2591	0.0049	0.0075	0.500	
	Be	0.0003	0.0003	0.0003	0.0003	0.0008	0.0511	0.0007	0.0003	0.100	
	Bi	4.0626	5.2359	5.1506	5.6803	0.0340	14.6164	2.1733	4.0626	25.000	
	Ca	0.5186	0.5590	0.5411	0.5388	0.4578	13.1802	0.2951	0.5186	25.000	
	Cd	0.0070	-0.0095	-0.0118	0.0041	-0.0052	0.2596	-0.0048	0.0070	0.500	
	Ce	0.0782	0.0795	0.0761	0.0797	0.0525	0.0544	1.0198	0.0782		2.000
	Co	0.0156	0.0165	0.0147	0.0151	0.0167	0.5367	0.0118	0.0156	1.000	
	Cr	0.2429	0.3169	0.4251	0.4657	0.0076	0.6529	0.1256	0.2429	1.000	
	Cu	0.0163	0.0128	0.0155	0.0148	0.0193	0.5010	0.0243	0.0163	1.000	
	Dy	0.0088	0.0092	0.0078	0.0084	0.0079	0.0064	0.9870	0.0088		2.000
	Eu	0.0034	0.0047	0.0034	0.0033	0.0028	0.0035	0.9814	0.0034		2.000
	Fe	2.6082	3.3645	2.4793	2.7406	0.0519	11.9016	1.3542	2.6082	20.000	
	K	2380.9651	2399.7139	2402.1711	2407.5674	2430.4800	1262.7678	1229.4576	2380.9651		
	La	0.0169	0.0164	0.0163	0.0160	0.0164	0.0157	0.4937	0.0169		1.000
	Li	0.0817	0.1035	0.0198	0.0184	0.0076	1.0428	0.0450	0.0817	2.000	
	Mg	0.1249	0.1348	0.1374	0.1485	0.1143	17.0773	0.0667	0.1249	32.000	
	Mn	0.1132	0.1113	0.0813	0.0849	0.0773	0.3225	0.0584	0.1132	0.500	
	Mo	0:0202	0.0213	0.0230	0.0219	0.0146	0.5433	0.0166	0.0202	1.000	
	Na	23.5166	29.9102	26.7231	29.5479	1.1409	31.2724	12.2653	23.5166	36.700	
	Nd	0.0525	0.0534	0.0507	0.0529	0.0478	0.0439	1.0059	0.0525		2.000
	Ni	0.8687	0.9718	0.6213	0.6074	0.9629	0.9719	0.5251	0.8687		
	P	5.9567	7.3273	5.7805	6.4287	0.0783	5.6738	3.0806	5.9567	5.000	
	Pb	0.0805	0.0793	0.0675	0.0744	0.0534	1.3758	0.1848	0.0805	2.500	
	Pd	0.1667	0.1550	0.1582	0.1605	0.1580	0.1156	1.0772	0.1667		2.000
	Rh	0.0764	0.0680	0.0707	0.0723	0.0662	0.0553	1.0452	0.0764		2.000
	Ru	0.0392	0.0392	0.0392	0.0400	0.0329	0.0320	1.0795	0.0392		2.000
	Sb	0.0690	0.0515	0.0647	0.0634	0.0571	1.7354	0.1328	0.0690	2.500	
	Se	0.0909	0.1039	0.0847	0.0797	0.0811	1.4084	0.1084	0.0909	2.500	
	Si	2.2721	8.5105	2.6231	2.7889	0.7813	11.0151	11.6525	2.2721	20.000	
	Sn	0.2825	0.2830	0.2562	0.2935	0.2273	0.2744	1.2573	0.2825		2.000
	Sr	0.0342	0.0415	0.0408	0.0449	0.0044	0.2782	0.0193	0.0342	0.500	
	Te	0.0798	0.0744	0.0714	0.0731	0.0666	0.0795	1.0857	0.0798		2.000
	Th	0.0032	0.0051	0.0088	0.0087	0.0013	0.0213	1.5171	0.0032		6.800
	Ti	0.0113	0.0186	0.0106	0.0110	0.0078	0.5224	0.0096	0.0113	1.000	
	Tl	0.0566	0.0549	0.0504	0.0565	0.0530	1.3341	0.0622	0.0566	2.500	
	U	1.0933	1.0261	1.1794	1.2521	0.8154	0.8234	12.5212	1.0933		25.000
	V	0.0087	0.0091	0.0085	0.0081	0.0080	0.5218	0.0080	0.0087	1.000	
	W	0.0272	0.0205	0.0287	0.0253	0.0137	0.0482	1.0289	0.0272		2.000
	Y	0.0035	0.0039	0.0029	0.0033	0.0027	0.0032	0.4705	0.0035		1.000
	Zn	0.0108	0.0115	0.0104	0.0107	0.0056	0.5333	0.0093	0.0108	1.000	
(ug/mL)	Zr	0.0130	0.0158	0.0148	0.0153	0.0060	1.0407	-0.0024	0.0130	2.000	

Project: TWRS
Procedure: PNL-ALO-211

File: m022096b
Analyzed: 02/20/96

BX-112 Core 119

	1/2 Segment 1B			1/2 Segment 2B					
Sam Log#:	96-02612	96-02612		96-02614	96-02614		96-02612		
Split#:	119.1B.F	119.1B.F		119.2B.F	119.2B.F		Blank		
ICP Dil:	1.00	1.00		1.00	1.00		1.00		
Dil Fctr:	2619.2	2612.3		3344.5	2820.1		2820.5		
Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD	Sample ug/g	Duplicate ug/g	RPD	Batch Blk ug/g	Post Spike - Recoveries Spk "A"	Spk "B"
0.015	Ag	ND	ND		ND	ND		ND	101.3%	
0.060	Al	21,424	22,497	5	14,157	14,908	5	(629)	102.2%	
0.100	As	ND	ND		ND	ND		ND	112.0%	
0.050	B	ND	(601)		ND	ND		ND	99.0%	
0.010	Ba	(31)	(27)		ND	ND		ND	99.2%	
0.005	Be	ND	ND		ND	ND		ND	99.3%	
0.100	Bi	19,292	19,538	1	16,760	17,691	5	ND	98.7%	
0.250	Ca	(1,573)	(1,614)		(1,691)	(1,481)		(1,581)	101.3%	
0.030	Cd	ND	(82)		ND	ND		ND	103.0%	
0.125	Ce	ND	ND		ND	ND		ND		102.9%
0.050	Co	ND	ND		ND	ND		ND	105.6%	
0.020	Cr	995	1,010	1	1,149	1,200	4	ND	104.6%	
0.050	Cu	ND	ND		ND	ND		ND	97.5%	
0.050	Dy	ND	ND		ND	ND		ND		98.5%
0.100	Eu	ND	ND		ND	ND		ND		97.8%
0.050	Fe	13,999	15,269	9	8,284	8,988	8	ND	103.6%	
2.000	K	n/a	n/a		n/a	n/a		n/a		
0.050	La	ND	ND		ND	ND		ND		99.3%
0.030	Li	ND	ND		ND	ND		ND	96.7%	
0.100	Mg	(442)	(478)		(540)	(408)		(339)	103.7%	
0.050	Mn	(293)	(265)		(303)	(318)		(170)	104.0%	
0.030	Mo	ND	ND		ND	ND		ND	106.6%	
0.250	Na	79,702	82,194	3	79,442	79,013	1	(3,438)	103.0%	
0.100	Nd	ND	ND		ND	ND		ND		101.2%
0.030	Ni	n/a	n/a		n/a	n/a		n/a		
0.250	P	20,050	21,257	6	18,675	19,127	2	ND	104.1%	
0.125	Pb	ND	ND		ND	ND		ND	109.9%	
0.300	Pd	ND	ND		ND	ND		ND		110.8%
0.300	Rh	ND	ND		ND	ND		ND		105.6%
0.100	Ru	ND	ND		ND	ND		ND		108.9%
0.100	Sb	ND	ND		ND	ND		ND	135.7%	
0.125	Se	ND	ND		ND	ND		ND	111.6%	
0.500	Si	(8,810)	20,364		(11,212)	(9,047)		ND	97.3%	
1.000	Sn	ND	ND		ND	ND		ND		129.4%
0.015	Sr	(122)	(123)		(130)	(133)		ND	101.9%	
0.500	Te	ND	ND		ND	ND		ND		109.9%
0.800	Th	ND	ND		ND	ND		ND		44.5%
0.025	Ti	ND	ND		ND	ND		ND	102.5%	
0.500	Tl	ND	ND		ND	ND		ND	106.8%	
2.000	U	ND	ND		ND	ND		ND		102.0%
0.015	V	ND	ND		ND	ND		ND	102.2%	
0.500	W	ND	ND		ND	ND		ND		101.9%
0.010	Y	ND	ND		ND	ND		ND		93.8%
0.020	Zn	(397)	(69)		ND	ND		ND	103.5%	
0.025	Zr	ND	ND		ND	ND		ND	102.1%	

Note:
1) Method Detecion Limit (MDL) = 10x IDL; "( )" results <MDL but =>IDL.
2) Above 5 times MDL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the MDL, precision is estimated at +/-10% and accuracy at +/-15%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >MDL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0075

Analyzed Date: 02/20/96
Project: TWRS
Procedure: PNL-AL0-211
ICP Data Name: 96A0075
Tank ID: BX-112 Core 119

File: m022096b
Reported: 03/14/96
Data Page 1 of 2

Segment ID: 1/2 Segment 1B 1/2 Segment 2B

		Sample	Duplicate	Sample	Duplicate				
Sample Log#		96-02612	96-02612	96-02614	96-02614	96-02612	96-02612	96-02612	96-02612
		119.1B.F	119.1B.F	119.2B.F	119.2B.F	Blank	P.S. "A"	P.S. "B"	PS Base
Prep Type		Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion
Sample Wt-g		0.1909	0.1914	0.1495	0.1773	0.1773	0.1909	0.1909	0.1909
Makeup Vol-mL		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dil: Smpl-mL		1	1	1	1	1	1	1	1
Dil: Vol-mL		5	5	5	5	5	5	5	5
Prep Factor		2619.2	2612.3	3344.5	2820.1	2820.5	2619.2	2619.2	2619.2
Spike ID							9601301901	9601231901	
Spike PreDil'n							2.0	2.0	2.0
ICP Dilution		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dil Fctr		2619.2	2612.3	3344.5	2820.1	2820.5	2619.2	2619.2	2619.2
Run Time		10:58	11:16	11:25	11:29	10:51	11:02	11:09	10:58
(ug/g)	Ag	26.9	24.0	36.9	27.8	27.4	663.3	24.0	26.9
	Al	21423.9	22497.3	14156.6	14908.3	628.8	24092.0	11025.3	21423.9
	As	206.6	214.7	195.1	207.6	150.0	3665.3	584.1	206.6
	B	-54.4	600.7	125.9	80.7	-66.6	2592.6	-89.5	-54.4
	Ba	31.5	27.5	27.3	24.6	11.6	665.3	18.8	31.5
	Be	0.9	0.9	1.3	1.0	0.9	130.0	1.9	0.9
	Bi	19292.0	19537.8	16759.9	17691.1	148.7	41962.3	10136.5	19292.0
	Ca	1573.1	1613.5	1691.0	1481.4	1580.8	33939.3	874.3	1573.1
	Cd	30.5	82.2	75.7	20.5	-34.6	674.6	34.4	30.5
	Ce	261.9	249.5	337.8	283.0	202.3	199.4	2695.6	261.9
	Co	46.1	43.8	56.8	52.0	42.5	1382.9	33.2	46.1
	Cr	995.2	1010.1	1149.1	1199.8	22.2	1867.1	527.8	995.2
	Cu	42.4	34.0	63.4	46.5	46.2	1276.5	59.9	42.4
	Dy	29.2	28.1	39.5	33.6	29.9	25.6	2581.2	29.2
	Eu	10.9	11.3	14.1	12.6	10.4	11.7	2562.6	10.9
	Fe	13999.3	15268.9	8284.3	8987.8	99.0	34146.0	7306.1	13999.3
	K	5903194.3	5988165.5	7534992.9	6358011.2	6610163.0	3106718.2	3085093.1	5903194.3
	La	54.6	52.7	72.2	64.1	54.8	53.6	1300.5	54.6
	Li	23.9	16.5	46.1	35.6	25.3	2531.9	20.0	23.9
	Mg	442.2	477.9	539.6	408.3	339.0	43665.2	195.0	442.2
	Mn	293.3	265.0	303.2	318.4	170.4	827.7	152.8	293.3
	Mo	61.6	52.7	71.4	61.0	39.1	1396.0	52.6	61.6
	Na	79702.1	82194.3	79441.5	79012.7	3438.2	89371.3	41776.6	79702.1
	Nd	169.8	173.4	242.5	199.1	182.5	164.4	2651.6	169.8
	Ni	1196.1	888.2	1037.7	1738.6	968.3	1944.7	758.8	1196.1
	P	20049.6	21256.8	18675.1	19127.3	281.9	16841.2	10536.4	20049.6
	Pb	278.9	272.4	284.1	243.5	186.9	3598.3	552.5	278.9
	Pd	511.3	491.3	689.5	591.8	526.5	430.3	2901.4	511.3
	Rh	233.4	219.0	326.5	277.3	247.3	201.5	2766.0	233.4
	Ru	122.8	123.4	150.7	129.5	112.1	121.7	2853.1	122.8
	Sb	196.4	202.3	249.6	243.1	191.4	4444.3	347.3	196.4
	Se	309.9	295.1	356.3	302.7	198.7	3654.0	290.0	309.9
	Si	8810.4	20363.7	11211.9	9047.0	1200.3	29882.3	26533.0	8810.4
	Sn	875.2	858.3	1025.5	901.4	861.1	909.6	3390.2	875.2
	Sr	122.2	122.7	130.0	132.9	10.3	728.6	67.7	122.2
	Te	252.6	240.9	292.0	251.2	195.5	260.3	2877.6	252.6
	Th	18.2	12.6	14.0	14.5	8.8	58.4	3960.4	18.2
	Ti	45.4	32.8	51.3	66.0	20.1	1341.9	32.8	45.4
	Tl	147.7	149.0	199.6	174.6	130.1	3496.0	194.0	147.7
	U	3732.1	3689.0	4658.2	4266.0	2952.4	2995.0	33409.7	3732.1
	V	30.4	28.7	36.4	31.5	26.7	1338.2	25.9	30.4
	W	97.6	103.0	105.8	83.5	66.6	140.3	2669.7	97.6
	Y	10.2	10.2	14.0	11.2	11.3	10.6	1228.1	10.2
	Zn	396.8	69.0	46.5	40.5	19.2	1553.5	214.2	396.8
(ug/g)	Zr	56.1	51.3	55.8	49.7	23.2	2674.6	1.3	56.1

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m022096b

Analyzed: 02/20/96
Project: TWRS
Procedure: PNL-ALO-211
MT&E: JA ICP WB73520

BX-112 Core 119

Raw Data
Data Page 2 of 2

Analyst: Danny Sandoval 3/14/96 Reviewer: MW Uhr 3/14/96

Sample ID:	96-02612	96-02612	96-02614	96-02614	96-02612	96-02612	96-02612	96-02612	Post Spikes "A"	Post Spikes "B"
Split ID:	119.1B.F	119.1B.F	119.2B.F	119.2B.F	Blank	P.S. "A"	P.S. "B"	PS Base		
Run Time:	10:58	11:16	11:25	11:29	10:51	11:02	11:09	10:58	ug/mL	ug/mL
(ug/mL) Ag	0.0103	0.0092	0.0110	0.0099	0.0097	0.2532	0.0092	0.0103	0.500	
Al	8.1797	8.6120	4.2328	5.2865	0.2230	9.1983	4.2095	8.1797	10.000	
As	0.0789	0.0822	0.0583	0.0736	0.0532	1.3994	0.2230	0.0789	2.500	
B	-0.0208	0.2299	0.0376	0.0286	-0.0236	0.9899	-0.0342	-0.0208	2.000	
Ba	0.0120	0.0105	0.0082	0.0087	0.0041	0.2540	0.0072	0.0120	0.500	
Be	0.0003	0.0004	0.0004	0.0004	0.0003	0.0497	0.0007	0.0003	0.100	
Bi	7.3657	7.4791	5.0112	6.2732	0.0527	16.0212	3.8701	7.3657	25.000	
Ca	0.6006	0.6177	0.5056	0.5253	0.5605	12.9580	0.3338	0.6006	25.000	
Cd	0.0117	0.0315	0.0226	0.0073	-0.0123	0.2576	0.0132	0.0117	0.500	
Ce	0.1000	0.0955	0.1010	0.1003	0.0717	0.0761	1.0292	0.1000		2.000
Co	0.0176	0.0168	0.0170	0.0184	0.0151	0.5280	0.0127	0.0176	1.000	
Cr	0.3800	0.3866	0.3436	0.4255	0.0079	0.7128	0.2015	0.3800	1.000	
Cu	0.0162	0.0130	0.0190	0.0165	0.0164	0.4874	0.0229	0.0162	1.000	
Dy	0.0111	0.0108	0.0118	0.0119	0.0106	0.0098	0.9855	0.0111		2.000
Eu	0.0042	0.0043	0.0042	0.0045	0.0037	0.0045	0.9784	0.0042		2.000
Fe	5.3449	5.8449	2.4770	3.1871	0.0351	13.0369	2.7895	5.3449	20.000	
K	2253.8396	2292.2698	2252.9629	2254.5508	2343.6333	1186.1450	1177.8885	2253.8396		
La	0.0209	0.0202	0.0216	0.0227	0.0194	0.0205	0.4965	0.0209		1.000
Li	0.0091	0.0063	0.0138	0.0126	0.0090	0.9667	0.0076	0.0091	2.000	
Mg	0.1688	0.1829	0.1613	0.1448	0.1202	16.6714	0.0745	0.1688	32.000	
Mn	0.1120	0.1015	0.0907	0.1129	0.0604	0.3160	0.0583	0.1120	0.500	
Mo	0:0235	0.0202	0.0214	0.0216	0.0139	0.5330	0.0201	0.0235	1.000	
Na	30.4303	31.4640	23.7530	28.0179	1.2190	34.1219	15.9503	30.4303	36.700	
Nd	0.0648	0.0664	0.0725	0.0706	0.0647	0.0628	1.0124	0.0648		2.000
Ni	0.4567	0.3400	0.3103	0.6165	0.3433	0.7425	0.2897	0.4567		
P	7.6549	8.1371	5.5838	6.7825	0.0999	6.4300	4.0228	7.6549	5.000	
Pb	0.1065	0.1043	0.0850	0.0864	0.0663	1.3738	0.2109	0.1065	2.500	
Pd	0.1952	0.1881	0.2061	0.2099	0.1867	0.1643	1.1077	0.1952		2.000
Rh	0.0891	0.0838	0.0976	0.0983	0.0877	0.0769	1.0561	0.0891		2.000
Ru	0.0469	0.0473	0.0451	0.0459	0.0397	0.0465	1.0893	0.0469		2.000
Sb	0.0750	0.0774	0.0746	0.0862	0.0679	1.6968	0.1326	0.0750	2.500	
Se	0.1183	0.1130	0.1065	0.1073	0.0705	1.3951	0.1107	0.1183	2.500	
Si	3.3638	7.7952	3.3524	3.2081	0.4256	11.4091	10.1303	3.3638	20.000	
Sn	0.3342	0.3286	0.3066	0.3196	0.3053	0.3473	1.2944	0.3342		2.000
Sr	0.0466	0.0470	0.0389	0.0471	0.0037	0.2782	0.0259	0.0466	0.500	
Te	0.0965	0.0922	0.0873	0.0891	0.0693	0.0994	1.0987	0.0965		2.000
Th	0.0069	0.0048	0.0042	0.0052	0.0031	0.0223	1.5121	0.0069		6.800
Ti	0.0173	0.0126	0.0153	0.0234	0.0071	0.5123	0.0125	0.0173	1.000	
Tl	0.0564	0.0570	0.0597	0.0619	0.0461	1.3348	0.0741	0.0564	2.500	
U	1.4249	1.4122	1.3928	1.5127	1.0468	1.1435	12.7558	1.4249		25.000
V	0.0116	0.0110	0.0109	0.0112	0.0095	0.5109	0.0099	0.0116	1.000	
W	0.0373	0.0394	0.0316	0.0296	0.0236	0.0536	1.0193	0.0373		2.000
Y	0.0039	0.0039	0.0042	0.0040	0.0040	0.0041	0.4689	0.0039		1.000
Zn	0.1515	0.0264	0.0139	0.0144	0.0068	0.5931	0.0818	0.1515	1.000	
(ug/mL) Zr	0.0214	0.0196	0.0167	0.0176	0.0082	1.0212	0.0005	0.0214	2.000	

Project: TWRS
Procedure: PNL-ALO-211

File: m022096c
Analyzed: 02/20/96

BX-112 Core 119
119.3B.F Batched with 119.1B.F and 119.2B.F

1/2 Segment 3B

Sam Log#:	96-02616	96-02616
Split#:	119.3B.F	119.3B.F
ICP Dil:	1.00	1.00
Dil Fctr:	2853.9	3043.2

Est. IDL ug/mL	Analyte	Sample ug/g	Duplicate ug/g	RPD
0.015	Ag	ND	ND	
0.060	Al	9,661	10,167	5
0.100	As	ND	ND	
0.050	B	ND	ND	
0.010	Ba	ND	ND	
0.005	Be	ND	ND	
0.100	Bi	16,800	17,440	4
0.250	Ca	(1,549)	(1,819)	
0.030	Cd	ND	ND	
0.125	Ce	ND	ND	
0.050	Co	ND	ND	
0.020	Cr	1,253	1,273	2
0.050	Cu	ND	ND	
0.050	Dy	ND	ND	
0.100	Eu	ND	ND	
0.050	Fe	10,447	10,411	0
2.000	K	n/a	n/a	
0.050	La	ND	ND	
0.030	Li	(115)	(109)	
0.100	Mg	(410)	(416)	
0.050	Mn	(308)	(378)	
0.030	Mo	ND	ND	
0.250	Na	77,706	77,857	0
0.100	Nd	ND	ND	
0.030	Ni	n/a	n/a	
0.250	P	15,621	16,083	3
0.125	Pb	ND	ND	
0.300	Pd	ND	ND	
0.300	Rh	ND	ND	
0.100	Ru	ND	ND	
0.100	Sb	ND	ND	
0.125	Se	ND	ND	
0.500	Si	(8,234)	(9,217)	
1.000	Sn	ND	ND	
0.015	Sr	(134)	(138)	
0.500	Te	ND	ND	
0.800	Th	ND	ND	
0.025	Ti	ND	ND	
0.500	Tl	ND	ND	
2.000	U	ND	ND	
0.015	V	ND	ND	
0.500	W	ND	ND	
0.010	Y	ND	ND	
0.020	Zn	ND	ND	
0.025	Zr	ND	ND	

Note:
1) Method Detecion Limit (MDL) = 10x IDL; "( )" results <MDL but =>IDL.
2) Above 5 times MDL, results reportable to 2 1/2 significant digits.
3) Blank is reported in ug/g "equivalence" to indicate blank effect on sample results.
4) The process "blank" has not been subtracted from the "Sample & Duplicate" results.
5) Above 5 times the MDL, precision is estimated at +/-10% and accuracy at +/-15%.
6) "ND" = Not Detected; Estimated Sample Detection Limit (ug/g) = (IDL in ug/mL) * (Dil Fctr).
7) If RPD flagged with "*", then RPD >20% and sample & duplicate results >MDL.

Data, including calibration/QC, archived File ICP-325-405-1/96A0075

File: m022096c
Reported: 03/14/96
Data Page 1 of 2

Analyzed Date: 02/20/96
Project: TWRS
Procedure: PNL-ALO-211
ICP Data Name: 96A0075
Tank ID: BX-112 Core 119

Segment ID: 1/2 Segment 3B

		Sample	Duplicate
Sample Log#		96-02616	96-02616
		119.3B.F	119.3B.F
Prep Type		Fusion	Fusion
Sample Wt-g		0.1752	0.1643
Makeup Vol-mL		100.0	100.0
Dil: Smpl-mL		1	1
Dil: Vol-mL		5	5
Prep Factor		2853.9	3043.2
Spike ID			
Spike PreDil'n			
ICP Dilution		1.00	1.00
Dil Fctr		2853.9	3043.2
Run Time		11:32	11:37
(ug/g)	Ag	28.9	31.6
	Al	9661.4	10166.7
	As	180.3	167.3
	B	37.2	-0.6
	Ba	27.9	29.6
	Be	1.0	1.1
	Bi	16799.6	17440.1
	Ca	1549.3	1819.3
	Cd	3.7	30.7
	Ce	280.1	313.8
	Co	50.7	57.9
	Cr	1252.8	1272.9
	Cu	44.3	51.3
	Dy	33.3	36.3
	Eu	12.7	13.1
	Fe	10446.8	10410.6
	K	6517626.6	6897578.9
	La	60.9	70.2
	Li	114.7	109.2
	Mg	410.5	416.3
	Mn	307.7	378.2
	Mo	70.2	75.9
	Na	77705.7	77857.2
	Nd	210.8	217.2
	Ni	2240.2	1784.3
	P	15620.6	16083.4
	Pb	248.5	273.3
	Pd	586.0	646.6
	Rh	272.8	304.1
	Ru	133.3	142.0
	Sb	225.9	191.1
	Se	289.7	275.9
	Si	8234.2	9216.8
	Sn	962.9	965.5
	Sr	134.3	138.5
	Te	259.2	268.0
	Th	14.1	11.8
	Ti	40.9	64.9
	Tl	167.6	189.6
	U	3860.4	4203.9
	V	29.5	34.2
	W	69.0	102.5
	Y	12.0	12.4
	Zn	39.3	50.0
(ug/g)	Zr	46.5	44.4

Template: TC-KOH-2 ICP RAW DATA -- IEC Corrected m022096c

Analyzed: 02/20/96
Project: TWRS
Procedure: PNL-ALO-211
MT&E: JA ICP WB73520

BX-112 Core 119

Raw Data
Data Page 2 of 2

Analyst: Danny Sanders 3/14/96 Reviewer: [signature] 3-14-96

Sample ID:	96-02616	96-02616	Post Spikes "A" ug/mL	Post Spikes "B" ug/mL
Split ID:	119.3B.F	119.3B.F		
Run Time:	11:32	11:37		
(ug/mL) Ag	0.0101	0.0104	0.500	
Al	3.3854	3.3408	10.000	
As	0.0632	0.0550	2.500	
B	0.0130	-0.0002	2.000	
Ba	0.0098	0.0097	0.500	
Be	0.0003	0.0004	0.100	
Bi	5.8866	5.7308	25.000	
Ca	0.5429	0.5978	25.000	
Cd	0.0013	0.0101	0.500	
Ce	0.0981	0.1031		2.000
Co	0.0178	0.0190	1.000	
Cr	0.4390	0.4183	1.000	
Cu	0.0155	0.0169	1.000	
Dy	0.0117	0.0119		2.000
Eu	0.0044	0.0043		2.000
Fe	3.6606	3.4209	20.000	
K	2283.7764	2266.5444		
La	0.0213	0.0231		1.000
Li	0.0402	0.0359	2.000	
Mg	0.1438	0.1368	32.000	
Mn	0.1078	0.1243	0.500	
Mo	0.0246	0.0249	1.000	
Na	27.2281	25.5839	36.700	
Nd	0.0739	0.0714		2.000
Ni	0.7850	0.5863		
P	5.4735	5.2850	5.000	
Pb	0.0871	0.0898	2.500	
Pd	0.2053	0.2125		2.000
Rh	0.0956	0.0999		2.000
Ru	0.0467	0.0467		2.000
Sb	0.0792	0.0628	2.500	
Se	0.1015	0.0907	2.500	
Si	2.8853	3.0286	20.000	
Sn	0.3374	0.3172		2.000
Sr	0.0471	0.0455	0.500	
Te	0.0908	0.0881		2.000
Th	0.0049	0.0039		6.800
Ti	0.0143	0.0213	1.000	
Tl	0.0587	0.0623	2.500	
U	1.3527	1.3814		25.000
V	0.0103	0.0112	1.000	
W	0.0242	0.0337		2.000
Y	0.0042	0.0041		1.000
Zn	0.0138	0.0164	1.000	
(ug/mL) Zr	0.0163	0.0146	2.000	

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										QC CCV1 96012	V1 960126H901		
										A0075	A0075		
										2/20/96	2/20/96		
Statistical Summary for 'QC CCV1 960126H901'										09:45	13:30		
(HPS:CCV-1)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	1979	2025		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag		2	0.002	0.000	13					0.002	0.003		
Al	2.000	2	1.953	0.007	0	-0.047	-2.4			1.957	1.948		
As	2.000	2	2.106	0.040	2	0.106	5.3			2.077	2.134		
B	2.000	2	2.054	0.019	1	0.054	2.7			2.041	2.067		
Ba	1.000	2	0.990	0.011	1	-0.010	-1.0			0.998	0.983		
Be	1.000	2	0.980	0.011	1	-0.020	-2.0			0.988	0.972		
Bi	2.000	2	1.971	0.013	1	-0.029	-1.5			1.980	1.962		
Ca	2.000	2	1.985	0.035	2	-0.015	-0.8			2.009	1.960		
Cd	1.000	2	1.018	0.001	0	0.018	1.8			1.019	1.018		
Ce		2	0.009	0.011	123					0.001	0.017		
Co	1.000	2	1.025	0.002	0	0.025	2.5			1.024	1.026		
Cr	0.500	2	0.507	0.005	1	0.007	1.4			0.510	0.503		
Cu	2.000	2	1.959	0.021	1	-0.041	-2.1			1.974	1.943		
Dy		2	0.002	0.002	73					0.001	0.003		
Eu		2	0.001	0.000	34					0.001	0.001		
Fe	2.000	2	2.037	0.017	1	0.037	1.9			2.049	2.025		
K	5.000	2	4.586	0.285	6	-0.414	-8.3		-	4.788	4.385		
La		2	0.006	0.002	28					0.005	0.008		
Li	2.000	2	1.956	0.027	1	-0.044	-2.2			1.976	1.937		
Mg	2.000	2	2.099	0.016	1	0.099	5.0			2.110	2.088		
Mn	1.000	2	1.023	0.002	0	0.023	2.3			1.025	1.021		
Mo	2.000	2	1.993	0.002	0	-0.007	-0.4			1.992	1.994		
Na	8.100	2	8.462	0.012	0	0.362	4.5			8.453	8.471		
Nd		2	0.012	0.011	94					0.004	0.020		
Ni	2.000	2	2.059	0.008	0	0.059	3.0			2.065	2.053		
P	5.000	2	4.812	0.024	0	-0.188	-3.8			4.828	4.795		
Pb	2.000	2	2.043	0.011	1	0.043	2.2			2.035	2.051		
Pd		2	0.046	0.036	79					0.020	0.072		
Rh		2	0.018	0.014	78					0.008	0.027		
Ru		2	0.011	0.005	45					0.007	0.014		
Sb		2	0.023	0.008	35					0.017	0.029		
Se	2.000	2	2.044	0.011	1	0.044	2.2			2.036	2.052		
Si	5.000	2	5.157	0.096	2	0.157	3.1			5.225	5.089		
Sn		2	0.066	0.038	58					0.039	0.092		
Sr	2.000	2	2.006	0.003	0	0.006	0.3			2.008	2.004		
Te		2	0.036	0.003	7					0.034	0.038		
Th		2	0.004	0.006	134					0.009	0.000		
Ti		2	0.001	0.001	136					0.000	0.001		
Tl	2.000	2	1.981	0.031	2	-0.019	-0.9			1.959	2.003		
U		2	0.230	0.158	68					0.119	0.342		
V	1.000	2	0.965	0.006	1	-0.035	-3.5			0.969	0.961		
W		2	0.019	0.004	20					0.016	0.021		
Y		2	0.001	0.000	62					0.000	0.001		
Zn	1.000	2	1.022	0.017	2	0.022	2.2			1.010	1.034		
Zr		2	0.000	0.002	707					-0.001	0.002		
TIME		2	#######	0.000	0					########	########		

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										QC_MCVA 9601	CVA 9601	CVA 9601	CVA 9601
										A0075	A0075	A0075	A0075
										2/20/96	2/20/96	2/20/96	2/20/96
Statistical Summary for 'QC_MCVA 960130I901'										09:25	10:21	10:44	11:21
(QC-MCVA)										CONC	CONC	CONC	CONC
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	2255	2301	2347	2393
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)	(ug/mL)	(ug/mL)
Ag	0.500	7	0.506	0.008	2	0.006	1.2			0.508	0.522	0.506	0.496
Al	10.000	7	9.964	0.191	2	-0.036	-0.4			10.046	10.332	9.946	9.738
As	2.500	7	2.666	0.047	2	0.166	6.6			2.640	2.747	2.677	2.597
B	2.000	7	2.085	0.068	3	0.085	4.3			2.104	2.196	2.049	2.055
Ba	0.500	7	0.503	0.011	2	0.003	0.6			0.511	0.523	0.503	0.490
Be	0.100	7	0.096	0.002	2	-0.004	-4.2			0.097	0.099	0.096	0.093
Bi	25.000	7	24.577	0.473	2	-0.423	-1.7			24.816	25.490	24.573	24.069
Ca	25.000	7	24.867	0.459	2	-0.133	-0.5			25.035	25.747	24.834	24.295
Cd	0.500	7	0.508	0.017	3	0.008	1.7			0.503	0.501	0.488	0.497
Ce		7	0.017	0.011	69					-0.003	0.008	0.015	0.027
Co	1.000	7	1.026	0.018	2	0.026	2.6			1.029	1.061	1.025	1.004
Cr	1.000	7	1.026	0.021	2	0.026	2.6			1.035	1.066	1.026	1.007
Cu	1.000	7	0.928	0.019	2	-0.072	-7.2			0.936	0.959	0.935	0.904
Dy		7	0.003	0.002	62					0.000	0.001	0.003	0.005
Eu		7	0.003	0.001	21					0.002	0.003	0.003	0.004
Fe	20.000	7	20.540	0.411	2	0.540	2.7			20.778	21.299	20.510	20.035
K	25.000	7	24.155	0.848	4	-0.845	-3.4			24.287	25.915	24.169	24.074
La		7	0.011	0.003	30					0.005	0.007	0.011	0.014
Li	2.000	7	1.984	0.048	2	-0.016	-0.8			2.021	2.068	1.975	1.929
Mg	31.200	7	33.103	0.622	2	1.903	6.1			33.412	34.288	33.035	32.363
Mn	0.500	7	0.512	0.010	2	0.012	2.4			0.516	0.530	0.513	0.500
Mo	1.000	7	1.029	0.020	2	0.029	2.9			1.035	1.067	1.028	1.005
Na	36.700	7	37.314	0.754	2	0.614	1.7			37.693	38.696	37.187	36.407
Nd		7	0.023	0.009	41					0.008	0.013	0.024	0.031
Ni	1.000	7	1.007	0.023	2	0.007	0.7			1.016	1.053	1.011	0.982
P	5.000	7	4.945	0.085	2	-0.055	-1.1			5.008	5.094	4.945	4.849
Pb	2.500	7	2.573	0.043	2	0.073	2.9			2.576	2.658	2.566	2.518
Pd		7	0.046	0.029	64					-0.004	0.014	0.052	0.072
Rh		7	0.022	0.013	61					0.001	0.007	0.024	0.035
Ru		7	0.027	0.007	25					0.015	0.021	0.027	0.032
Sb	2.500	7	3.288	0.060	2	0.788	31.5	*		3.293	3.416	3.267	3.232
Se	2.500	7	2.642	0.050	2	0.142	5.7			2.634	2.743	2.644	2.587
Si	20.000	7	19.722	0.881	4	-0.278	-1.4			19.813	20.838	19.024	19.348
Sn		7	0.205	0.032	15					0.152	0.181	0.211	0.234
Sr	0.500	7	0.513	0.010	2	0.013	2.7			0.518	0.533	0.512	0.500
Te		7	0.073	0.006	8					0.066	0.071	0.082	0.071
Th		7	0.030	0.003	9					0.032	0.035	0.030	0.027
Ti	1.000	7	1.003	0.021	2	0.003	0.3			1.014	1.042	1.002	0.978
Tl	2.500	7	2.541	0.052	2	0.041	1.6			2.520	2.644	2.530	2.484
U		7	0.403	0.155	39					0.158	0.223	0.393	0.527
V	1.000	7	1.000	0.020	2	0.000	0.0			1.011	1.037	0.999	0.978
W		7	0.046	0.006	13					0.044	0.035	0.047	0.053
Y		7	0.002	0.000	22					0.001	0.002	0.003	0.003
Zn	1.000	7	1.024	0.015	1	0.024	2.4			1.020	1.052	1.020	1.004
Zr	2.000	7	2.007	0.039	2	0.007	0.3			2.022	2.080	2.004	1.958
TIME		7	#######	0.000	0					########	########	########	########

 WHC-SD-WM-DP-170, REV. 1

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

CVA 9601	CVA 9601	CVA 9601
A0075	A0075	A0075
2/20/96	2/20/96	2/20/96
11:49	12:30	13:10
CONC	CONC	CONC
2439	2485	2531
(ug/mL)	*(ug/mL)*	*(ug/mL)*
0.506	0.499	0.505
9.936	9.806	9.943
2.684	2.640	2.675
2.027	2.149	2.015
0.501	0.492	0.501
0.096	0.093	0.096
24.467	24.170	24.457
24.820	24.511	24.826
0.539	0.508	0.523
0.022	0.030	0.016
1.026	1.013	1.025
1.024	1.003	1.020
0.928	0.906	0.927
0.004	0.005	0.004
0.003	0.004	0.003
20.483	20.194	20.480
23.750	23.545	23.347
0.013	0.014	0.011
1.975	1.933	1.985
33.011	32.600	33.010
0.510	0.504	0.510
1.028	1.011	1.029
37.210	36.609	37.400
0.027	0.035	0.022
1.005	0.990	0.995
4.943	4.859	4.919
2.579	2.548	2.562
0.059	0.072	0.055
0.026	0.036	0.025
0.032	0.033	0.027
3.280	3.258	3.273
2.655	2.606	2.626
18.987	21.034	19.008
0.202	0.247	0.208
0.512	0.504	0.514
0.070	0.080	0.067
0.029	0.030	0.028
1.001	0.985	1.002
2.538	2.505	2.566
0.498	0.560	0.463
0.997	0.983	0.997
0.050	0.050	0.043
0.002	0.003	0.002
1.029	1.014	1.025
2.002	1.974	2.007
########	########	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

									QC_MCVB1 960		VB1 960123I901		
										A0075	A0075		
										2/20/96	2/20/96		
Statistical Summary for 'QC_MCVB1 960123I901'										13:14	09:29		
(QC-MCVB)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	2577	2623		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag		2	0.012	0.014	88					0.005	0.020		
Al		2	-0.104	0.051	-49					-0.068	-0.140		
As		2	0.322	0.034	10					0.346	0.299		
B		2	-0.031	0.015	-49					-0.042	-0.020		
Ba		2	0.001	0.000	3					0.001	0.001		
Be		2	0.001	0.000	12					0.001	0.001		
Bi		2	0.114	0.032	28					0.091	0.137		
Ca		2	0.029	0.017	58					0.017	0.041		
Cd		2	0.019	0.002	13					0.021	0.017		
Ce	2.000	2	1.909	0.020	1	-0.091	-4.5			1.895	1.924		
Co		2	0.003	0.000	1					0.003	0.003		
Cr		2	0.007	0.001	12					0.008	0.007		
Cu		2	0.027	0.007	25					0.022	0.032		
Dy	2.000	2	1.935	0.032	2	-0.065	-3.2			1.912	1.958		
Eu	2.000	2	1.941	0.035	2	-0.059	-3.0			1.916	1.965		
Fe		2	0.024	0.017	70					0.012	0.036		
K		2	-1.126	0.006	0					-1.130	-1.122		
La	1.000	2	0.951	0.013	1	-0.049	-4.9			0.942	0.960		
Li		2	0.002	0.001	47					0.001	0.002		
Mg		2	-0.036	0.001	-4					-0.035	-0.037		
Mn		2	0.000	0.000	481					0.000	0.000		
Mo		2	0.011	0.000	5					0.011	0.010		
Na		2	0.169	0.003	2					0.171	0.167		
Nd	2.000	2	1.917	0.027	1	-0.083	-4.1			1.898	1.937		
Ni		2	0.105	0.043	40					0.075	0.135		
P		2	0.094	0.006	7					0.090	0.099		
Pb		2	0.261	0.001	1					0.262	0.260		
Pd	2.000	2	1.924	0.059	3	-0.076	-3.8			1.965	1.882		
Rh	2.000	2	1.969	0.000	0	-0.031	-1.6			1.969	1.968		
Ru	2.000	2	2.049	0.011	1	0.049	2.4			2.041	2.057		
Sb		2	0.141	0.009	7					0.148	0.134		
Se		2	0.089	0.014	15					0.099	0.079		
Si		2	16.851	3.599	21					14.306	19.395		
Sn	2.000	2	2.116	0.023	1	0.116	5.8			2.100	2.133		
Sr		2	0.003	0.000	6					0.003	0.003		
Te	2.000	2	2.003	0.010	0	0.003	0.2			1.996	2.010		
Th	10.000	2	3.742	1.180	32	-6.258	-62.6		-	2.907	4.577		
Ti		2	0.005	0.000	4					0.005	0.005		
Tl		2	0.044	0.004	9					0.041	0.046		
U	25.000	2	23.429	0.240	1	-1.571	-6.3			23.260	23.599		
V		2	0.003	0.000	16					0.003	0.002		
W	2.000	2	1.961	0.025	1	-0.039	-2.0			1.943	1.978		
Y	1.000	2	0.918	0.028	3	-0.082	-8.2		-	0.898	0.937		
Zn		2	0.004	0.002	65					0.002	0.006		
Zr		2	-0.020	0.001	-6					-0.019	-0.021		
TIME		2	#######	0.000	0					########	########		

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

									QC_SRM-1643d		M-1643d 108518		
										A0075	A0075		
										2/20/96	2/20/96		
Statistical Summary for 'QC_SRM-1643d 108518'										09:41	13:25		
(NIST:SRM1643d)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	2669	2715		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag	0.001	2	0.003	0.001	40	0.002	162.2	+		0.002	0.004		
Al	0.128	2	0.168	0.029	17	0.040	31.6	+		0.189	0.147		
As	0.056	2	0.070	0.001	2	0.014	24.4	+		0.069	0.071		
B	0.145	2	0.193	0.028	15	0.048	33.0	+		0.172	0.213		
Ba	0.507	2	0.523	0.001	0	0.016	3.2			0.523	0.522		
Be	0.013	2	0.012	0.000	1	0.000	-1.1			0.012	0.012		
Bi	0.013	2	0.070	0.017	25	0.057	439.4	+		0.082	0.058		
Ca	31.050	2	31.161	0.176	1	0.111	0.4			31.036	31.285		
Cd	0.006	2	0.016	0.010	63	0.010	150.5	+		0.009	0.023		
Ce		2	0.018	0.016	88					0.007	0.030		
Co	0.025	2	0.028	0.002	7	0.003	11.4	+		0.026	0.029		
Cr	0.019	2	0.021	0.000	2	0.002	11.8	+		0.022	0.021		
Cu	0.021	2	0.016	0.002	10	-0.004	-20.4		-	0.015	0.017		
Dy		2	0.002	0.003	114					0.000	0.004		
Eu		2	0.002	0.001	37					0.001	0.003		
Fe	0.091	2	0.114	0.031	27	0.022	24.5	+		0.135	0.092		
K	2.356	2	2.347	0.034	1	-0.009	-0.4			2.370	2.323		
La		2	0.018	0.003	16					0.020	0.016		
Li	0.017	2	0.021	0.002	12	0.005	29.3	+		0.020	0.023		
Mg	7.989	2	8.691	0.044	1	0.702	8.8			8.660	8.723		
Mn	0.038	2	0.039	0.001	1	0.002	4.6			0.039	0.040		
Mo	0.113	2	0.118	0.003	3	0.005	4.2			0.115	0.120		
Na	22.070	2	22.413	0.168	1	0.343	1.6			22.294	22.533		
Nd		2	0.028	0.015	55					0.017	0.039		
Ni	0.058	2	0.126	0.037	29	0.068	117.0	+		0.152	0.100		
P		2	0.067	0.022	33					0.083	0.052		
Pb	0.018	2	0.030	0.014	47	0.011	62.6	+		0.020	0.039		
Pd		2	0.060	0.047	79					0.026	0.093		
Rh		2	0.024	0.020	83					0.010	0.038		
Ru		2	0.009	0.008	86					0.004	0.015		
Sb	0.054	2	0.087	0.012	14	0.033	60.1	+		0.078	0.095		
Se	0.011	2	0.043	0.013	30	0.032	280.5	+		0.034	0.053		
Si	2.700	2	3.635	0.035	1	0.935	34.6	+		3.660	3.610		
Sn		2	0.039	0.040	103					0.010	0.067		
Sr	0.295	2	0.307	0.002	1	0.012	4.2			0.305	0.309		
Te	0.001	2	0.027	0.009	33	0.026	2613.0	+		0.021	0.033		
Th		2	-0.011	0.000	-2					-0.011	-0.011		
Ti		2	0.001	0.001	65					0.001	0.002		
Tl	0.007	2	0.025	0.008	31	0.018	247.3	+		0.020	0.031		
U		2	0.522	0.144	28					0.420	0.624		
V	0.035	2	0.037	0.002	4	0.002	4.5			0.036	0.038		
W		2	0.012	0.004	38					0.009	0.015		
Y		2	0.001	0.001	41					0.001	0.002		
Zn	0.072	2	0.075	0.002	2	0.003	3.5			0.074	0.076		
Zr		2	0.002	0.001	73					0.001	0.003		
TIME		2	#######	0.000	0					########	########		

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										ICP1.0 960103	.0 960103	.0 960103	.0 960103
										A0075	A0075	A0075	A0075
										2/20/96	2/20/96	2/20/96	2/20/96
Statistical Summary for 'ICP1.0 960103F100'										09:23	09:49	10:25	10:49
(ICP1.0 "Blank")										CONC	CONC	CONC	CONC
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	1381	1427	1473	1519
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)	(ug/mL)	(ug/mL)
Ag		7	0.002	0.001	49					0.000	0.002	0.001	0.002
Al		7	0.017	0.011	63					0.001	0.009	0.015	0.015
As		7	0.007	0.007	99					0.006	-0.004	0.004	0.005
B		7	-0.001	0.032	-2517					0.027	-0.003	0.006	-0.042
Ba		7	0.001	0.001	76					0.000	0.001	0.001	0.001
Be		7	0.000	0.000	143					0.000	0.001	0.000	0.000
Bi		7	0.020	0.013	63					0.034	0.008	0.025	0.021
Ca		7	-0.005	0.010	-203					-0.017	-0.005	0.005	-0.005
Cd		7	0.015	0.017	118					0.021	0.005	-0.005	-0.001
Ce		7	0.010	0.011	107					-0.006	-0.002	0.007	0.014
Co		7	0.002	0.001	84					-0.001	0.001	0.002	0.002
Cr		7	-0.001	0.001	-144					-0.001	-0.001	-0.002	0.000
Cu		7	0.000	0.001	314					-0.002	0.001	-0.001	0.002
Dy		7	0.001	0.002	135					-0.002	0.000	0.001	0.001
Eu		7	0.001	0.001	68					0.000	0.000	0.001	0.001
Fe		7	0.000	0.008	-18771					-0.007	-0.004	0.008	0.002
K		7	-0.076	0.195	-258					-0.371	-0.111	0.253	-0.055
La		7	0.005	0.002	51					0.000	0.003	0.005	0.005
Li		7	0.002	0.001	64					0.000	0.003	0.001	0.002
Mg		7	0.004	0.015	342					-0.017	-0.005	0.014	0.008
Mn		7	-0.001	0.000	-41					-0.002	0.000	-0.001	-0.001
Mo		7	0.002	0.002	83					-0.001	0.003	0.002	0.002
Na		7	0.043	0.025	59					-0.007	0.028	0.062	0.058
Nd		7	0.009	0.009	102					-0.006	0.002	0.006	0.010
Ni		7	-0.001	0.012	-876					-0.006	0.021	-0.004	-0.006
P		7	0.011	0.018	159					0.000	-0.004	-0.012	0.012
Pb		7	0.004	0.008	195					-0.008	0.003	-0.004	0.002
Pd		7	0.046	0.027	57					0.007	0.019	0.036	0.051
Rh		7	0.015	0.012	77					-0.004	0.004	0.013	0.018
Ru		7	0.008	0.004	57					0.002	0.003	0.005	0.009
Sb		7	0.009	0.009	104					0.000	-0.008	0.012	0.014
Se		7	0.021	0.011	53					0.004	0.008	0.017	0.024
Si		7	0.533	0.619	116					1.806	0.245	0.573	0.096
Sn		7	0.035	0.029	84					-0.002	0.014	0.004	0.044
Sr		7	0.001	0.001	105					0.000	0.003	0.001	0.001
Te		7	0.019	0.007	40					0.009	0.017	0.011	0.018
Th		7	-0.003	0.002	-86					0.000	-0.001	-0.007	-0.002
Ti		7	0.001	0.001	167					-0.001	-0.001	0.001	0.001
Tl		7	0.016	0.009	53					0.013	0.006	0.010	0.012
U		7	0.188	0.145	77					-0.066	0.068	0.183	0.211
V		7	0.001	0.001	91					-0.001	0.001	0.001	0.002
W		7	0.006	0.005	84					0.000	0.005	-0.001	0.007
Y		7	0.000	0.000	107					0.000	0.000	0.000	0.001
Zn		7	-0.002	0.000	-20					-0.003	-0.002	-0.002	-0.002
Zr		7	0.001	0.002	262					-0.002	-0.002	0.001	0.001
TIME		7	#######	0.000	0					########	########	########	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

.0 960103	.0 960103	.0 960103
A0075	A0075	A0075
2/20/96	2/20/96	2/20/96
11:53	12:34	13:34
CONC	CONC	CONC
1565	1611	1657
(ug/mL)	*(ug/mL)*	*(ug/mL)*
0.002	0.003	0.002
0.021	0.035	0.024
0.010	0.012	0.020
-0.047	0.031	0.020
0.001	0.001	0.001
0.000	0.000	0.000
-0.002	0.030	0.025
-0.010	0.011	-0.012
0.043	0.029	0.011
0.016	0.025	0.017
0.003	0.003	0.003
-0.002	0.001	-0.001
0.001	0.001	0.001
0.003	0.003	0.003
0.001	0.001	0.001
-0.005	0.013	-0.008
-0.047	0.024	-0.221
0.007	0.006	0.007
0.001	0.003	0.002
0.000	0.028	0.002
-0.001	-0.001	-0.001
0.001	0.003	0.003
0.048	0.066	0.048
0.016	0.021	0.016
-0.011	-0.011	0.008
0.017	0.039	0.027
0.011	0.014	0.013
0.070	0.069	0.074
0.025	0.026	0.025
0.009	0.013	0.012
0.013	0.016	0.017
0.031	0.028	0.032
0.064	0.772	0.176
0.051	0.074	0.060
0.000	0.001	0.001
0.022	0.031	0.022
-0.002	-0.003	-0.002
0.001	0.002	0.001
0.020	0.022	0.031
0.298	0.357	0.266
0.002	0.003	0.002
0.008	0.010	0.013
0.001	0.001	0.001
-0.003	-0.002	-0.002
0.001	0.004	0.001
########	########	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										MCVA @2	MCVA @2	MCVA @2
										A0075	A0075	A0075
										2/20/96	2/20/96	2/20/96
Statistical Summary for 'MCVA @2'										10:05	11:06	12:14
(MCVA @2 Post Digestion Spike)										CONC	CONC	CONC
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	*High*	*Low*	1703	1749	1795
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)	(ug/mL)
Ag	0.250	3	0.258	0.005	2	0.008	3.2			0.263	0.257	0.254
Al	5.000	3	5.063	0.129	3	0.063	1.3			5.205	5.027	4.956
As	1.250	3	1.362	0.029	2	0.112	9.0	+		1.395	1.350	1.341
B	1.000	3	1.011	0.042	4	0.011	1.1			1.057	0.999	0.976
Ba	0.250	3	0.256	0.008	3	0.006	2.4			0.264	0.254	0.249
Be	0.050	3	0.049	0.001	3	-0.001	-1.4			0.051	0.049	0.048
Bi	12.500	3	12.533	0.345	3	0.033	0.3			12.913	12.447	12.239
Ca	12.500	3	12.641	0.318	3	0.141	1.1			12.992	12.556	12.374
Cd	0.250	3	0.284	0.038	13	0.034	13.7	+		0.250	0.277	0.326
Ce		3	0.014	0.014	104					-0.002	0.019	0.025
Co	0.500	3	0.525	0.012	2	0.025	5.0			0.538	0.521	0.516
Cr	0.500	3	0.519	0.011	2	0.019	3.7			0.532	0.514	0.511
Cu	0.500	3	0.475	0.016	3	-0.025	-5.1			0.492	0.471	0.461
Dy		3	0.002	0.002	106					-0.001	0.003	0.004
Eu		3	0.002	0.001	35					0.001	0.002	0.002
Fe	10.000	3	10.464	0.292	3	0.464	4.6			10.787	10.385	10.219
K	12.500	3	13.442	1.069	8	0.942	7.5	+		14.380	13.669	12.278
La		3	0.008	0.004	49					0.004	0.009	0.011
Li	1.000	3	1.007	0.035	3	0.007	0.7			1.046	0.998	0.978
Mg	15.600	3	16.924	0.458	3	1.324	8.5	+		17.433	16.793	16.545
Mn	0.250	3	0.260	0.007	3	0.010	4.0			0.268	0.258	0.254
Mo	0.500	3	0.524	0.013	2	0.024	4.7			0.538	0.520	0.513
Na	18.350	3	18.981	0.561	3	0.631	3.4			19.609	18.806	18.529
Nd		3	0.018	0.014	77					0.002	0.023	0.029
Ni	0.500	3	0.513	0.018	4	0.013	2.6			0.533	0.506	0.499
P	2.500	3	2.515	0.063	3	0.015	0.6			2.583	2.502	2.458
Pb	1.250	3	1.314	0.025	2	0.064	5.1			1.342	1.302	1.296
Pd		3	0.044	0.036	82					0.006	0.050	0.078
Rh		3	0.020	0.015	75					0.003	0.025	0.032
Ru		3	0.016	0.008	49					0.008	0.017	0.024
Sb	1.250	3	1.673	0.028	2	0.423	33.8	+		1.703	1.670	1.646
Se	1.250	3	1.347	0.014	1	0.097	7.7			1.363	1.338	1.339
Si	10.000	3	9.748	0.237	2	-0.252	-2.5			10.013	9.673	9.557
Sn		3	0.127	0.032	26					0.093	0.129	0.158
Sr	0.250	3	0.261	0.007	3	0.011	4.4			0.269	0.259	0.255
Te		3	0.048	0.005	11					0.041	0.050	0.051
Th		3	0.018	0.002	12					0.018	0.020	0.016
Ti	0.500	3	0.510	0.014	3	0.010	1.9			0.525	0.506	0.498
Tl	1.250	3	1.305	0.027	2	0.055	4.4			1.334	1.296	1.283
U		3	0.297	0.183	62					0.091	0.359	0.441
V	0.500	3	0.509	0.014	3	0.009	1.9			0.525	0.505	0.498
W		3	0.024	0.010	43					0.013	0.034	0.026
Y		3	0.001	0.000	35					0.001	0.002	0.002
Zn	0.500	3	0.521	0.009	2	0.021	4.2			0.532	0.519	0.513
Zr	1.000	3	1.017	0.028	3	0.017	1.7			1.048	1.009	0.995
TIME		3	#######	0.000	0					########	########	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										MCVB1 @	CVB1 @	CVB1 @2
										A0075	A0075	A0075
										2/20/96	2/20/96	2/20/96
Statistical Summary for 'MCVB1 @2'										10:13	11:13	12:24
(MCVB @2 Post Digestion Spike)										CONC	CONC	CONC
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	1841	1887	1933
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)	(ug/mL)
Ag		3	0.004	0.001	19					0.004	0.003	0.004
Al		3	-0.016	0.045	-287					-0.046	-0.038	0.036
As		3	0.175	0.014	8					0.163	0.172	0.191
B		3	-0.008	0.005	-62					-0.009	-0.012	-0.002
Ba		3	0.001	0.000	27					0.001	0.001	0.001
Be		3	0.001	0.000	4					0.001	0.001	0.001
Bi		3	0.062	0.006	9					0.068	0.060	0.057
Ca		3	0.006	0.008	123					0.001	0.003	0.015
Cd		3	0.024	0.027	115					-0.005	0.049	0.026
Ce	1.000	3	0.981	0.010	1	-0.019	-1.9			0.981	0.991	0.970
Co		3	0.002	0.001	45					0.001	0.003	0.003
Cr		3	0.002	0.001	30					0.002	0.002	0.003
Cu		3	0.010	0.001	10					0.009	0.011	0.010
Dy	1.000	3	0.980	0.014	1	-0.020	-2.0			0.987	0.989	0.964
Eu	1.000	3	0.983	0.015	2	-0.017	-1.7			0.991	0.992	0.965
Fe		3	0.003	0.001	41					0.004	0.002	0.003
K		3	0.350	0.574	164					0.743	-0.308	0.616
La	0.500	3	0.487	0.005	1	-0.013	-2.7			0.487	0.491	0.482
Li		3	0.001	0.001	49					0.000	0.001	0.001
Mg		3	-0.023	0.011	-46					-0.031	-0.027	-0.011
Mn		3	0.000	0.000	-68					-0.001	-0.001	0.000
Mo		3	0.006	0.001	11					0.005	0.006	0.007
Na		3	0.114	0.031	27					0.094	0.098	0.150
Nd	1.000	3	0.977	0.008	1	-0.023	-2.3			0.977	0.984	0.968
Ni		3	0.054	0.021	38					0.077	0.048	0.037
P		3	0.068	0.015	22					0.054	0.068	0.083
Pb		3	0.145	0.002	1					0.143	0.147	0.144
Pd	1.000	3	1.026	0.027	3	0.026	2.6			0.998	1.028	1.053
Rh	1.000	3	1.017	0.007	1	0.017	1.7			1.014	1.025	1.012
Ru	1.000	3	1.057	0.013	1	0.057	5.7			1.061	1.067	1.042
Sb		3	0.076	0.009	12					0.066	0.078	0.083
Se		3	0.066	0.008	12					0.056	0.070	0.070
Si		3	9.220	0.619	7					9.926	8.777	8.956
Sn	1.000	3	1.128	0.010	1	0.128	12.8	+		1.124	1.140	1.122
Sr		3	0.001	0.000	8					0.001	0.001	0.001
Te	1.000	3	1.045	0.017	2	0.045	4.5			1.043	1.062	1.029
Th	5.000	3	1.493	0.030	2	-3.507	-70.1		-	1.512	1.510	1.458
Ti		3	0.003	0.000	17					0.002	0.003	0.003
Tl		3	0.029	0.010	35					0.025	0.022	0.041
U	12.500	3	12.055	0.157	1	-0.445	-3.6			12.129	12.161	11.875
V		3	0.002	0.001	38					0.002	0.002	0.003
W	1.000	3	0.998	0.010	1	-0.002	-0.2			1.000	1.006	0.987
Y	0.500	3	0.462	0.008	2	-0.038	-7.5			0.467	0.467	0.453
Zn		3	0.001	0.000	57					0.000	0.001	0.001
Zr		3	-0.011	0.001	-10					-0.011	-0.012	-0.009
TIME		3	#######	0.000	0					########	########	########

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										QC SSTMCV 951	MCV 9512081903		
										A0075	A0075		
										2/20/96	2/20/96		
Statistical Summary for 'QC SSTMCV 9512081903'										09:37	13:21		
("QC-SSTMCV" SST Midrange Cal. Check Std.)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	2163	2209		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag	0.500	2	0.514	0.001	0	0.014	2.8			0.515	0.513		
Al	5.000	2	5.124	0.192	4	0.124	2.5			5.259	4.988		
As	2.000	2	2.151	0.008	0	0.151	7.6			2.146	2.157		
B		2	0.135	0.080	59					0.079	0.191		
Ba	0.100	2	0.102	0.001	1	0.002	2.5			0.103	0.102		
Be	0.100	2	0.099	0.001	1	-0.001	-1.3			0.100	0.098		
Bi	1.500	2	1.699	0.158	9	0.199	13.2	+		1.811	1.587		
Ca	1.000	2	1.160	0.192	17	0.160	16.0	+		1.295	1.024		
Cd	0.200	2	0.198	0.015	8	-0.002	-0.9			0.188	0.209		
Ce		2	0.013	0.010	75					0.006	0.021		
Co		2	0.001	0.001	177					0.000	0.002		
Cr	0.300	2	0.314	0.002	1	0.014	4.5			0.315	0.312		
Cu		2	-0.003	0.002	-60					-0.005	-0.002		
Dy		2	0.003	0.002	87					0.001	0.004		
Eu		2	0.008	0.000	2					0.008	0.008		
Fe	0.500	2	0.659	0.162	25	0.159	31.7	+		0.773	0.544		
K	50.000	2	49.238	1.497	3	-0.762	-1.5			50.297	48.180		
La		2	0.041	0.034	83					0.064	0.017		
Li		2	0.003	0.001	28					0.002	0.003		
Mg		2	-0.057	0.017	-30					-0.069	-0.045		
Mn	0.100	2	0.104	0.001	1	0.004	3.5			0.104	0.103		
Mo		2	0.007	0.002	30					0.005	0.008		
Na	5.000	2	5.185	0.022	0	0.185	3.7			5.200	5.170		
Nd		2	0.014	0.010	74					0.007	0.021		
Ni	0.500	2	0.803	0.145	18	0.303	60.5	+		0.905	0.700		
P	4.000	2	4.119	0.190	5	0.119	3.0			4.254	3.985		
Pb	3.000	2	3.115	0.006	0	0.115	3.8			3.119	3.111		
Pd		2	-0.009	0.022	-231					-0.025	0.006		
Rh		2	0.012	0.019	155					-0.001	0.026		
Ru		2	0.014	0.004	26					0.012	0.017		
Sb	2.000	2	2.697	0.011	0	0.697	34.8	+		2.689	2.705		
Se	2.500	2	2.623	0.002	0	0.123	4.9			2.624	2.622		
Si	3.000	2	5.409	0.055	1	2.409	80.3	+		5.370	5.448		
Sn		2	0.092	0.031	34					0.070	0.114		
Sr		2	0.002	0.000	15					0.002	0.002		
Te		2	0.034	0.003	10					0.032	0.037		
Th		2	0.072	0.008	11					0.067	0.078		
Ti		2	0.001	0.001	111					0.000	0.001		
Tl		2	0.024	0.007	28					0.019	0.029		
U	20.000	2	20.139	0.240	1	0.139	0.7			20.309	19.969		
V	0.500	2	0.512	0.004	1	0.012	2.4			0.515	0.509		
W		2	0.031	0.007	24					0.036	0.025		
Y		2	0.001	0.000	21					0.001	0.001		
Zn		2	-0.002	0.000	-2					-0.002	-0.002		
Zr	0.500	2	0.506	0.002	0	0.006	1.1			0.507	0.504		
TIME	10000	2	#######	0.000	0	0.000	0.0			########	########		

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Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										QC SSTA 9512	STA 9512081902		
										A0075	A0075		
										2/20/96	2/20/96		
Statistical Summary for 'QC SSTA 9512081902'										09:33	13:18		
("QC-SSTA" Interference Check Std.)										CONC	CONC		
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	***High***	***Low***	2071	2117		
	(ug/mL)		(ug/mL)	(ug/mL)	(%)	(ug/mL)	(%)	(>110%)	(<90%)	(ug/mL)	(ug/mL)		
Ag		2	-0.027	0.000	-1					-0.027	-0.027		
Al	250.0	2	248.968	2.522	1	-1.032	-0.4			250.751	247.184		
As		2	0.687	0.014	2					0.677	0.697		
B		2	0.345	0.051	15					0.309	0.382		
Ba		2	0.010	0.000	1					0.010	0.010		
Be		2	0.001	0.000	1					0.001	0.001		
Bi	200.0	2	195.660	2.555	1	-4.340	-2.2			197.467	193.853		
Ca	250.0	2	245.212	2.225	1	-4.788	-1.9			246.785	243.639		
Cd		2	0.072	0.007	10					0.067	0.077		
Ce		2	0.105	0.002	2					0.104	0.106		
Co		2	0.017	0.001	6					0.017	0.018		
Cr		2	0.280	0.002	1					0.278	0.281		
Cu		2	-0.150	0.002	-1					-0.152	-0.149		
Dy		2	0.024	0.001	2					0.024	0.025		
Eu		2	0.087	0.002	3					0.089	0.086		
Fe	200.0	2	197.919	2.385	1	-2.081	-1.0			199.606	196.232		
K	100.0	2	99.310	3.235	3	-0.690	-0.7			101.598	97.023		
La	50.0	2	49.945	0.511	1	-0.055	-0.1			50.306	49.583		
Li		2	0.036	0.000	1					0.035	0.036		
Mg		2	-0.576	0.136	-24					-0.672	-0.480		
Mn		2	0.020	0.000	1					0.019	0.020		
Mo		2	0.116	0.001	1					0.116	0.117		
Na		2	0.866	0.009	1					0.873	0.860		
Nd		2	0.169	0.008	5					0.163	0.175		
Ni	200.0	2	191.345	0.909	0	-8.655	-4.3			191.988	190.703		
P	200.0	2	197.360	3.743	2	-2.640	-1.3			200.007	194.713		
Pb		2	1.029	0.003	0					1.031	1.027		
Pd		2	0.342	0.108	32					0.418	0.265		
Rh		2	0.136	0.020	14					0.122	0.150		
Ru		2	0.232	0.047	20					0.199	0.265		
Sb		2	0.776	0.002	0					0.775	0.778		
Se		2	1.659	0.007	0					1.665	1.654		
Si		2	8.479	1.368	16					9.447	7.512		
Sn		2	1.913	0.018	1					1.900	1.926		
Sr		2	0.019	0.000	1					0.020	0.019		
Te		2	0.643	0.002	0					0.644	0.641		
Th		2	0.689	0.120	17					0.604	0.774		
Ti		2	0.004	0.001	16					0.004	0.005		
Tl		2	0.428	0.016	4					0.417	0.440		
U	200.0	2	198.185	3.237	2	-1.815	-0.9			200.474	195.897		
V		2	0.048	0.003	6					0.046	0.050		
W		2	0.524	0.012	2					0.532	0.515		
Y		2	0.025	0.001	4					0.026	0.024		
Zn		2	0.013	0.000	4					0.013	0.013		
Zr		2	-0.005	0.009	-186					0.002	-0.012		
TIME		2	#######	0.000	0					########	########		

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Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

										2796.4	3371.5	6551.7	
Statistical Summary for 'SRM 2709'										SRM 2709	SRM 2709	SRM 2709	
(LCS-1 @5 [SRM-2709] ~.15g/100ml)										*LCS BX112/*	*LCS BX112/*	*LCS/BX104/45dev*	
	TRUE	***N***	***Average***	***S.Dev***	***%RSD***	***Bias***	***Bias***	*High*	*Low*	2/20/96	2/20/96	2/20/96	
	(ug/g)		(ug/g)	(ug/g)	(%)	(ug/g)	(%)	(>125%)	(<75%)	ug/g	ug/g	ug/g	
Ag	0.410	0								--	--	--	
Al	75000	3	69982.7	2225.3	3.2	-5017.3	-6.7			71237.64	67413.39	71297.22	
As	17.700	3	459.2	86.2	18.8	441.5	2494.5		-	[377.63]	[450.71]	[549.36]	
B		0								--	--	--	
Ba	968.0	3	862.7	25.7	3.0	-105.3	-10.9			882.07	833.48	872.44	
Be		0								--	--	--	
Bi		0								--	--	--	
Ca	18900	3	20255.5	1837.2	9.1	1355.5	7.2			19701.87	18768.73	22306.89	
Cd	0.380	0								--	--	--	
Ce		0								--	--	--	
Co	13.400	0								--	--	--	
Cr	130.0	3	192.2	21.0	10.9	62.2	47.9		-	[180.48]	[179.74]	[216.51]	
Cu	34.600	0								--	--	--	
Dy		0								--	--	--	
Eu		0								--	--	--	
Fe	35000	3	33415.2	1019.4	3.1	-1584.8	-4.5			33891.47	32244.88	34109.31	
La		0								--	--	--	
Li		0								--	--	--	
Mg	15100	3	15280.4	502.3	3.3	180.4	1.2			15656.66	14700.71	15684.90	
Mn	538.0	3	779.1	17.7	2.3	241.1	44.8		-	[767.00]	[799.36]	[770.86]	
Mo		0								--	--		
Na	11600	3	15152.0	854.6	5.6	3552.0	30.6	+		14636.16	14681.32	16138.39	
Nd		0								--	--	--	
P	620.0	2	922.7	52.4	5.7	302.7	48.8		-	[885.60]	[959.71]	--	
Pb	18.900	3	523.2	143.8	27.5	504.3	2668.2		-	[414.12]	[469.29]	[686.19]	
Pd		0								--	--	--	
Rh		0								--	--	--	
Ru		0								--	--	--	
Sb	7.900	2	346.5	24.8	7.2	338.6	4285.9		-	[328.94]	[364.03]	--	
Se	1.570	3	676.8	151.9	22.5	675.2	#####		-	[564.29]	[616.39]	[849.62]	
Si	296600	3	266081.3	######	4.1	######	-10.3			256778.36	254774.38	276691.09	
Sn		0								--	--	--	
Sr	231.0	3	230.4	9.5	4.1	-0.6	-0.3		-	[231.60]	[220.40]	[239.19]	
Te		0								--	--	--	
Th		0								--	--	--	
Ti	3420.0	3	2845.5	121.8	4.3	-574.5	-16.8			2966.19	2847.67	2722.67	
Tl	0.740	0								--	--	--	
U		0								--	--	--	
V	112.0	3	146.2	18.0	12.3	34.2	30.5		-	[133.36]	[138.40]	[166.69]	
W		0								--	--	--	
Y		0								--	--	--	
Zn	106.0	3	216.6	171.7	79.3	110.6	104.3		-	[120.22]	[114.70]	[414.73]	
Zr		0								--	--	--	

Due to HIGH Na BLANK FROM HOT cell
Other 2709's Prep'd in SRPL
Mulla
Subs. Na Blank Then Na = 12,100

Battelle PNNL/ACL/Inorganic Analysis Group ... ICPAES

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A#475
ICP-325-V05-1
2/20/96 DRS

	#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
	1	SPC-BLK 108447	A0075	ICP1A	02/20/96	08:31	DRS	S	INT
	2	SPC-BLK 108447	A0075	ICP1A	02/20/96	08:31	DRS	S	CONC
	3	SPC-STD 960103I100	A0075	ICP1A	02/20/96	08:34	DRS	S	INT
	4	SPC-STD 960103I100	A0075	ICP1A	02/20/96	09:34	DRS	S	CONC
	5	ICP1.0	A0075	ICP1A	02/20/96	08:43		X	IR
	6	ICP1.1B	A0075	ICP1A	02/20/96	08:45		X	IR
	7	ICP1.1A	A0075	ICP1A	02/20/96	08:48		X	IR
	8	ICP1.2	A0075	ICP1A	02/20/96	08:52		X	IR
	9	ICP1.3	A0075	ICP1A	02/20/96	08:55		X	IR
	10	ICP1.4	A0075	ICP1A	02/20/96	08:59		X	IR
	11	ICP1.5	A0075	ICP1A	02/20/96	09:03		X	IR
	12	ICP1.6	A0075	ICP1A	02/20/96	09:06		X	IR
	13	ICP1.7	A0075	ICP1A	02/20/96	09:10		X	IR
	14	ICP1.8	A0075	ICP1A	02/20/96	09:14		X	IR
	15	ICP1.0 960103F100	A0075	ICP1A	02/20/96	09:23	DRS	S	CONC
Pass*	16	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	09:25	DRS	Q	CONC
PASS	17	QC_MCVB1 960123I901	A0075	ICP1A	02/20/96	09:29	DRS	Q	CONC
	18	QC SSTA 951208I902	A0075	ICP1A	02/20/96	09:33	DRS	S	CONC
	19	QC SSTMCV 951208I903	A0075	ICP1A	02/20/96	09:37	DRS	S	CONC
	20	QC_SRM-1643d 108518	A0075	ICP1A	02/20/96	09:41	DRS	Q	CONC
	21	QC CCV1 960126H901	A0075	ICP1A	02/20/96	09:45	DRS	S	CONC
	22	ICP1.0 960103F100	A0075	ICP1A	02/20/96	09:49	DRS	S	CONC
	23	96-2606-BLK	A0075	ICP1A	02/20/96	09:51	DRS	S	CONC
	24	96-2606 @5	A0075	ICP1A	02/20/96	09:54	DRS	S	CONC
	25	96-2606	A0075	ICP1A	02/20/96	09:58	DRS	S	CONC
	26	96-2606-PS-A	A0075	ICP1A	02/20/96	10:02	DRS	S	CONC
	27	MCVA @2	A0075	ICP1A	02/20/96	10:05	DRS	S	CONC
	28	96-2606-PS-B	A0075	ICP1A	02/20/96	10:09	DRS	S	CONC
	29	MCVB1 @2	A0075	ICP1A	02/20/96	10:13	DRS	S	CONC
	30	96-2606 DUP	A0075	ICP1A	02/20/96	10:16	DRS	S	CONC
Pass*	31	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	10:21	DRS	Q	CONC
	32	ICP1.0 960103F100	A0075	ICP1A	02/20/96	10:25	DRS	S	CONC
	33	96-2608	A0075	ICP1A	02/20/96	10:28	DRS	S	CONC
	34	96-2608 DUP	A0075	ICP1A	02/20/96	10:31	DRS	S	CONC
	35	SRM 2709 (LCS BX112/C118-2)	A0075	ICP1A	02/20/96	10:34	DRS	S	CONC
Pass*	36	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	10:44	DRS	Q	CONC
	37	ICP1.0 960103F100	A0075	ICP1A	02/20/96	10:49	DRS	S	CONC
	38	96-2612-BLK	A0075	ICP1A	02/20/96	10:51	DRS	S	CONC
	39	96-2612 @5	A0075	ICP1A	02/20/96	10:55	DRS	S	CONC
	40	96-2612	A0075	ICP1A	02/20/96	10:58	DRS	S	CONC
	41	96-2612-PS-A	A0075	ICP1A	02/20/96	11:02	DRS	S	CONC
	42	MCVA @2	A0075	ICP1A	02/20/96	11:06	DRS	S	CONC
	43	96-2612-PS-B	A0075	ICP1A	02/20/96	11:09	DRS	S	CONC
	44	MCVB1 @2	A0075	ICP1A	02/20/96	11:13	DRS	S	CONC
	45	96-2612 DUP	A0075	ICP1A	02/20/96	11:16	DRS	S	CONC
Pass*	46	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	11:21	DRS	Q	CONC
	47	96-2614	A0075	ICP1A	02/20/96	11:25	DRS	S	CONC
	48	96-2614 DUP	A0075	ICP1A	02/20/96	11:29	DRS	S	CONC
	49	96-2616	A0075	ICP1A	02/20/96	11:32	DRS	S	CONC
	50	96-2616 DUP	A0075	ICP1A	02/20/96	11:37	DRS	S	CONC
	51	SRM 2709 (LCS BX112/C119-2)	A0075	ICP1A	02/20/96	11:41	DRS	S	CONC
Pass*	52	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	11:49	DRS	Q	CONC
	53	ICP1.0 960103F100	A0075	ICP1A	02/20/96	11:53	DRS	S	CONC

* Sb-N/A
⊗ Th, Y-N/A
PS-A Post spike MCVA: sample (1:1)
PS-B Post spike MCVB1: sample (1:1)

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	#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
	54	96-2979-BLK	A0075	ICP1A	02/20/96	11:59	DRS	S	CONC
	55	96-2979 @5	A0075	ICP1A	02/20/96	12:03	DRS	S	CONC
	56	96-2979	A0075	ICP1A	02/20/96	12:07	DRS	S	CONC
	57	96-2979-PS-A	A0075	ICP1A	02/20/96	12:10	DRS	S	CONC
	58	MCVA @2	A0075	ICP1A	02/20/96	12:14	DRS	S	CONC
	59	96-2979 DUP	A0075	ICP1A	02/20/96	12:18	DRS	S	CONC
	60	96-2979 DUP SPIKE-B	A0075	ICP1A	02/20/96	12:21	DRS	S	CONC
	61	MCVB1 @2	A0075	ICP1A	02/20/96	12:24	DRS	S	CONC
Pass*	62	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	12:30	DRS	Q	CONC
	63	ICP1.0 960103F100	A0075	ICP1A	02/20/96	12:34	DRS	S	CONC
	64	96-2982	A0075	ICP1A	02/20/96	12:36	DRS	S	CONC
	65	96-2982 DUP	A0075	ICP1A	02/20/96	12:40	DRS	S	CONC
	66	96-2984	A0075	ICP1A	02/20/96	12:44	DRS	S	CONC
	67	96-2984 DUP	A0075	ICP1A	02/20/96	12:47	DRS	S	CONC
	68	96-2985	A0075	ICP1A	02/20/96	12:51	DRS	S	CONC
	69	96-2985 DUP	A0075	ICP1A	02/20/96	12:54	DRS	S	CONC
	70	SRM 2709 (LCS/DX104/45Dwg)	A0075	ICP1A	02/20/96	12:58	DRS	S	CONC
5.01	71	U @5 PPM	A0075	ICP1A	02/20/96	13:01	DRS	S	CONC
48.7	72	U @50 PPM	A0075	ICP1A	02/20/96	13:05	DRS	S	CONC
Pass*	73	QC_MCVA 960130I901	A0075	ICP1A	02/20/96	13:10	DRS	Q	CONC
Pass*	74	QC_MCVB 960123I901	A0075	ICP1A	02/20/96	13:14	DRS	Q	CONC
	75	QC SSTA 951208I902	A0075	ICP1A	02/20/96	13:18	DRS	S	CONC
	76	QC SSTMCV 951208I903	A0075	ICP1A	02/20/96	13:21	DRS	S	CONC
	77	QC_SRM-1643d 108518	A0075	ICP1A	02/20/96	13:25	DRS	Q	CONC
	78	QC CCV1 960126H901	A0075	ICP1A	02/20/96	13:30	DRS	S	CONC
	79	ICP1.0 960103F100	A0075	ICP1A	02/20/96	13:34	DRS	S	CONC

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	SPC-BLK 108447	5787.33	1816	1363.33	1759.33	271	160
2	SPC-BLK 108447	-.0611	-.3790	-.2236	.0389	-.0139	-.0021
3	SPC-STD 960103I100	5854.67	1853.33	1399.33	1776	271.333	161
4	SPC-STD 960103I100	-.0587	-.3671	-.2073	.0409	-.0139	-.0020
5	ICP1.0	.5795	.18269	.13823	.16403	.0272	.01606
6	ICP1.1B					.70316	
7	ICP1.1A					6.6188	
8	ICP1.2		58.5051		35.5736		
9	ICP1.3						
10	ICP1.4			17.43			
11	ICP1.5						
12	ICP1.6						1.38446
13	ICP1.7	25.6993					
14	ICP1.8						
15	ICP1.0 960103F100	.0003	.0012	.0062	.0274	-.0003	.0000
16	QC_MCVA 960130I901	.5080	10.05	2.640	2.104	.5106	.0973
17	QC_MCVB1 960123I901	.0200	-.1402	.2986	-.0203	.0011	.0011
18	QC SSTA 951208I902	-.0274	250.8	.6775	.3093	.0100	.0006
19	QC SSTMCV 951208I903	.5151	5.259	2.146	.0790	.1031	.0997
20	QC_SRM-1643d 108518	0.0024	0.1896	0.0687	0.1725	.5233	0.0125
21	QC CCV1 960126H901	.0021	1.957	2.077	2.041	.9982	.9876
22	ICP1.0 960103F100	.0016	.0090	-.0042	-.0034	.0013	.0013
23	96-2608-BLK	.0091	.2728	.0603	.0172	.0037	.0008
24	96-2606 @5	.0036	.9576	.0183	-.0128	.0020	.0002
25	96-2606	.0093	4.504	.0392	.0023	.0075	.0003
26	96-2606-PS-A	.2569	7.437	1.422	1.042	.2592	.0511
27	MCVA @2	.2633	5.205	1.395	1.057	.2644	.0509
28	96-2606-PS-B	.0123	2.269	.2009	-.0212	.0049	.0007
29	MCVB @2	.0045	-.0460	.1631	-.0093	.0005	.0005
30	96-2606 DUP	.0080	5.813	.0590	.1984	.0083	.0003
31	QC_MCVA 960130I901	.5223	10.33	2.747	2.196	.5232	.0993
32	ICP1.0 960103F100	.0011	.0148	.0043	.0058	.0005	.0001
33	96-2608	.0077	3.571	.0494	.0279	.0075	.0003
34	96-2608 DUP	.0080	4.025	.0526	.0143	.0084	.0003
35	SRM 2709	.0079	25.47	.1350	.0232	.3154	.0025
36	QC_MCVA 960130I901	.5057	9.946	2.677	2.049	.5027	.0961
37	ICP1.0 960103F100	.0018	.0152	.0047	-.0418	.0006	.0001
38	96-2612-BLK	.0097	.2230	.0532	-.0236	.0041	.0003
39	96-2612 @5	.0055	1.745	.0208	-.0431	.0034	.0001
40	96-2612	.0103	8.180	.0789	-.0208	.0120	.0003
41	96-2612-PS-A	.2532	9.198	1.399	.9899	.2540	.0497
42	MCVA @2	.2568	5.027	1.350	.9987	.2539	.0489
43	96-2612-PS-B	.0092	4.209	.2230	-.0342	.0072	.0007
44	MCVB1 @2	.0031	-.0377	.1720	-.0115	.0008	.0006
45	96-2612 DUP	.0092	8.612	.0822	.2299	.0105	.0004
46	QC_MCVA 960130I901	.4962	9.738	2.597	2.055	.4903	.0931
47	96-2614	.0110	4.233	.0583	.0376	.0082	.0004
48	96-2614 DUP	.0099	5.286	.0736	.0286	.0087	.0004
49	96-2616	.0101	3.385	.0632	.0130	.0098	.0003
50	96-2616 DUP	.0104	3.341	.0550	-.0002	.0097	.0004
51	SRM 2709	.0108	19.99	.1337	.0086	.2472	.0020
52	QC_MCVA 960130I901	.5057	9.936	2.684	2.027	.5008	.0959
53	ICP1.0 960103F100	.0024	.0210	.0099	-.0474	.0006	.0001

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#	Sample Name	Ag	Al	As	B	Ba	Be
54	96-2979-BLK	.0068	.1163	.0457	-.0249	.0029	.0003
55	96-2979 @5	.0050	8.657	.0488	-.0511	.0024	.0002
56	96-2979	.0135	44.51	.1389	-.0333	.0085	.0004
57	96-2979-PS-A	.2495	27.51	1.410	.9726	.2501	.0487
58	MCVA @2	.2541	4.956	1.341	.9762	.2495	.0481
59	96-2979 DUP	.0164	63.27	.1698	-.0342	.0107	.0006
60	96-2979 DUP SPIKE-B	.0120	31.77	.2547	-.0405	.0063	.0008
61	MCVB1 @2	.0044	.0363	.1911	-.0023	.0009	.0005
62	QC_MCVA 960130I901	.4990	9.806	2.640	2.149	.4925	.0933
63	ICP1.0 960103F100	.0029	.0346	.0118	.0310	.0012	.0002
64	96-2982	.0056	70.81	.2128	.0385	.0082	.0004
65	96-2982 DUP	.0065	49.65	.1570	.0319	.0064	.0004
66	96-2984	.0237	23.05	.1188	.0122	.0192	.0007
67	96-2984 DUP	.0224	21.91	.1181	.0034	.0185	.0007
68	96-2985	.0191	56.63	.1511	-.0012	.0121	.0004
69	96-2985 DUP	.0179	71.83	.1990	-.0045	.0136	.0004
70	SRM 2709	.0092	10.72	.0826	-.0078	.1312	.0011
71	U @5 PPM	.0030	.0306	.0087	-.0308	.0012	.0001
72	U @50 PPM	-.0042	-.0697	.0312	-.0548	.0017	.0001
73	QC_MCVA 960130I901	.5046	9.943	2.675	2.015	.5010	.0959
74	QC_MCVB 960123I901	.0047	-.0681	.3459	-.0419	.0011	.0009
75	QC SSTA 951208I902	-.0270	247.2	.6969	.38.5	.0101	.0006
76	QC SSTMCV 951208I903	.5130	4.988	2.157	.1914	.1016	.0977
77	QC_SRM-1643d 108518	0.0043	0.1473	0.0707	0.2127	.5222	0.0123
78	QC CCV1 960126H901	.0026	1.948	2.134	2.067	.9828	.9720
79	ICP1.0 960103F100	.0022	.0236	.0195	.0196	.0008	.0003

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	SPC-BLK 108447	1258	1060.67	628.333	5587	1249	388
2	SPC-BLK 108447	-.2656	-.0957	.0091	-.4348	-.0519	-.0277
3	SPC-STD 960103I100	1478.33	1374.33	636	5586	1228.33	412.667
4	SPC-STD 960103I100	-.2584	-.0028	.0097	-.4352	-.0342	-.0237
5	ICP1.0	.12646	.1121	.0586	.55976	.12143	.04003
6	ICP1.1B					1.57659	1.01883
7	ICP1.1A					13.8839	9.38583
8	ICP1.2		67.2875	8.02693			
9	ICP1.3						
10	ICP1.4				19.7638		
11	ICP1.5						
12	ICP1.6						
13	ICP1.7	20.7437					
14	ICP1.8						
15	ICP1.0 960103F100	.0340	-.0166	.0209	-.0058	-.0008	-.0009
16	QC_MCVA 960130I901	24.82	28.04	.5027	-.0031	1.029	1.035
17	QC_MCVB1 960123I901	.1371	.0406	.0172	1.924	.0030	.0067
18	QC SSTA 951208I902	197.5	246.8	.0669	.1035	.0166	.2781
19	QC SSTMCV 951208I903	1.811	1.295	.1875	.0063	-.0002	.3147
20	QC_SRM-1643d 108518	.0324	31.04	0.0090	.0070	0.0265	0.0216
21	QC CCV1 960126H901	1.980	2.009	1.019	.0012	1.024	.5105
22	ICP1.0 960103F100	.0024	-.0054	.0051	-.0016	.0006	-.0009
23	96-2608-BLK	.0340	.4876	-.0052	.0525	.0167	.0076
24	96-2606 @5	.8591	.1056	.0007	.0280	.0051	.0500

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
25	96-2606	4.063	.5186	.0070	.0782	.0156	.2430
26	96-2606-PS-A	14.62	13.18	.2596	.0544	.5367	.6529
27	MCVA @2	12.91	12.99	.2502	-.0025	.5384	.5316
28	96-2606-PS-B	2.173	.2951	-.0048	1.020	.0118	.1256
29	MCVB @2	.0677	.0010	-.0049	.9805	.0013	.0016
30	96-2606 DUP	5.236	.5590	-.0095	.0795	.0165	.3169
31	QC_MCVA 960130I901	25.49	25.75	.5007	.0083	1.061	1.066
32	ICP1.0 960103F100	.0254	.0045	-.0054	.0070	.0017	-.0017
33	96-2608	5.151	.5411	-.0118	.0761	.0147	.4251
34	96-2608 DUP	5.680	.5388	.0041	.0797	.0151	.4657
35	SRM 2709	.0692	7.045	.0063	.0708	.0186	.0645
36	QC_MCVA 960130I901	24.57	24.83	.4881	.0152	1.025	1.026
37	ICP1.0 960103F100	.0206	-.0046	-.0009	.0145	.0018	-.0003
38	96-2612-BLK	.0527	.5605	-.0123	.0717	.0151	.0079
39	96-2612 @5	1.576	.1615	-.0043	.0492	.0064	.0823
40	96-2612	7.366	.6006	.0117	.1000	.0176	.3800
41	96-2612-PS-A	16.02	12.96	.2576	.0761	.5280	.7127
42	MCVA @2	12.45	12.56	.2768	.0191	.5210	.5139
43	96-2612-PS-B	3.870	.3338	.0132	1.029	.0127	.2015
44	MCVB1 @2	.0603	.0027	.0490	.9911	.0027	.0021
45	96-2612 DUP	7.479	.6177	.0315	.0955	.0168	.3867
46	QC_MCVA 960130I901	24.07	24.29	.4974	.0266	1.004	1.007
47	96-2614	5.011	.5056	.0226	.1010	.0170	.3435
48	96-2614 DUP	6.273	.5253	.0073	.1003	.0184	.4255
49	96-2616	5.837	.5429	.0013	.0981	.0178	.4390
50	96-2616 DUP	5.731	.5978	.0101	.1031	.0190	.4183
51	SRM 2709	.0756	5.564	.0079 .3%	.0882	.0227	.0533
52	QC_MCVA 960130I901	24.47	24.82	.5389	.0223	1.026	1.024
53	ICP1.0 960103F100	-.0020	-.0099	.0434	.0159	.0027	-.0015
54	96-2979-BLK	.0332	.5157	.0639	.0686	.0130	.0038
55	96-2979 @5	.0539	.1973	.0698	.0381	.0052	.1934
56	96-2979	.2308	.9447	.0462	.0658	.0150	1.013
57	96-2979-PS-A	12.20	12.95	.3199	.0569	.5211	1.017
58	MCVA @2	12.24	12.37	.3255	.0249	.5163	.5107
59	96-2979 DUP	.3345	.8167	.0462	.0756	.0180	1.481
60	96-2979 DUP SPIKE-B	.2276	.4150	.0206	.9937	.0125	.7497
61	MCVB1 @2	.0566	.0151	.0265	.9702	.0035	.0029
62	QC_MCVA 960130I901	24.17	24.51	.5077	.0305	1.013	1.003
63	ICP1.0 960103F100	.0298	.0110	.0294	.0246	.0033	.0014
64	96-2982	.2316	.9141	.0251	.0806	.0148	.6444
65	96-2982 DUP	.1560	.5989	.0233	.0862	.0156	.4795
66	96-2984	.2343	.7698	.0802	.1343	.0137	2.420
67	96-2984 DUP	.2388	.7551	.1052	.1334	.0162	2.324
68	96-2985	.1045	1.473	.0494	.0831	.0159	.6833
69	96-2985 DUP	.1328	.6159	.0248	.0706	.0136	.8656
70	SRM 2709	.0505	3.353	.0109	.0814	.0168	.0326
71	U @5 PPM	.0155	-.0190	.0232	.0333	.0032	-.0001
72	U @50 PPM	.0932	-.0172	.0287	.0266	.0004	.0064
73	QC_MCVA 960130I901	24.46	24.83	.5235	.0165	1.025	1.020
74	QC_MCVB 960123I901	.0912	.0171	.0206	1.895	.0029	.0080
75	QC SSTA 951208I902	193.9	243.6	.0771	.1060	.0181	.2812
76	QC SSTMCV 951208I903	1.587	1.024	.2091	.0206	.0017	.3125
77	QC_SRM-1643d 108518	.0578	Q31.29	Q.0234	.0299	Q.0292	Q.0209
78	QC CCV1 960126H901	1.962	1.960	1.018	.0173	1.026	.5034

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
79	ICP1.0 960103F100	.0247	-.0123	.0115	.0171	.0025	-.0011

#	Sample Name	Cu	Dy	Eu	Fe	K	La
1	SPC-BLK 108447	433.667	1698.67	300	505.333	1875	876.333
2	SPC-BLK 108447	-.0722	-.0678	-.0218	-.0501	-11.68	-.1124
3	SPC-STD 960103I100	18958.3	1871.67	301.333	553.333	1878.33	880.667
4	SPC-STD 960103I100	9.490	-.0638	-.0215	-.0498	-11.60	-.1109
5	ICP1.0	.04439	.17063	.03013	.05103	.18783	.08779
6	ICP1.1B	.42113			6.17566		
7	ICP1.1A	3.66709			57.3637		
8	ICP1.2					2.2973	
9	ICP1.3		37.8152	9.14099			4.81013
10	ICP1.4						
11	ICP1.5						
12	ICP1.6						
13	ICP1.7						
14	ICP1.8						
15	ICP1.0 960103F100	-.0021	-.0018	-.0001	-.0074	-.3713	.0005
16	QC_MCVA 960130I901	.9360	-.0003	.0022	20.78	24.29	.0053
17	QC_MCVB1 960130I901	.0315	1.958	1.965	.0358	-1.122	.9601
18	QC SSTA 951208I902	-.1518	.0240	.0891	199.6	101.6	50.31
19	QC SSTMCV 951208I903	-.0046	.0010	.0080	.7728	50.30	.0645
20	QC_SRM-1643d 108518	0.0151	.0005	.0015	0.1352	02.370	.0197
21	QC CCV1 960126H901	1.974	.0011	.0009	2.049	4.788	.0052
22	ICP1.0 960103F100	.0013	-.0000	.0002	-.0036	-.1106	.0028
23	96-2608-BLK	.0193	.0079	.0028	.0519	2430.	.0164
24	96-2606 @5	.0043	.0038	.0012	.5445	512.4	.0062
25	96-2606	.0163	.0088	.0034	2.608	2381.	.0169
26	96-2606-PS-A	.5010	.0064	.0035	11.90	1263.	.0157
27	MCVA @2	.4919	-.0005	.0012	10.79	14.36	.0036
28	96-2606-PS-B	.0243	.9870	.9814	1.354	1229.	.4937
29	MCVB @2	.0092	.9871	.9905	.0037	.7427	.4871
30	96-2606 DUP	.0128	.0092	.0047	3.365	2400.	.0164
31	QC_MCVA 960130I901	.9588	.0015	.0027	21.30	25.91	.0074
32	ICP1.0 960103F100	-.0006	.0010	.0009	.0085	.2528	.0047
33	96-2608	.0155	.0078	.0034	2.479	2402.	.0163
34	96-2608 DUP	.0148	.0084	.0033	2.741	2408.	.0160
35	SRM 2709	.0130	.0098	.0040	12.12	2432.	.0250
36	QC_MCVA 960130I901	.9351	.0034	.0031	20.51	24.17	.0110
37	ICP1.0 960103F100	.0020	.0013	.0010	.0025	-.0553	.0052
38	96-2612-BLK	.0164	.0106	.0037	.0351	2344.	.0194
39	96-2612 @5	.0064	.0067	.0024	1.127	482.0	.0135
40	96-2612	.0162	.0111	.0042	5.345	2254.	.0209
41	96-2612-PS-A	.4874	.0098	.0045	13.04	1186.	.0205
42	MCVA @2	.4708	.0034	.0022	10.38	13.67	.0090
43	96-2612-PS-B	.0229	.9855	.9784	2.789	1178.	.4965
44	MCVB1 @2	.0110	.9894	.9921	.0015	-.3081	.4911
45	96-2612 DUP	.0130	.0108	.0043	5.845	2292.	.0202
46	QC_MCVA 960130I901	.9038	.0048	.0036	20.03	24.07	.0140
47	96-2614	.0190	.0118	.0042	2.477	2253.	.0216
48	96-2614 DUP	.0165	.0119	.0045	3.187	2255.	.0227
49	96-2616	.0155	.0117	.0045	3.661	2284.	.0213

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#	Sample Name	Cu	Dy	Eu	Fe	K	La
50	96-2616 DUP	.0169	.0119	.0043	3.421	2267.	.0231
51	SRM 2709	.0193	.0126	.0047	9.564	2258.	.0290
52	QC_MCVA 960130I901	.9282	.0041	.0032	20.48	23.75	.0128
53	ICP1.0 960103F100	.0005	.0030	.0011	-.0049	-.0474	.0068
54	96-2979-BLK	.0135	.0105	.0037	.0539	1133.	.0197
55	96-2979 @5	.0043	.0052	.0023	.1895	228.1	.0138
56	96-2979	.0226	.0093	.0051	1.010	1162.	.0330
57	96-2979-PS-A	.4865	.0081	.0047	10.69	604.5	.0250
58	MCVA @2	.4615	.0040	.0025	10.22	12.28	.0110
59	96-2979 DUP	.0287	.0108	.0061	1.493	1165.	.0272
60	96-2979 DUP SPIKE-B	.0274	.9617	.9536	.7554	589.7	.4892
61	MCVB1 @2	.0097	.9638	.9653	.0034	.6163	.4820
62	QC_MCVA 960130I901	.9061	.0054	.0044	20.19	23.54	.0137
63	ICP1.0 960103F100	.0013	.0033	.0013	.0125	.0237	.0063
64	96-2982	.0140	.0110	.0202	.5881	1256.	.0260
65	96-2982 DUP	.0147	.0111	.0151	.6716	1189.	.0234
66	96-2984	.0167	.0121	.0129	1.576	1306.	.0379
67	96-2984 DUP	.0168	.0121	.0125	1.639	1277.	.0380
68	96-2985	.0200	.0111	.0075	1.393	1070.	.0249
69	96-2985 DUP	.0210	.0093	.0078	1.531	1198.	.0227
70	SRM 2709	.0128	.0118	.0045	5.128	1303.	.0247
71	U @5 PPM	-.0011	.0048	.0034	-.0046	.7664	.0107
72	U @50 PPM	-.0057	.0033	.0180	-.0097	-.0474	.0099
73	QC_MCVA 960130I901	.9265	.0037	.0031	20.46	23.35	.0112
74	QC_MCVB 960123I901	.0219	1.912	1.916	.0121	-1.130	.9417
75	QC SSTA 951208I902	-.1490	.0248	.0857	196.2	97.02	49.58
76	QC SSTMCV 951208I903	-.0018	.0042	.0082	.5443	48.18	.0167
77	QC_SRM-1643d 108518	0.0175	.0043	.0025	.0919	02.323	.0158
78	QC CCV1 960126H901	1.943	.0034	.0014	2.025	4.385	.0077
79	ICP1.0 960103F100	.0008	.0032	.0013	-.0079	-.2212	.0072

#	Sample Name	Li	Mg	Mn	Mo	Na	Nd
1	SPC-BLK 108447	355	2066.67	171	677	351	3253.33
2	SPC-BLK 108447	-.0683	-.2406	-.0081	-.0507	-.8761	-.4202
3	SPC-STD 960103I100	20498.7	2161.33	54968	707.333	360.667	3264
4	SPC-STD 960103I100	9.721	-.2336	8.475	-.0491	-.8217	-.4162
5	ICP1.0	.03583	.20813	.01803	.06836	.03516	.32696
6	ICP1.1B		3.97993		1.03756	.47776	
7	ICP1.1A		34.3828		9.32173	4.34726	
8	ICP1.2	10.0717		5.3933			
9	ICP1.3						12.9699
10	ICP1.4						
11	ICP1.5						
12	ICP1.6						
13	ICP1.7						
14	ICP1.8						
15	ICP1.0 960103F100	.0002	-.0172	-.0015	-.0012	-.0068	-.0063
16	QC_MCVA 960130I901	2.021	33.41	.5157	1.035	37.69	.0084
17	QC_MCVB1 960123I901	.0023	-.0365	.0001	.0105	.1673	1.937
18	QC SSTA 951208I902	.0354	-.6719	.0194	.1156	.8727	.1635
19	QC SSTMCV 951208I903	.0023	-.0686	.1040	.0054	5.200	.0066
20	QC_SRM-1643d 108518	0.0196	08.660	0.0390	0.1153	022.29	.0174

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#	Sample Name	Li	Mg	Mn	Mo	Na	Nd
21	QC CCV1 960126H901	1.976	2.110	1.025	1.992	8.453	.0040
22	ICP1.0 960103F100	.0032	-.0051	-.0003	.0034	.0275	.0019
23	96-2608-BLK	.0076	.1143	.0773	.0146	1.141	.0478
24	96-2606 @5	.0174	.0276	.0231	.0063	4.996	.0231
25	96-2606	.0817	.1249	.1132	.0202	23.52	.0525
26	96-2606-PS-A	1.043	17.08	.3225	.5433	31.27	.0439
27	MCVA @2	1.046	17.43	.2682	.5390	19.61	.0023
28	96-2606-PS-B	.0450	.0667	.0584	.0166	12.27	1.006
29	MCVB @2	.0005	-.0314	-.0008	.0054	.0940	.9774
30	96-2606 DUP	.1035	.1348	.1113	.0213	29.91	.0534
31	QC_MCVA 960130I901	2.068	34.29	.5303	1.067	38.70	.0129
32	ICP1.0 960103F100	.0012	.0140	-.0009	.0019	.0618	.0060
33	96-2608	.0198	.1374	.0813	.0230	26.72	.0507
34	96-2608 DUP	.0184	.1485	.0849	.0219	29.55	.0529
35	SRM 2709	.0221	5.563	.2743	.0139	5.234	.0620
36	QC_MCVA 960130I901	1.975	33.04	.5127	1.028	37.19	.0239
37	ICP1.0 960103F100	.0017	.0078	-.0011	.0017	.0579	.0102
38	96-2612-BLK	.0090	.1202	.0604	.0139	1.219	.0647
39	96-2612 @5	.0038	.0452	.0229	.0080	6.474	.0396
40	96-2612	.0091	.1688	.1120	.0235	30.43	.0648
41	96-2612-PS-A	.9667	16.67	.3160	.5330	34.12	.0403
42	MCVA @2	.9778	16.79	.2576	.5199	18.61	.0228
43	96-2612-PS-B	.0076	.0749	.0583	.0201	15.95	1.013
44	MCVB1 @2	.0013	-.0273	-.0005	.0056	.0977	.9843
45	96-2612 DUP	.0063	.1529	.1115	.0202	31.46	.0664
46	QC_MCVA 960130I901	1.929	32.36	.5004	1.006	36.41	.0306
47	96-2614	.0138	.1612	.0907	.0214	23.75	.0725
48	96-2614 DUP	.0126	.1449	.1129	.0216	28.02	.0706
49	96-2616	.0402	.1438	.1078	.0246	27.23	.0739
50	96-2616 DUP	.0359	.1368	.1143	.0249	25.58	.0714
51	SRM 2709	.0222	4.160	.2791	[illegible]	4.354	.0847
52	QC_MCVA 960130I901	1.975	33.01	.5101	1.028	37.21	.0265
53	ICP1.0 960103F100	.0012	-.0001	-.0012	.0013	.0484	.0162
54	96-2979-BLK	.0070	.0422	.0323	.0081	.6087	.0642
55	96-2979 @5	.0048	.0111	.0400	.0053	2.778	.0337
56	96-2979	.0073	.0639	.2115	.0141	13.93	.0806
57	96-2979-PS-A	.9620	16.45	.3619	.5201	25.34	.0587
58	MCVA @2	.9783	16.54	.2543	.5127	18.53	.0290
59	96-2979 DUP	.0091	.0618	.2813	.0181	19.90	.0649
60	96-2979 DUP SPIKE-B	.0083	.0248	.1411	.0159	10.17	.9833
61	MCVB1 @2	.0015	-.0112	-.0001	.0066	.1496	.9682
62	QC_MCVA 960130I901	1.933	32.60	.5038	1.011	36.61	.0350
63	ICP1.0 960103F100	.0033	.0285	-.0006	.0032	.0655	.0205
64	96-2982	.0198	-.0400	.0527	.0313	27.13	.0774
65	96-2982 DUP	.0159	-.0157	.0747	.0246	20.21	.0735
66	96-2984	.0123	.0631	.3923	.0191	35.31	.1024
67	96-2984 DUP	.0108	.0592	.3931	.0191	34.10	.0984
68	96-2985	.1079	.0539	.2631	.0163	10.95	.0748
69	96-2985 DUP	.1368	.0546	.3034	.0204	13.90	.0645
70	SRM 2709	.0161	2.343	.1159	.0112	2.426	.0711
71	U @5 PPM	.0038	-.0049	-.0010	.0033	.0597	.0280
72	U @50 PPM	.0065	-.1500	-.0013	.0134	.1283	.0234
73	QC_MCVA 960130I901	1.985	33.01	.5104	1.029	37.40	.0222
74	QC_MCVB 960123I901	.0012	-.0347	-.0001	.0112	.1714	1.898

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#	Sample Name	Li	Mg	Mn	Mo	Na	Nd
75	QC SSTA 951208I902	.0360	-.4796	.0198	.1170	.8601	.1751
76	QC SSTMCV 951208I903	.0035	-.0449	.1032	.0082	5.170	.0212
77	QC_SRM-1643d 108518	0.0231	08.723	0.0398	0.1199	022.53	.0393
78	QC CCV1 960126H901	1.937	2.088	1.021	1.994	8.471	.0198
79	ICP1.0 960103F100	.0017	.0019	-.0010	.0028	.0483	.0157

#	Sample Name	Ni	P	Pb	Pd	Rh	Ru
1	SPC-BLK 108447	480.667	1096.67	11503	13073.7	13133.3	3626.33
2	SPC-BLK 108447	-.0470	-.3612	-.3862	-1.152	-.5631	-.2071
3	SPC-STD 960103I100	487.667	1224.67	109703	13113.7	13166.3	3643.67
4	SPC-STD 960103I100	-.0446	-.3982	7.623	-1.144	-.5594	-.2047
5	ICP1.0	.04716	.1105	1.17103	1.31196	1.31946	.36483
6	ICP1.1B	.54916		6.14776			
7	ICP1.1A	4.756		48.3023			
8	ICP1.2		9.91723				
9	ICP1.3						28.4422
10	ICP1.4						
11	ICP1.5						
12	ICP1.6						
13	ICP1.7						
14	ICP1.8				16.7453	40.2358	
15	ICP1.0 960103F100	-.0055	.0004	-.0083	.0070	-.0041	.0025
16	QC_MCVA 960130I901	1.016	5.008	2.576	-.0039	.0013	.0146
17	QC_MCVB1 960123I901	.1354	.0987	.2604	1.882	1.968	2.057
18	QC SSTA 951208I902	192.0	200.0	1.031	.4182	.1223	.1986
19	QC SSTMCV 951208I903	.9049	4.254	3.119	-.0250	-.0012	.0118
20	QC_SRM-1643d 108518	0.1521	.0830	0.0197	.0263	.0100	.0036
21	QC CCV1 960126H901	2.065	4.828	2.035	.0205	.0079	.0074
22	ICP1.0 960103F100	.0207	-.0040	.0027	.0186	.0039	.0028
23	96-2608-BLK	.9629	.0783	.0534	.1580	.0662	.0329
24	96-2606 @5	.1930	1.216	.0278	.0772	.0314	.0139
25	96-2606	.8687	5.957	.0805	.1667	.0764	.0392
26	96-2606-PS-A	.9719	5.674	1.376	.1156	.0553	.0320
27	MCVA @2	.5334	2.583	1.342	.0057	.0032	.0082
28	96-2606-PS-B	.5251	3.081	.1848	1.077	1.045	1.080
29	MCVB @2	.0773	.0536	.1435	.9983	1.014	1.061
30	96-2606 DUP	.9718	7.327	.0793	.1550	.0680	.0392
31	QC_MCVA 960130I901	1.053	5.094	2.658	.0136	.0065	.0210
32	ICP1.0 960103F100	-.0043	-.0123	-.0037	.0364	.0126	.0047
33	96-2608	.6213	5.781	.0675	.1582	.0707	.0392
34	96-2608 DUP	.6074	6.429	.0744	.1605	.0723	.0400
35	SRM 2709	1.632	.3167	.1481	.1594	.0708	.0451
36	QC_MCVA 960130I901	1.011	4.945	2.566	.0519	.0244	.0273
37	ICP1.0 960103F100	-.0061	.0122	.0023	.0506	.0176	.0094
38	96-2612-BLK	.3433	.0999	.0663	.1867	.0877	.0397
39	96-2612 @5	.0904	1.612	.0423	.1298	.0516	.0265
40	96-2612	.4567	7.655	.1065	.1952	.0891	.0469
41	96-2612-PS-A	.7425	6.430	1.374	.1643	.0769	.0465
42	MCVA @2	.5063	2.502	1.302	.0498	.0252	.0167
43	96-2612-PS-B	.2897	4.023	.2109	1.108	1.056	1.089
44	MCVB1 @2	.0485	.0681	.1474	1.028	1.025	1.067
45	96-2612 DUP	.3400	8.137	.1043	.1881	.0838	.0473

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#	Sample Name	Ni	P	Pb	Pd	Rh	Ru
46	QC_MCVA 960130I901	.9820	4.849	2.518	.0724	.0348	.0323
47	96-2614	.3103	5.584	.0850	.2062	.0976	.0451
48	96-2614 DUP	.6165	6.783	.0864	.2099	.0983	.0459
49	96-2616	.7850	5.473	.0871	.2053	.0956	.0467
50	96-2616 DUP	.5863	5.285	.0898	.2125	.0999	.0466
51	SRM 2709	1.048	.2847	.1392	.2147	.0977	.0521
52	QC_MCVA 960130I901	1.005	4.943	2.579	.0585	.0257	.0316
53	ICP1.0 960103F100	-.0111	.0172	.0107	.0696	.0245	.0086
54	96-2979-BLK	.1838	.0789	.0555	.1909	.0865	.0371
55	96-2979 @5	.3727	.1556	.0480	.1170	.0414	.0193
56	96-2979	1.981	.6726	.1955	.1680	.0711	.0371
57	96-2979-PS-A	1.504	2.813	1.391	.1389	.0617	.0395
58	MCVA @2	.4987	2.458	1.296	.0780	.0320	.0241
59	96-2979 DUP	4.702	.9983	.2497	.1815	.0839	.0428
60	96-2979 DUP SPIKE-B	2.420	.5670	.2689	1.083	1.020	1.052
61	MCVB1 @2	.0370	.0831	.1444	1.053	1.012	1.042
62	QC_MCVA 960130I901	.9896	4.859	2.548	.0716	.0364	.0330
63	ICP1.0 960103F100	-.0107	.0394	.0137	.0693	.0259	.0131
64	96-2982	1.470	.7846	.2916	.0414	.0768	.0532
65	96-2982 DUP	.8972	.5785	.2249	.0806	.0810	.0483
66	96-2984	3.758	1.830	.2855	.1592	.0960	.0552
67	96-2984 DUP	6.165	1.733	.2833	.1696	.0925	.0569
68	96-2985	3.422	.5286	.2701	.1841	.0863	.0467
69	96-2985 DUP	.8213	.6016	.3012	.1348	.0701	.0447
70	SRM 2709	2.386	.1813	.1032	.2144	.0914	.0471
71	U @5 PPM	-.0102	.0606	.0160	.0824	.0341	.0167
72	U @50 PPM	.0089	.1610	.0053	-.0927	.0138	.0219
73	QC_MCVA 960130I901	.9949	4.919	2.562	.0550	.0247	.0273
74	QC_MCVB 960123I901	.0752	.0896	.2623	1.965	1.969	2.041
75	QC SSTA 951208I902	190.7	194.7	1.027	.2650	.1499	.2646
76	QC SSTMCV 951208I903	.7004	3.985	3.111	.0060	.0257	.0170
77	QC_SRM-1643d 108518	0.1001	.0519	0.0393	.0927	.0383	.0149
78	QC CCV1 960126H901	2.053	4.795	2.051	.0715	.0274	.0143
79	ICP1.0 960103F100	.0078	.0273	.0130	.0736	.0253	.0122

#	Sample Name	Sb	Se	Si	Sn	Sr	Te
1	SPC-BLK 108447	2176	1189.67	4812	5824.67	130	8597.67
2	SPC-BLK 108447	-.3743	-.3555	.1128	-1.814	-.0060	-.3850
3	SPC-STD 960103I100	2240	1215.67	4928.67	5947.67	132.667	9144.33
4	SPC-STD 960103I100	-.3492	-.3388	.1452	-1.753	-.0056	-.3669
5	ICP1.0	.21876	.11973	.48359	.58543	.0131	.85483
6	ICP1.1B					.75576	
7	ICP1.1A					7.25479	
8	ICP1.2						
9	ICP1.3						
10	ICP1.4	22.2189					
11	ICP1.5						
12	ICP1.6			63.8107			40.921
13	ICP1.7		2.60489				
14	ICP1.8				6.7803		
15	ICP1.0 960103F100	-.0003	.0043	1.806	-.0017	-.0001	.0092
16	QC_MCVA 960130I901	03.293	2.634	19.81	.1520	.5176	.0659

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#	Sample Name	Sb	Se	Si	Sn	Sr	Te
17	QC_MCVB1 960123I901	.1344	.0792	19.40	2.133	.0028	2.010
18	QC SSTA 951208I902	.7746	1.665	9.447	1.900	.0196	.6444
19	QC SSTMCV 951208I903	2.689	2.624	5.370	.0700	.0015	.0320
20	QC_SRM-1643d 109518	Q.0779	Q.0344	3.660	.0104	Q.3053	.0209
21	QC CCV1 960126H901	.0175	2.036	5.225	.0386	2.008	.0341
22	ICP1.0 960103F100	-.0081	.0085	.2450	.0142	.0026	.0175
23	96-2608-BLK	.0571	.0811	.7813	.2273	.0044	.0666
24	96-2606 @5	.0223	.0487	.5477	.1004	.0076	.0415
25	96-2606	.0690	.0909	2.272	.2825	.0342	.0798
26	96-2606-PS-A	1.735	1.408	11.02	.2744	.2782	.0796
27	MCVA @2	1.703	1.363	10.01	.0930	.2693	.0414
28	96-2606-PS-B	.1329	.1084	11.65	1.257	.0193	1.086
29	MCVB @2	.0661	.0563	9.926	1.124	.0013	1.043
30	96-2606 DUP	.0515	.1039	8.511	.2830	.0415	.0744
31	QC_MCVA 960130I901	Q3.416	2.743	20.84	.1805	.5331	.0712
32	ICP1.0 960103F100	.0122	.0173	.5730	.0044	.0006	.0111
33	96-2608	.0647	.0847	2.623	.2562	.0408	.0714
34	96-2608 DUP	.0634	.0797	2.789	.2936	.0449	.0731
35	SRM 2709	.1176	.2018	95.40	.3544	.0628	.1147
36	QC_MCVA 960130I901	Q3.267	2.644	19.02	.2108	.5120	.0820
37	ICP1.0 960103F100	.0140	.0239	.0964	.0437	.0005	.0176
38	96-2612-BLK	.0678	.0705	.4256	.3053	.0037	.0693
39	96-2612 @5	.0490	.0581	.7248	.1674	.0103	.0541
40	96-2612	.0750	.1183	3.364	.3342	.0466	.0965
41	96-2612-PS-A	1.697	1.395	11.41	.3473	.2782	.0994
42	MCVA @2	1.670	1.338	9.673	.1287	.2588	.0501
43	96-2612-PS-B	.1326	.1107	10.13	1.294	.0259	1.099
44	MCVB1 @2	.0775	.0704	8.777	1.140	.0014	1.062
45	96-2612 DUP	.0774	.1130	7.795	.3286	.0470	.0922
46	QC_MCVA 960130I901	Q3.232	2.587	19.35	.2336	.5004	.0715
47	96-2614	.0746	.1065	3.352	.3066	.0389	.0873
48	96-2614 DUP	.0862	.1073	3.209	.3196	.0471	.0891
49	96-2616	.0792	.1015	2.685	.3374	.0471	.0908
50	96-2616 DUP	.0628	.0907	3.029	.3172	.0455	.0891
51	SRM 2709	.1080	.1828	75.57	.3790	.0654	.1238
52	QC_MCVA 960130I901	Q3.280	2.655	18.99	.2025	.5122	.0701
53	ICP1.0 960103F100	.0131	.0313	.0635	.0515	.0004	.0217
54	96-2979-BLK	.0565	.0664	.0994	.2477	.0023	.0630
55	96-2979 @5	.0305	.0703	.1095	.1049	.0029	.0411
56	96-2979	.1159	.2269	.4667	.2454	.0129	.1195
57	96-2979-PS-A	1.709	1.428	9.800	.2518	.2593	.1048
58	MCVA @2	1.646	1.339	9.557	.1578	.2550	.0513
59	96-2979 DUP	.1472	.3142	.6787	.2918	.0162	.1561
60	96-2979 DUP SPIKE-B	.1625	.2173	8.129	1.222	.0094	1.094
61	MCVB1 @2	.0833	.0705	8.956	1.122	.0015	1.029
62	QC_MCVA 960130I901	Q3.258	2.606	21.03	.2466	.5043	.0800
63	ICP1.0 960103F100	.0157	.0278	.7717	.0740	.0009	.0314
64	96-2982	.2171	.4038	1.339	.3966	.0414	.1843
65	96-2982 DUP	.1722	.3110	.7920	.3784	.0286	.1550
66	96-2984	.1369	.2141	.5996	.3869	.0220	.1171
67	96-2984 DUP	.1297	.1917	.5323	.3769	.0212	.1128
68	96-2985	.1449	.2931	.5716	.3233	.0171	.1460
69	96-2985 DUP	.1712	.3473	.6031	.2754	.0185	.1744
70	SRM 2709	.0910	.1277	41.60	.2997	.0360	.0882

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#	Sample Name	Sb	Se	Si	Sn	Sr	Te
71	U @5 PPM	.0292	.0361	.0853	.0760	.0008	.0443
72	U @50 PPM	.0972	.1221	-.0144	.1782	.0039	.0439
73	QC_MCVA 9601301901	03.273	2.626	19.01	.2076	.5143	.0674
74	QC_MCVB 9601231901	.1477	.0986	14.31	2.100	.0026	1.996
75	QC SSTA 9512081902	.7776	1.654	7.512	1.926	.0193	.6414
76	QC SSTMCV 9512081903	2.705	2.622	5.448	.1143	.0019	.0368
77	QC_SRM-1643d 108518	0.0953	0.0526	3.610	.0670	0.3088	.0334
78	QC CCV1 960126H901	.0288	2.052	5.089	.0925	2.004	.0379
79	ICP1.0 960103F100	.0165	.0323	.1765	.0598	.0007	.0218

#	Sample Name	Th	Ti	Tl	U	V	W
1	SPC-BLK 108447	2022.67	566.647	330	14791.3	844	282.667
2	SPC-BLK 108447	.0271	-.0251	-.1930	-6.395	-.0481	-.1615
3	SPC-STD 9601031100	2035	571	354	14801.7	851	284.333
4	SPC-STD 9601031100	.0319	-.0245	-.1545	-6.387	-.0469	-.1602
5	ICP1.0	.20373	.05696	.03286	1.4622	.08483	.02816
6	ICP1.1B		1.25746				
7	ICP1.1A		11.8393				
8	ICP1.2						
9	ICP1.3	9.83349					
10	ICP1.4					9.75116	
11	ICP1.5				41.4302		
12	ICP1.6						
13	ICP1.7			1.01643			
14	ICP1.8						2.49646
15	ICP1.0 960103F100	.0001	-.0008	.0130	-.0662	-.0009	.0000
16	QC_MCVA 9601301901	.0323	1.014	2.520	.1584	1.011	.0442
17	QC_MCVB1 9601231901	4.577	.0049	.0462	23.60	.0025	1.978
18	QC SSTA 9512081902	.6035	.0034	.4172	200.5	.0457	.5321
19	QC SSTMCV 9512081903	.0668	.0001	.0192	20.31	.5148	.0360
20	QC_SRM-1643d 108518	-.0111	.0007	0.0193	.4201	0.0356	.0086
21	QC CCV1 960126H901	.0086	.0000	1.959	.1188	.9694	.0159
22	ICP1.0 960103F100	-.0013	-.0005	.0057	.0633	.0011	.0033
23	96-2608-BLK	.0013	.0078	.0530	.8154	.0080	.0137
24	96-2606 @5	.0063	.0029	.0330	.4378	.0034	.0131
25	96-2606	.0032	.0113	.0566	1.093	.0087	.0272
26	96-2606-PS-A	.0213	.5224	1.334	.8234	.5218	.0482
27	MCVA @2	.0183	.5253	1.334	.0914	.5245	.0130
28	96-2606-PS-B	1.517	.0096	.0622	12.52	.0080	1.029
29	MCVB @2	1.512	.0022	.0247	12.13	.0016	1.000
30	96-2606 DUP	.0051	.0186	.0549	1.026	.0091	.0205
31	QC_MCVA 9601301901	.0348	1.042	2.644	.2232	1.037	.0332
32	ICP1.0 960103F100	-.0070	.0009	.0099	.1825	.0011	-.0009
33	96-2608	.0098	.0106	.0504	1.179	.0085	.0287
34	96-2608 DUP	.0087	.0110	.0565	1.252	.0081	.0253
35	SRM 2709	.0159	1.061	.0869	.8813	.0477	.0458
36	QC_MCVA 9601301901	.0298	1.002	2.530	.3929	.9993	.0474
37	ICP1.0 960103F100	-.0019	.0010	.0122	.2107	.0015	.0065
38	96-2612-BLK	.0031	.0071	.0461	1.047	.0095	.0236
39	96-2612 @5	.0015	.0051	.0255	.7092	.0054	.0202
40	96-2612	.0069	.0173	.0564	1.425	.0116	.0373
41	96-2612-PS-A	.0223	.5123	1.335	1.143	.5109	.0536

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#	Sample Name	Th	Ti	Tl	U	V	W
42	MCVA @2	.0201	.5057	1.296	.3586	.5053	.0336
43	96-2612-PS-B	1.512	.0125	.0741	12.76	.0099	1.019
44	MCVB1 @2	1.510	.0028	.0223	12.16	.0025	1.006
45	96-2612 DUP	.0048	.0126	.0570	1.412	.0110	.0394
46	QC_MCVA 960130I901	.0273	.9784	2.484	.5268	.9777	.0533
47	96-2614	.0042	.0153	.0597	1.393	.0109	.0316
48	96-2614 DUP	.0052	.0234	.0619	1.513	.0112	.0296
49	96-2616	.0049	.0143	.0587	1.353	.0103	.0242
50	96-2616 DUP	.0039	.0213	.0623	1.381	.0112	.0337
51	SRM 2709	.0133	.8446	.0784	1.178	.0411	.0446
52	QC_MCVA 960130I901	.0292	1.001	2.538	.4983	.9970	.0501
53	ICP1.0 960103F100	-.0023	.0008	.0201	.2981	.0015	.0078
54	96-2979-BLK	-.0008	.0059	.0442	1.004	.0078	.0285
55	96-2979 @5	-.0039	.0038	.0314	1.400	.0041	.0129
56	96-2979	.0221	.0154	.0562	5.255	.0095	.0504
57	96-2979-PS-A	.0304	.5043	1.316	3.082	.5026	.0540
58	MCVA @2	.0158	.4983	1.283	.4409	.4984	.0261
59	96-2979 DUP	.0328	.0203	.0872	7.100	.0119	.0596
60	96-2979 DUP SPIKE-B	1.492	.0139	.0700	15.23	.0092	.9957
61	MCVB1 @2	1.458	.0031	.0412	11.87	.0035	.9866
62	QC_MCVA 960130I901	.0300	.9848	2.505	.5596	.9833	.0497
63	ICP1.0 960103F100	-.0034	.0019	.0219	.3570	.0031	.0098
64	96-2982	.1982	.0120	.0792	47.42	.0217	.0931
65	96-2982 DUP	.1377	.0084	.0646	33.06	.0177	.0732
66	96-2984	.2547	.0129	.0742	22.97	.0210	.1399
67	96-2984 DUP	.2566	.0118	.0646	22.34	.0206	.1708
68	96-2985	.0469	.0148	.0835	10.69	.0129	.0588
69	96-2985 DUP	.0660	.0137	.0766	12.83	.0127	.0769
70	SRM 2709	.0024	.4093	.0573	1.110	.0251	.0284
71	U @5 PPM	.0171	.0015	.0192	5.012	.0032	.0138
72	U @50 PPM	.1821	.0007	.0172	48.74	.0053	.0534
73	QC_MCVA 960130I901	.0277	1.002	2.566	.4626	.9970	.0434
74	QC_MCVB 960123I901	02.907	.0052	.0409	23.26	.0031	1.943
75	QC SSTA 951208I902	.7736	.0048	.4396	195.9	.0501	.5153
76	QC SSTMCV 951208I903	.0779	.0013	.0288	19.97	.5093	.0255
77	QC_SRM-1643d 108518	-.0114	.0018	0.0307	.6240	0.0378	.0149
78	QC CCV1 960126H901	.0002	.0011	2.003	.3416	.9608	.0211
79	ICP1.0 960103F100	-.0021	.0007	.0308	.2658	.0015	.0125

#	Sample Name	Y	Zn	Zr
1	SPC-BLK 108447	219.333	300.667	686
2	SPC-BLK 108447	-.0224	-.0076	-.0491
3	SPC-STD 960103I100	219.667	123853	688.667
4	SPC-STD 960103I100	-.0223	8.764	-.0489
5	ICP1.0	.02203	.0322	.06909
6	ICP1.1B		2.5367	2.2337
7	ICP1.1A		23.6735	20.97
8	ICP1.2			
9	ICP1.3			
10	ICP1.4	2.53893		
11	ICP1.5			
12	ICP1.6			

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#	Sample Name	Y	Zn	Zr
13	ICP1.7			
14	ICP1.8			
15	ICP1.0 960103F100	-.0003	-.0031	-.0019
16	QC_MCVA 960130I901	.0014	1.020	2.022
17	QC_MCVB1 960123I901	.9371	.0055	-.0208
18	QC SSTA 951208I902	.0255	.0133	.0016
19	QC SSTMCV 951208I903	.0008	-.0018	.5068
20	QC_SRM-1643d 108518	.0009	Q.0738	.0009
21	QC CCV1 960126H901	.0003	1.010	-.0012
22	ICP1.0 960103F100	-.0000	-.0018	-.0015
23	96-2608-BLK	.0027	.0056	.0060
24	96-2606 @5	.0016	.0005	.0026
25	96-2606	.0035	.0108	.0130
26	96-2606-PS-A	.0032	.5333	1.041
27	MCVA @2	.0008	.5316	1.048
28	96-2606-PS-B	.4705	.0093	-.0024
29	MCVB @2	.4672	.0005	-.0107
30	96-2606 DUP	.0039	.0115	.0158
31	QC_MCVA 960130I901	.0019	1.052	2.080
32	ICP1.0 960103F100	.0004	-.0018	.0014
33	96-2608	.0029	.0104	.0148
34	96-2608 DUP	.0033	.0107	.0153
35	SRM 2709	.0089	.0430	.0240
36	QC_MCVA 960130I901	.0026	1.020	2.004
37	ICP1.0 960103F100	.0006	-.0021	.0010
38	96-2612-BLK	.0040	.0068	.0082
39	96-2612 @5	.0023	.0319	.0063
40	96-2612	.0039	.1515	.0214
41	96-2612-PS-A	.0041	.5931	1.021
42	MCVA @2	.0017	.5188	1.009
43	96-2612-PS-B	.4689	.0818	.0005
44	MCVB1 @2	.4674	.0013	-.0116
45	96-2612 DUP	.0039	.0264	.0196
46	QC_MCVA 960130I901	.0028	1.004	1.958
47	96-2614	.0042	.0139	.0167
48	96-2614 DUP	.0040	.0144	.0176
49	96-2616	.0042	.0138	.0163
50	96-2616 DUP	.0041	.0164	.0146
51	SRM 2709	.0091	.0340	.0199
52	QC_MCVA 960130I901	.0023	1.029	2.002
53	ICP1.0 960103F100	.0007	-.0027	.0013
54	96-2979-BLK	.0038	.0687	.0070
55	96-2979 @5	.0019	.0158	.0273
56	96-2979	.0044	.0877	.1326
57	96-2979-PS-A	.0042	.5563	1.071
58	MCVA @2	.0017	.5130	.9945
59	96-2979 DUP	.0057	.0660	.1355
60	96-2979 DUP SPIKE-B	.4563	.0356	.0576
61	MCVB1 @2	.4528	.0007	-.0094
62	QC_MCVA 960130I901	.0027	1.014	1.974
63	ICP1.0 960103F100	.0011	-.0023	.0036
64	96-2982	.0058	.0520	-.0046
65	96-2982 DUP	.0050	.1049	-.0020
66	96-2984	.0149	.1149	.3197

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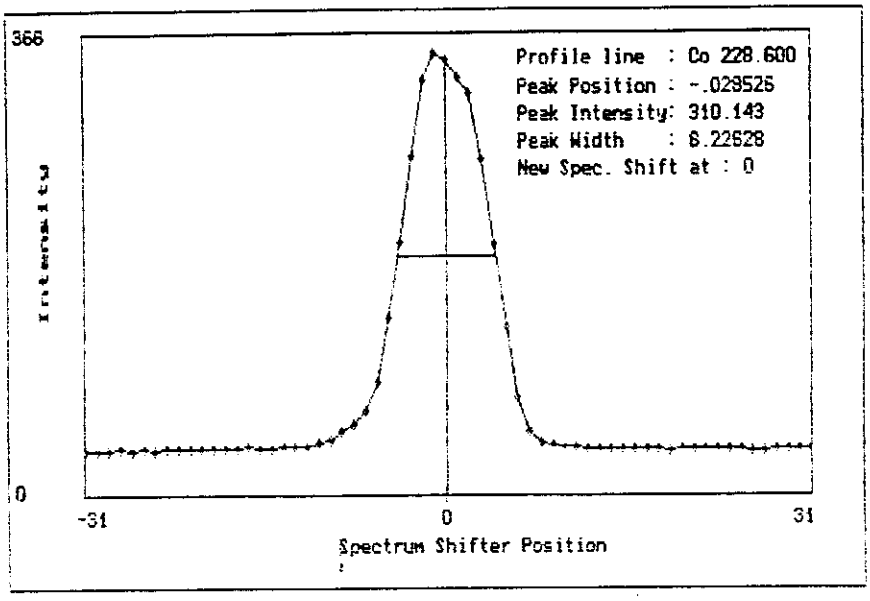
#	Sample Name	Y	Zn	Zr
67	96-2984 DUP	.0142	.0543	.2541
68	96-2985	.0056	.0702	.0662
69	96-2985 DUP	.0054	.0481	.0737
70	SRM 2709	.0064	.0624	.0170
71	U @5 PPM	.0016	-.0018	.0013
72	U @50 PPM	.0016	-.0004	-.0087
73	QC_MCVA 960130I901	.0021	1.025	2.007
74	QC_MCVB 960123I901	0.8981	.0020	-.0191
75	QC SSTA 951208I902	.0241	.0126	-.0117
76	QC SSTMCV 951208I903	.0011	-.0018	.5044
77	QC_SRM-1643d 108518	.0017	0.0762	.0028
78	QC CCV1 960126H901	.0008	1.034	.0017
79	ICP1.0 960103F100	.0007	-.0023	.0011



A0075
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2/20/96 DRS

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Method: ICP1A Sample Name: SPC-BLK 106447 Operator: DRS
Run Time: 02/20/96 08:31:32
Comment: SPC-BLK FOR Mn/Cu RATIO
Mode: INT Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	5787	1816	1363	1759	271	160	1258
SDev	9	3	8	19	0	0	24
%RSD	.1558	.1457	.5505	1.076	.0000	.0000	1.929
#1	5796	1814	1356	1746	271	160	1231
#2	5788	1815	1371	1751	271	160	1265
#3	5778	1819	1363	1781	271	160	1278

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	1061	628	5587	1249	388	434	1699
SDev	3	18	14	2	8	2	3
%RSD	.2722	2.781	.2461	.1387	2.013	.3522	.1482
#1	1064	643	5575	1250	379	435	1701
#2	1059	609	5584	1250	393	434	1699
#3	1059	633	5602	1247	392	432	1696

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	300	505	1875	876	355	2067	171
SDev	0	1	3	1	1	5	1
%RSD	.0000	.1143	.1849	.0659	.2817	.2435	.5848
#1	300	505	1873	876	356	2072	170
#2	300	506	1873	876	354	2066	171
#3	300	505	1879	877	355	2062	172

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Avge	677	351	3253	481	1097	11500	13070
SDev	3	2	16	4	19	43	8
%RSD	.4431	.5698	.4902	.7306	1.712	.3702	.0614
#1	674	351	3235	477	1107	11520	13070
#2	677	353	3264	484	1108	11530	13070
#3	680	349	3261	481	1075	11450	13080

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Avge	13130	3626	2176	1190	4812	5825	130
SDev	38	11	9	10	3	3	0
%RSD	.2867	.3025	.3980	.8420	.0720	.0432	.0000
#1	13090	3620	2181	1200	4816	5827	130
#2	13160	3639	2181	1189	4810	5822	130
#3	13150	3620	2166	1180	4810	5825	130

Elem	Te	Th	Ti	Tl	U	V	W
Avge	8598	2023	567	330	14790	844	283
SDev	42	3	3	2	38	3	4
%RSD	.4861	.1589	.4441	.6061	.2543	.3555	1.339
#1	8550	2024	569	328	14760	841	281
#2	8615	2025	564	330	14780	847	280
#3	8628	2019	567	332	14830	844	287

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Elem	Y	Zn	Zr
Avge	219	301	686
SDev	1	9	1
%RSD	.2632	2.906	.1458
#1	219	303	687
#2	219	308	685
#3	220	291	686

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Method: ICP1A Sample Name: SPC-BLK 108447 Operator: DRS
Run Time: 02/20/96 08:31:32
Comment: SPC-BLK FOR Mn/Cu RATIO
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0611	-.3790	-.2236	.0389	-.0139	-.0021	-.2656
SDev	.0005	.0013	.0034	.0022	.0000	.0000	.0107
%RSD	.7975	.3392	1.514	5.728	.0000	.2964	4.035
#1	-.0607	-.3799	-.2268	.0373	-.0139	-.0021	-.2776
#2	-.0611	-.3796	-.2201	.0379	-.0139	-.0021	-.2625
#3	-.0617	-.3775	-.2239	.0414	-.0139	-.0021	-.2568

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0957	.0091	-.4348	-.0519	-.0277	-.0722	-.0678
SDev	.0010	.0019	.0030	.0002	.0013	.0009	.0004
%RSD	1.044	21.28	.6864	.4392	4.606	1.224	.5528
#1	-.0946	.0107	-.4374	-.0517	-.0292	-.0715	-.0675
#2	-.0961	.0070	-.4355	-.0517	-.0269	-.0720	-.0678
#3	-.0964	.0096	-.4316	-.0521	-.0271	-.0732	-.0682

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0218	-.0501	-11.68	-.1124	-.0684	-.2406	-.0081
SDev	.0000	.0002	.08	.0001	.0005	.0047	.0001
%RSD	.0844	.4013	.6828	.1274	.7109	1.947	1.699
#1	-.0218	-.0501	-11.72	-.1125	-.0679	-.2361	-.0083
#2	-.0219	-.0499	-11.72	-.1125	-.0688	-.2402	-.0081
#3	-.0218	-.0503	-11.59	-.1122	-.0684	-.2454	-.0080

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0507	-.8761	-.4202	-.0470	-.3612	-.3862	-1.152
SDev	.0005	.0112	.0058	.0012	.0153	.0037	.002
%RSD	.9887	1.283	1.389	2.471	4.225	.9587	.2046
#1	-.0512	-.8761	-.4269	-.0482	-.3528	-.3843	-1.153
#2	-.0507	-.8648	-.4161	-.0459	-.3519	-.3838	-1.152
#3	-.0502	-.8873	-.4176	-.0468	-.3788	-.3905	-1.149

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.5631	-.2071	-.3743	-.3555	.1128	-1.814	-.0060
SDev	.0044	.0016	.0034	.0065	.0017	.003	.0000
%RSD	.7792	.7814	.9178	1.829	1.512	.1588	.0120
#1	-.5682	-.2079	-.3723	-.3488	.1146	-1.811	-.0060
#2	-.5601	-.2053	-.3724	-.3559	.1127	-1.816	-.0060
#3	-.5612	-.2082	-.3783	-.3618	.1112	-1.815	-.0060

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.3850	.0271	-.0251	-.1930	-6.395	-.0481	-.1629
SDev	.0044	.0041	.0004	.0029	.045	.0005	.0065

%RSD	1.153	15.03	1.470	1.510	.7066	1.074	3.986
#1	-.3901	.0296	-.0247	-.1961	-6.427	-.0485	-.1657
#2	-.3831	.0292	-.0255	-.1928	-6.414	-.0475	-.1675
#3	-.3819	.0224	-.0251	-.1903	-6.343	-.0481	-.1555

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	-.0224	-.0076	-.0491
SDev	.0002	.0006	.0003
%RSD	.7689	8.108	.6775
#1	-.0225	-.0075	-.0490
#2	-.0225	-.0071	-.0494
#3	-.0222	-.0083	-.0488

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Method: ICP1A Sample Name: SPC-STD 960103I100 Operator: DRS
Run Time: 02/20/96 08:34:34
Comment: SPC-STD FOR Mn/Cu RATIO
Mode: INT Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	5855	1853	1399	1776	271	161	1478
SDev	14	4	16	8	1	0	11
%RSD	.2424	.1895	1.122	.4251	.2128	.0000	.7420
#1	5852	1850	1417	1784	272	161	1472
#2	5842	1853	1387	1775	271	161	1491
#3	5870	1857	1394	1769	271	161	1472

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	1374	636	5586	1228	413	18960	1872
SDev	4	43	13	4	11	10	4
%RSD	.2755	6.805	.2243	.3389	2.591	.0520	.2023
#1	1377	652	5573	1225	401	18950	1870
#2	1370	669	5587	1233	415	18960	1869
#3	1376	587	5598	1227	422	18970	1876

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	301	553	1878	881	20500	2161	54970
SDev	1	1	3	2	20	1	34
%RSD	.1916	.1043	.1340	.1735	.0951	.0534	.0616
#1	301	553	1876	879	20500	2160	54930
#2	301	553	1878	882	20520	2162	54980
#3	302	554	1881	881	20480	2162	55000

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Avge	707	361	3264	488	1225	109700	13110
SDev	1	4	8	3	11	122	28
%RSD	.1632	1.154	.2393	.5920	.8957	.1112	.2136
#1	708	356	3259	486	1231	109700	13100
#2	706	364	3260	491	1212	109600	13100
#3	708	362	3273	486	1231	109800	13150

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Avge	13170	3644	2240	1216	4929	5948	133
SDev	18	11	11	10	7	17	1
%RSD	.1329	.2935	.4971	.7989	.1439	.2865	.4352
#1	13170	3646	2228	1205	4930	5964	133
#2	13180	3632	2242	1218	4921	5930	132
#3	13150	3653	2250	1224	4935	5949	133

Elem	Te	Th	Ti	Tl	U	V	W
Avge	9144	2035	571	354	14800	851	284
SDev	41	12	0	0	24	2	1
%RSD	.4484	.6138	.0000	.0000	.1630	.2035	.4061
#1	9167	2039	571	354	14820	850	285
#2	9169	2045	571	354	14780	850	285
#3	9097	2021	571	354	14810	853	283

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Elem	Y	Zn	Zr
Avge	220	123900	689
SDev	1	67	2
%RSD	.2628	.0542	.3023
#1	220	123800	687
#2	220	123900	688
#3	219	123900	691

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Method: ICP1A Sample Name: SPC-STD 960103I100 Operator: DRS
Run Time: 02/20/96 08:34:34
Comment: SPC-STD FOR Mn/Cu RATIO
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0587	-.3671	-.2073	.0409	-.0139	-.0020	-.2584
SDev	.0005	.0035	.0072	.0009	.0001	.0000	.0048
%RSD	.8593	.9497	3.459	2.193	.5696	.1892	1.867
#1	-.0588	-.3705	-.1992	.0418	-.0138	-.0020	-.2612
#2	-.0591	-.3672	-.2129	.0408	-.0139	-.0020	-.2529
#3	-.0581	-.3636	-.2099	.0400	-.0139	-.0020	-.2613

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0028	.0097	-.4352	-.0542	-.0237	9.490	-.0638
SDev	.0010	.0047	.0030	.0005	.0017	.005	.0004
%RSD	35.90	48.15	.6921	.8827	7.376	.0542	.7026
#1	-.0022	.0114	-.4384	-.0546	-.0256	9.484	-.0640
#2	-.0040	.0134	-.4347	-.0537	-.0233	9.493	-.0641
#3	-.0023	.0044	-.4324	-.0543	-.0222	9.494	-.0633

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0215	-.0498	-11.60	-.1109	9.721	-.2336	8.475
SDev	.0001	.0001	.06	.0006	.009	.0018	.005
%RSD	.5017	.2957	.4993	.5830	.0975	.7495	.0619
#1	-.0216	-.0499	-11.66	-.1116	9.721	-.2354	8.469
#2	-.0216	-.0498	-11.61	-.1103	9.730	-.2319	8.476
#3	-.0214	-.0496	-11.54	-.1107	9.711	-.2334	8.479

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0491	-.8217	-.4162	-.0446	-.3982	7.623	-1.144
SDev	.0002	.0235	.0029	.0010	.0089	.010	.012
%RSD	.4006	2.855	.6937	2.135	2.233	.1294	1.041
#1	-.0489	-.8480	-.4182	-.0452	-.3930	7.622	-1.149
#2	-.0493	-.8029	-.4176	-.0435	-.4085	7.614	-1.152
#3	-.0490	-.8142	-.4129	-.0452	-.3931	7.633	-1.130

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.5594	-.2047	-.3492	-.3388	.1452	-1.753	-.0056
SDev	.0022	.0014	.0043	.0062	.0016	.013	.0001
%RSD	.3883	.7065	1.245	1.841	1.117	.7630	1.241
#1	-.5597	-.2044	-.3539	-.3457	.1451	-1.740	-.0056
#2	-.5571	-.2063	-.3484	-.3373	.1436	-1.767	-.0057
#3	-.5615	-.2034	-.3453	-.3335	.1468	-1.752	-.0056

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.3669	.0319	-.0245	-.1545	-6.387	-.0469	-.1602
SDev	.0042	.0067	.0000	.0001	.030	.0003	.0020

%RSD	1.146	20.93	.0907	.0585	.4770	.6670	1.234
#1	-.3646	.0323	-.0245	-.1546	-6.361	-.0471	-.1590
#2	-.3644	.0384	-.0245	-.1545	-6.420	-.0470	-.1591
#3	-.3718	.0251	-.0245	-.1544	-6.379	-.0465	-.1625

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	-.0223	8.764	-.0489
SDev	.0002	.005	.0009
%RSD	.9483	.0544	1.738
#1	-.0222	8.759	-.0493
#2	-.0222	8.769	-.0495
#3	-.0226	8.765	-.0480

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Method: ICP1A Standard: ICP1.0

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	.5795	.1827	.1382	.1640	.0272	.0161	.1265
SDev	.0012	.0002	.0024	.0012	.0000	.0001	.0009
%RSD	.2121	.1095	1.700	.7450	.0000	.3593	.7087
#1	.5786	.1825	.1382	.1651	.0272	.0160	.1260
#2	.5809	.1829	.1406	.1627	.0272	.0161	.1275
#3	.5790	.1827	.1359	.1643	.0272	.0161	.1259

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Avge	.1121	.0596	.5598	.1214	.0400	.0444	.1706
SDev	.0002	.0033	.0013	.0003	.0006	.0003	.0003
%RSD	.1545	5.616	.2262	.2516	1.464	.6757	.2058
#1	.1123	.0597	.5600	.1211	.0407	.0444	.1706
#2	.1120	.0612	.5609	.1215	.0396	.0441	.1710
#3	.1120	.0549	.5584	.1217	.0398	.0447	.1703

Elem	Eu	Fe	K	La	Li	Mg	Mn
Avge	.0301	.0510	.1878	.0876	.0358	.2081	.0180
SDev	.0001	.0002	.0006	.0004	.0003	.0006	.0001
%RSD	.1916	.4079	.3120	.4107	.7023	.3126	.8471
#1	.0301	.0512	.1874	.0879	.0361	.2075	.0179
#2	.0302	.0511	.1885	.0881	.0358	.2088	.0182
#3	.0301	.0508	.1876	.0874	.0356	.2081	.0180

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Avge	.0684	.0352	.3270	.0472	.1105	1.171	1.312
SDev	.0005	.0001	.0003	.0004	.0018	.010	.005
%RSD	.7362	.4344	.0893	.9560	1.651	.8411	.3861
#1	.0689	.0352	.3268	.0467	.1093	1.182	1.313
#2	.0679	.0353	.3273	.0476	.1126	1.165	1.316
#3	.0683	.0350	.3268	.0472	.1096	1.166	1.306

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Avge	1.319	.3648	.2188	.1197	.4836	.5854	.0131
SDev	.004	.0010	.0020	.0008	.0017	.0015	.0000
%RSD	.3138	.2759	.9077	.6751	.3588	.2558	.0000
#1	1.323	.3659	.2210	.1206	.4827	.5871	.0131
#2	1.321	.3647	.2181	.1190	.4856	.5850	.0131
#3	1.315	.3639	.2172	.1196	.4825	.5842	.0131

Elem	Te	Th	Ti	Tl	U	V	W
Avge	.8548	.2037	.0570	.0329	1.482	.0848	.0282
SDev	.0018	.0007	.0001	.0001	.002	.0001	.0005
%RSD	.2133	.3551	.2681	.1757	.1612	.1361	1.751
#1	.8545	.2029	.0568	.0329	1.480	.0849	.0276
#2	.8532	.2041	.0571	.0328	1.485	.0847	.0284
#3	.8568	.2042	.0570	.0329	1.482	.0849	.0285

Elem	Y	Zn	Zr
Avge	.0220	.0322	.0691
SDev	.0001	.0007	.0000

%RSD	.6933	2.152	.0000
#1	.0219	.0326	.0691
#2	.0220	.0314	.0691
#3	.0222	.0326	.0691

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Method: ICP1A Standard: ICP1.1B

Elem	Ba	Co	Cr	Cu	Fe	Mg	Mo
Avge	.7032	1.577	1.019	.4211	6.176	3.980	1.038
SDev	.0026	.005	.001	.0020	.019	.009	.001
%RSD	.3627	.3140	.0912	.4845	.3092	.2161	.1301
#1	.7057	1.582	1.020	.4229	6.196	3.989	1.039
#2	.7006	1.572	1.018	.4189	6.159	3.973	1.036
#3	.7032	1.577	1.018	.4216	6.172	3.978	1.038

Elem	Na	Ni	Pb	Sr	Ti	Zn	Zr
Avge	.4778	.5492	6.148	.7558	1.257	2.537	2.234
SDev	.0032	.0021	.016	.0030	.004	.002	.008
%RSD	.6600	.3738	.2647	.3981	.2881	.0815	.3361
#1	.4810	.5509	6.165	.7589	1.261	2.539	2.241
#2	.4747	.5469	6.147	.7529	1.254	2.535	2.226
#3	.4776	.5497	6.132	.7555	1.257	2.536	2.233

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Method: ICP1A Standard: ICP1.1A

Elem	Ba	Co	Cr	Cu	Fe	Mg	Mo
Avge	6.619	13.88	9.386	3.667	57.36	34.38	9.322
SDev	.024	.04	.043	.012	.18	.11	.032
%RSD	.3671	.2860	.4562	.3224	.3133	.3315	.3483
#1	6.626	13.90	9.415	3.669	57.46	34.42	9.334
#2	6.592	13.84	9.337	3.655	57.16	34.26	9.285
#3	6.639	13.92	9.406	3.678	57.47	34.48	9.346

Elem	Na	Ni	Pb	Sr	Ti	Zn	Zr
Avge	4.347	4.756	48.30	7.255	11.84	23.67	20.97
SDev	.018	.014	.20	.029	.04	.09	.08
%RSD	.4170	.2914	.4149	.3950	.3625	.3664	.3643
#1	4.352	4.767	48.36	7.259	11.86	23.73	21.01
#2	4.327	4.740	48.08	7.224	11.79	23.57	20.88
#3	4.363	4.760	48.47	7.281	11.87	23.72	21.02

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Method: ICP1A Standard: ICP1.2

Elem	Al	B	Ca	Cd	K	Li	Mn
Avge	58.51	35.57	67.29	8.027	2.297	10.07	5.393
SDev	.58	.39	.68	.064	.022	.11	.056
%RSD	.9870	1.109	1.013	.8026	.9640	1.092	1.037
#1	57.85	35.13	66.51	7.954	2.273	9.947	5.330
#2	58.72	35.72	67.56	8.052	2.304	10.11	5.416
#3	58.95	35.87	67.79	8.075	2.315	10.16	5.435

Elem	P
Avge	9.917
SDev	.092
%RSD	.9314
#1	9.811
#2	9.962
#3	9.979

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Method: ICP1A Standard: ICP1.3

Elem	Dy	Eu	La	Nd	Ru	Th
Avge	37.82	9.141	4.810	12.97	28.44	9.833
SDev	.32	.073	.038	.10	.20	.080
%RSD	.8572	.8012	.7797	.7540	.7169	.8126
#1	37.90	9.151	4.813	12.98	28.44	9.850
#2	38.09	9.209	4.846	13.06	28.65	9.904
#3	37.46	9.063	4.772	12.87	28.24	9.747

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Method: ICP1A Standard: ICP1.4

Elem	As	Ce	Sb	V	Y
Avge	17.43	19.76	22.22	9.751	2.539
SDev	.13	.14	.16	.070	.018
%RSD	.7304	.7090	.7183	.7171	.7287
#1	17.29	19.60	22.04	9.672	2.518
#2	17.47	19.82	22.27	9.778	2.547
#3	17.53	19.87	22.35	9.804	2.552

Standardization Rpt. Tue 02-20-96 09:04:28 AM page 1

Method: ICP1A Standard: ICP1.5

Elem	U
Avge	41.43
SDev	.24
%RSD	.5827
#1	41.67
#2	41.19
#3	41.44

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Standardization Rpt.

Method: ICP1A Standard: ICP1.6

Elem	Be	Si	Te
Avge	1.384	63.81	40.92
SDev	.007	.26	.19
%RSD	.5174	.4090	.4524
#1	1.382	63.69	40.85
#2	1.393	64.11	41.13
#3	1.379	63.63	40.78

Standardization Rpt. Tue 02-20-96 09:11:58 AM page 1

Method: ICP1A Standard: ICP1.7

Elem	Ag	Bi	Se	Tl
Avge	25.70	20.74	2.605	1.016
SDev	.09	.05	.014	.002
%RSD	.3562	.2274	.5439	.1991
#1	25.65	20.73	2.603	1.018
#2	25.64	20.70	2.592	1.014
#3	25.80	20.80	2.620	1.018

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Method: ICP1A Standard: ICP1.8

Elem	Pd	Rh	Sn	W
Avge	16.75	40.24	6.780	2.496
SDev	.11	.29	.043	.021
%RSD	.6456	.7306	.6364	.8593
#1	16.74	40.23	6.772	2.496
#2	16.86	40.53	6.827	2.518
#3	16.64	39.94	6.742	2.475

Standardization Report Tue 02-20-96 09:15:47 AM page 1

Method: ICP1A Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag	328.068	ICP1.7	ICP1.0	.398092	-.230694	02/20/96 09:14:05
Al	308.215	ICP1.2	ICP1.0	8.57303	-1.56629	02/20/96 09:14:05
As	193.600	ICP1.4	ICP1.0	5.78311	-.799419	02/20/96 09:14:05
B	249.600	ICP1.2	ICP1.0	1.41205	-.231623	02/20/96 09:14:05
Ba	493.400	Multiple	Standards	1.49808	-.040861	02/20/96 08:48:40
Be	313.042	ICP1.6	ICP1.0	.730780	-.011741	02/20/96 09:14:05
Bi	223.061	ICP1.7	ICP1.0	4.85030	-.613402	02/20/96 09:14:05
Ca	317.900	ICP1.2	ICP1.0	3.72160	-.417192	02/20/96 09:14:05
Cd	228.800	ICP1.2	ICP1.0	1.25497	-.073541	02/20/96 09:14:05
Ce	418.659	ICP1.4	ICP1.0	2.60362	-1.45742	02/20/96 09:14:05
Co	228.600	Multiple	Standards	1.41292	-.172075	02/20/96 08:48:40
Cr	205.500	Multiple	Standards	2.09078	-.084115	02/20/96 08:48:40
Cu	324.700	Multiple	Standards	5.41322	-.240698	02/20/96 08:48:40
Dy	353.170	ICP1.3	ICP1.0	1.32821	-.226637	02/20/96 09:14:05
Eu	381.900	ICP1.3	ICP1.0	2.19518	-.066148	02/20/96 09:14:05
Fe	259.900	Multiple	Standards	3.37440	-.178156	02/20/96 08:48:40
K	766.500	ICP1.2	ICP1.0	237.027	-44.5215	02/20/96 09:14:05
La	398.852	ICP1.3	ICP1.0	4.23519	-.371950	02/20/96 09:14:05
Li	670.700	ICP1.2	ICP1.0	4.98213	-.178526	02/20/96 09:14:05
Mg	279.078	Multiple	Standards	6.95650	-1.45893	02/20/96 08:48:40
Mn	257.600	ICP1.2	ICP1.0	1.86037	-.033549	02/20/96 09:14:05
Mo	202.000	Multiple	Standards	2.11158	-.144776	02/20/96 08:48:40
Na	588.900	Multiple	Standards	57.2244	-2.01531	02/20/96 08:48:40
Nd	406.106	ICP1.3	ICP1.0	3.95479	-1.29308	02/20/96 09:14:05
Ni	231.600	Multiple	Standards	4.11214	-.194529	02/20/96 08:48:40
P	214.900	ICP1.2	ICP1.0	10.1971	-1.12678	02/20/96 09:14:05
Pb	220.300	Multiple	Standards	1.03215	-1.20990	02/20/96 08:48:40
Pd	360.959	ICP1.8	ICP1.0	3.23973	-4.25042	02/20/96 09:14:05
Rh	343.489	ICP1.8	ICP1.0	1.28481	-1.69526	02/20/96 09:14:05
Ru	240.271	ICP1.3	ICP1.0	1.78079	-.649692	02/20/96 09:14:05
Sb	206.838	ICP1.4	ICP1.0	4.54543	-.994389	02/20/96 09:14:05
Se	196.026	ICP1.7	ICP1.0	8.04775	-.963584	02/20/96 09:14:05
Si	288.100	ICP1.6	ICP1.0	3.15821	-1.52731	02/20/96 09:14:05
Sn	242.950	ICP1.8	ICP1.0	9.16639	-5.36631	02/20/96 09:14:05
Sr	421.500	Multiple	Standards	1.36356	-.017976	02/20/96 08:48:40
Te	214.275	ICP1.6	ICP1.0	1.24794	-1.06678	02/20/96 09:14:05
Th	283.730	ICP1.3	ICP1.0	5.19223	-1.05783	02/20/96 09:14:05
Ti	334.900	Multiple	Standards	1.68164	-.095966	02/20/96 08:48:40
Tl	190.864	ICP1.7	ICP1.0	20.3342	-.668316	02/20/96 09:14:05
U	378.280	ICP1.5	ICP1.0	12.5163	-18.5516	02/20/96 09:14:05
V	292.402	ICP1.4	ICP1.0	2.06904	-.175523	02/20/96 09:14:05
W	224.875	ICP1.8	ICP1.0	20.5383	-.578496	02/20/96 09:14:05
Y	371.030	ICP1.4	ICP1.0	3.97314	-.087542	02/20/96 09:14:05
Zn	213.800	Multiple	Standards	.821704	-.026976	02/20/96 08:48:40
Zr	339.100	Multiple	Standards	2.35055	-.163208	02/20/96 08:48:40

Standardization Report Tue 02-20-96 09:16:15 AM page 1

Method: ICP1A Slope = IR/Conc(SIR)

Element	Wavelen	High std	Low std	Slope	BEC	Date Standardized
Ag	328.068	ICP1.7	ICP1.0	2.51198	.230694	02/20/96 09:14:05
Al	308.215	ICP1.2	ICP1.0	.116645	1.56629	02/20/96 09:14:05
As	193.600	ICP1.4	ICP1.0	.172917	.799419	02/20/96 09:14:05
B	249.600	ICP1.2	ICP1.0	.708191	.231623	02/20/96 09:14:05
Ba	493.400	Multiple	Standards	.667522	.040861	02/20/96 08:48:40
Be	313.042	ICP1.6	ICP1.0	1.36840	.011741	02/20/96 09:14:05
Bi	223.061	ICP1.7	ICP1.0	.206173	.613402	02/20/96 09:14:05
Ca	317.900	ICP1.2	ICP1.0	.268701	.417192	02/20/96 09:14:05
Cd	228.800	ICP1.2	ICP1.0	.796833	.073541	02/20/96 09:14:05
Ce	418.659	ICP1.4	ICP1.0	.384080	1.45742	02/20/96 09:14:05
Co	228.600	Multiple	Standards	.707756	.172075	02/20/96 08:48:40
Cr	205.500	Multiple	Standards	.478291	.084115	02/20/96 08:48:40
Cu	324.700	Multiple	Standards	.184733	.240698	02/20/96 08:48:40
Dy	353.170	ICP1.3	ICP1.0	.752892	.226637	02/20/96 09:14:05
Eu	381.900	ICP1.3	ICP1.0	.455543	.066148	02/20/96 09:14:05
Fe	259.900	Multiple	Standards	.296349	.178156	02/20/96 08:48:40
K	766.500	ICP1.2	ICP1.0	.004219	44.5215	02/20/96 09:14:05
La	398.852	ICP1.3	ICP1.0	.236117	.371850	02/20/96 09:14:05
Li	670.700	ICP1.2	ICP1.0	.200717	.178526	02/20/96 09:14:05
Mg	279.078	Multiple	Standards	.143750	1.45893	02/20/96 08:48:40
Mn	257.600	ICP1.2	ICP1.0	.537527	.033549	02/20/96 09:14:05
Mo	202.000	Multiple	Standards	.473580	.144776	02/20/96 08:48:40
Na	588.900	Multiple	Standards	.017475	2.01531	02/20/96 08:48:40
Nd	406.106	ICP1.3	ICP1.0	.252858	1.29308	02/20/96 09:14:05
Ni	231.600	Multiple	Standards	.243182	.194529	02/20/96 08:48:40
P	214.900	ICP1.2	ICP1.0	.098067	1.12678	02/20/96 09:14:05
Pb	220.300	Multiple	Standards	.968856	1.20990	02/20/96 08:48:40
Pd	360.959	ICP1.8	ICP1.0	.308667	4.25042	02/20/96 09:14:05
Rh	343.489	ICP1.8	ICP1.0	.778327	1.69526	02/20/96 09:14:05
Ru	240.271	ICP1.3	ICP1.0	.561548	.649692	02/20/96 09:14:05
Sb	206.838	ICP1.4	ICP1.0	.220001	.994389	02/20/96 09:14:05
Se	196.026	ICP1.7	ICP1.0	.124258	.963584	02/20/96 09:14:05
Si	288.100	ICP1.6	ICP1.0	.316636	1.52731	02/20/96 09:14:05
Sn	242.950	ICP1.8	ICP1.0	.109094	5.36631	02/20/96 09:14:05
Sr	421.500	Multiple	Standards	.733373	.017976	02/20/96 08:48:40
Te	214.275	ICP1.6	ICP1.0	.801323	1.06678	02/20/96 09:14:05
Th	283.730	ICP1.3	ICP1.0	.192595	1.05783	02/20/96 09:14:05
Ti	334.900	Multiple	Standards	.594656	.095966	02/20/96 08:48:40
Tl	190.864	ICP1.7	ICP1.0	.049178	.668316	02/20/96 09:14:05
U	378.280	ICP1.5	ICP1.0	.079896	18.5516	02/20/96 09:14:05
V	292.402	ICP1.4	ICP1.0	.483317	.175523	02/20/96 09:14:05
W	224.875	ICP1.8	ICP1.0	.048690	.578496	02/20/96 09:14:05
Y	371.030	ICP1.4	ICP1.0	.251690	.087542	02/20/96 09:14:05
Zn	213.800	Multiple	Standards	1.21698	.026976	02/20/96 08:48:40
Zr	339.100	Multiple	Standards	.425433	.163208	02/20/96 08:48:40

Standardization Readback Report Tue 02-20-96 09:16:34 AM page 1

Method: ICP1A

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ag	328.068	ICP1.0	.000000	-.000000	.000000
		ICP1.7	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Al	308.215	ICP1.0	.000000	-.000000	.000000
		ICP1.2	500.000	500.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
As	193.600	ICP1.0	.000000	-.000000	.000000
		ICP1.4	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
B	249.600	ICP1.0	.000000	.000000	-.000000
		ICP1.2	50.0000	50.0000	-.000004

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ba	493.400	ICP1.0	.000000	-.000113	.000113
		ICP1.1B	1.00000	1.01254	-.012538
		ICP1.1A	10.0000	9.87462	.125381

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Be	313.042	ICP1.0	.000000	.000000	-.000000
		ICP1.6	1.00000	1.00000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Bi	223.061	ICP1.0	.000000	-.000000	.000000
		ICP1.7	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ca	317.900	ICP1.0	.000000	.000000	-.000000
		ICP1.2	250.000	250.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cd	228.800	ICP1.0	.000000	.000000	-.000000
		ICP1.2	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ce	418.659	ICP1.0	.000000	.000000	-.000000
		ICP1.4	50.0000	50.0000	.000000

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Co	228.600	ICP1.0	.000000	-.000500	.000500
		ICP1.1B	2.00000	2.05553	-.055529
		ICP1.1A	20.0000	19.4447	.555288
CorCoef:	0.99999				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cr	205.500	ICP1.0	.000000	-.000414	.000414
		ICP1.1B	2.00000	2.04604	-.046041
		ICP1.1A	20.0000	19.5396	.460405
CorCoef:	0.99999				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Cu	324.700	ICP1.0	.000000	-.000351	.000351
		ICP1.1B	2.00000	2.03899	-.038989
		ICP1.1A	20.0000	19.6101	.389889
CorCoef:	0.99999				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Dy	353.170	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Eu	381.900	ICP1.0	.000000	-.000000	.000000
		ICP1.3	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Fe	259.900	ICP1.0	.000000	-.005949	.005949
		ICP1.1B	20.0000	20.6610	-.661018
		ICP1.1A	200.000	193.390	6.61017
CorCoef:	0.99998				

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
K	766.500	ICP1.0	.000000	.000000	-.000000
		ICP1.2	500.000	500.000	-.000031

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
La	398.852	ICP1.0	.000000	-.000000	.000000
		ICP1.3	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Li	670.700	ICP1.0	.000000	-.000000	.000000
		ICP1.2	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mg	279.078	ICP1.0	.000000	-.011047	.011047
		ICP1.1B	25.0000	26.2275	-1.22749
		ICP1.1A	250.000	237.725	12.2749
CorCoef:	0.99995				

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mn	257.600	ICP1.0	.000000	-.000000	.000000
		ICP1.2	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Mo	202.000	ICP1.0	.000000	-.000415	.000415
		ICP1.1B	2.00000	2.04612	-.046124
		ICP1.1A	20.0000	19.5388	.461235

CorCoef: 0.99999

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Na	588.900	ICP1.0	.000000	-.002921	.002921
		ICP1.1B	25.0000	25.3246	-.324577
		ICP1.1A	250.000	246.754	3.24579

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Nd	406.106	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ni	231.600	ICP1.0	.000000	-.000573	.000573
		ICP1.1B	2.00000	2.06372	-.063720
		ICP1.1A	20.0000	19.3628	.637199

CorCoef: 0.99998

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
P	214.900	ICP1.0	.000000	-.000000	.000000
		ICP1.2	100.000	100.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Pb	220.300	ICP1.0	.000000	-.001219	.001219
		ICP1.1B	5.00000	5.13549	-.135494
		ICP1.1A	50.0000	48.6451	1.35493

CorCoef: 0.99999

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Pd	360.959	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Rh	343.489	ICP1.0	.000000	-.000000	.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ru	240.271	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

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Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sb	206.839	ICP1.0	.000000	-.000000	.000000
		ICP1.4	100.000	100.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Se	196.026	ICP1.0	.000000	-.000000	.000000
		ICP1.7	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Si	288.100	ICP1.0	.000000	.000000	-.000000
		ICP1.6	200.000	200.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sn	242.950	ICP1.0	.000000	-.000000	.000000
		ICP1.8	50.0000	56.7845	-6.78455

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Sr	421.500	ICP1.0	.000000	-.000113	.000113
		ICP1.1B	1.00000	1.01256	-.012560
		ICP1.1A	10.0000	9.87440	.125599

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Te	214.275	ICP1.0	.000000	.000000	-.000000
		ICP1.6	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Th	283.730	ICP1.0	.000000	.000000	-.000000
		ICP1.3	50.0000	50.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Ti	334.900	ICP1.0	.000000	-.000168	.000168
		ICP1.1B	2.00000	2.01865	-.018647
		ICP1.1A	20.0000	19.8135	.186468

CorCoef: 1.00000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Tl	190.864	ICP1.0	.000000	.000000	-.000000
		ICP1.7	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
U	378.280	ICP1.0	.000000	-.000001	.000001
		ICP1.5	500.000	500.000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
V	292.402	ICP1.0	.000000	.000000	-.000000
		ICP1.4	20.0000	20.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
W	224.875	ICP1.0	.000000	-.000000	.000000
		ICP1.8	50.0000	50.6947	-.694698

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Y	371.030	ICP1.0	.000000	-.000000	.000000
		ICP1.4	10.0000	10.0000	.000000

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Zn	213.800	ICP1.0	.000000	-.000517	.000517
		ICP1.1B	2.00000	2.05744	-.057440
		ICP1.1A	20.0000	19.4256	.574400

CorCoef: 0.99999

Element	Wavelength	Standard	Known Concentration	Measured Concentration	Residual Concentration
Zr	339.100	ICP1.0	.000000	-.000785	.000785
		ICP1.1B	5.00000	5.08721	-.087213
		ICP1.1A	50.0000	49.1279	.872128

CorCoef: 0.99999

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Method: ICP1A Sample Name: ICP1.0 960103F100 Operator: DRS
Run Time: 02/20/96 09:23:05
Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0012	.0062	.0274	-.0003	.0000	.0340
SDev	.0005	.0036	.0126	.0033	.0000	.0000	.0157
%RSD	169.8	293.5	202.8	11.98	.0000	7.738	46.14
#1	.0006	-.0002	.0041	.0297	-.0003	.0000	.0458
#2	.0006	.0053	.0198	.0236	-.0003	.0000	.0400
#3	-.0003	-.0015	-.0052	.0288	-.0003	.0000	.0162

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0166	.0209	-.0058	-.0008	-.0009	-.0021	-.0018
SDev	.0003	.0140	.0019	.0007	.0029	.0008	.0001
%RSD	1.673	67.02	33.00	90.92	329.2	35.97	5.037
#1	-.0169	.0312	-.0036	-.0003	-.0040	-.0013	-.0019
#2	-.0163	.0265	-.0070	-.0005	.0018	-.0028	-.0018
#3	-.0165	.0050	-.0069	-.0016	-.0005	-.0024	-.0018

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0074	-.3713	.0005	.0002	-.0172	-.0015
SDev	.0001	.0005	.0137	.0021	.0016	.0029	.0002
%RSD	109.8	6.356	3.685	460.5	964.4	16.96	11.86
#1	-.0000	-.0073	-.3634	.0018	.0008	-.0170	-.0013
#2	-.0003	-.0079	-.3634	.0015	.0013	-.0203	-.0017
#3	-.0000	-.0070	-.3871	-.0020	-.0017	-.0144	-.0015

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	-.0068	-.0063	-.0055	.0004	-.0083	.0070
SDev	.0015	.0152	.0039	.0034	.0124	.0075	.0101
%RSD	125.4	223.6	62.63	62.64	3077.	90.74	145.4
#1	-.0026	.0047	-.0087	-.0095	-.0139	-.0020	.0084
#2	-.0012	-.0010	-.0017	-.0033	.0079	-.0063	.0163
#3	.0003	-.0240	-.0083	-.0037	.0072	-.0166	-.0038

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0041	.0025	-.0003	.0043	1.806	-.0017	-.0001
SDev	.0029	.0013	.0130	.0076	.082	.0137	.0000
%RSD	72.04	54.09	4909.	177.6	4.528	823.8	.4255
#1	-.0059	.0014	-.0152	.0095	1.887	-.0067	-.0001
#2	-.0007	.0020	.0060	-.0044	1.807	.0138	-.0001
#3	-.0057	.0040	.0084	.0078	1.723	-.0121	-.0001

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0092	.0001	-.0008	.0130	-.0662	-.0009	.0000
SDev	.0004	.0023	.0001	.0056	.0306	.0002	.0105

%RSD	3.890	3086.	11.09	43.46	46.27	16.53	23160.
#1	.0088	-.0010	-.0009	.0074	-.0429	-.0010	-.0116
#2	.0095	.0027	-.0009	.0187	-.1009	-.0008	.0089
#3	.0094	-.0015	-.0007	.0129	-.0546	-.0010	.0028

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	-.0003	-.0031	-.0019
SDev	.0002	.0006	.0003
%RSD	70.95	20.37	17.74
#1	-.0005	-.0032	-.0018
#2	-.0001	-.0024	-.0016
#3	-.0005	-.0036	-.0023

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Method: ICP1A Sample Name: QC_MCVA 9601301901 Operator: DRS

Run Time: 02/20/96 09:25:59

Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS

Mode: CONC Corr. Factor: 1

Pass* Sb-N/A DKS 2/20/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5080	10.05	2.640	2.104	.5106	.0973	24.82
SDev	.0030	.05	.022	.017	.0028	.0006	.14
%RSD	.5933	.4919	.8439	.7964	.5444	.6493	.5570
#1	.5045	9.989	2.615	2.085	.5077	.0966	24.67
#2	.5099	10.07	2.649	2.111	.5109	.0975	24.83
#3	.5096	10.08	2.656	2.117	.5133	.0977	24.95
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	10.00	2.500	2.000	.5000	.1000	25.00
Range	.0500	1.000	.2500	.2000	.0500	.0100	2.500

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	25.04	.5027	-.0031	1.029	1.035	.9360	-.0003
SDev	.14	.0100	.0028	.005	.006	.0083	.0004
%RSD	.5650	1.986	91.99	.4479	.5681	.8921	124.1
#1	24.87	.5082	-.0035	1.024	1.029	.9264	-.0002
#2	25.10	.5087	-.0038	1.029	1.037	.9398	-.0000
#3	25.14	.4912	.0000	1.033	1.040	.9418	-.0007
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	25.00	.5000		1.000	1.000	1.000	
Range	2.500	.0500		.1000	.1000	.1000	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0022	20.78	24.29	.0053	2.021	33.41	.5157
SDev	.0003	.11	.05	.0010	.014	.19	.0031
%RSD	11.50	.5398	.1932	18.07	.6850	.5593	.5983
#1	.0025	20.65	24.24	.0064	2.006	33.20	.5128
#2	.0021	20.83	24.29	.0044	2.026	33.48	.5154
#3	.0021	20.85	24.33	.0052	2.032	33.56	.5189
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value		20.00	25.00		2.000	31.20	.5000
Range		2.000	2.500		.2000	3.120	.0500

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.035	37.69	.0084	1.016	5.008	2.576	-.0039
SDev	.005	.21	.0015	.005	.035	.005	.0141
%RSD	.4363	.5469	17.48	.5257	.7015	.2065	362.1
#1	1.029	37.46	.0068	1.012	4.968	2.575	.0124
#2	1.036	37.79	.0097	1.013	5.031	2.572	-.0130
#3	1.038	37.83	.0088	1.022	5.026	2.582	-.0111
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK
Value	1.000	36.70		1.000		2.500	

Range	.1000	3.670		.1000		.2500	
Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	.0146	03.293	2.634	19.81	.1520	.5176
SDev	.0017	.0047	.022	.015	.11	.0113	.0032
%RSD	129.1	32.36	.6594	.5660	.5302	7.453	.6272
#1	.0033	.0167	03.274	2.617	19.69	.1461	.5139
#2	-.0001	.0180	03.317	2.644	19.87	.1448	.5189
#3	.0009	.0092	03.287	2.642	19.88	.1650	.5201
Errors	NOCHECK	NOCHECK	QC Fail	QC Pass	QC Pass	NOCHECK	QC Pass
Value			2.500	2.500	20.00		.5000
Range			.2500	.2500	2.000		.0500

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0659	.0323	1.014	2.520	.1584	1.011	.0442
SDev	.0087	.0030	.005	.010	.0130	.007	.0135
%RSD	13.22	9.191	.5180	.3649	8.190	.6750	30.44
#1	.0598	.0343	1.008	2.509	.1685	1.003	.0423
#2	.0758	.0336	1.016	2.536	.1438	1.012	.0585
#3	.0619	.0289	1.018	2.525	.1630	1.017	.0318
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	NOCHECK
Value			1.000	2.500		1.000	
Range			.1000	.2500		.1000	

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	.0014	1.020	2.022
SDev	.0002	.010	.013
%RSD	16.58	.9348	.6533
#1	.0016	1.013	2.008
#2	.0016	1.031	2.026
#3	.0012	1.016	2.033
Errors	NOCHECK	QC Pass	QC Pass
Value		1.000	2.000
Range		.1000	.2000

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Method: ICP1A Sample Name: QC_MCVB1 9601231901 Operator: DRS
Run Time: 02/20/96 09:29:49
Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS
Mode: CONC Corr. Factor: 1

PASS DRS 2/20/96

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0200	-.1402	.2986	-.0203	.0011	.0011	.1371
SDev	.0006	.0098	.0010	.0039	.0001	.0000	.0177
%RSD	3.233	6.962	.3281	19.14	7.617	1.280	12.91
#1	.0193	-.1400	.2986	-.0242	.0012	.0011	.1492
#2	.0206	-.1500	.2995	-.0203	.0011	.0011	.1453
#3	.0200	-.1305	.2976	-.0164	.0011	.0011	.1168
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0406	.0172	1.924	.0030	.0067	.0315	1.958
SDev	.0044	.0019	.006	.0003	.0078	.0034	.004
%RSD	10.96	10.85	.2985	11.09	56.96	10.78	.1866
#1	.0442	.0186	1.924	.0026	.0054	.0347	1.960
#2	.0420	.0179	1.917	.0031	.0111	.0319	1.953
#3	.0357	.0151	1.929	.0032	.0037	.0279	1.959
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value			2.000				2.000
Range			10.00				10.00

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.965	.0338	-1.122	.9601	.0023	-.0365	.0001
SDev	.002	.0034	.062	.0015	.0000	.0229	.0002
%RSD	.1125	9.506	7.319	.1577	.0000	62.64	141.1
#1	1.966	.0389	-1.075	.9604	.0023	-.0116	.0003
#2	1.963	.0363	-1.217	.9585	.0023	-.0415	-.0001
#3	1.967	.0322	-1.075	.9615	.0023	-.0565	.0001
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value	2.000			1.000			
Range	10.00			10.00			

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0105	.1673	1.937	.1354	.0987	.2604	1.882
SDev	.0003	.0200	.007	.0070	.0280	.0005	.026
%RSD	2.371	11.95	.3400	5.193	28.40	.2082	1.378
#1	.0108	.1558	1.933	.1435	.1255	.2610	1.863
#2	.0103	.1903	1.932	.1307	.0696	.2599	1.872
#3	.0103	.1557	1.944	.1320	.1009	.2604	1.912
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value			2.000				2.000

Range			10.00				10.00
Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.968	2.057	.1344	.0792	19.40	2.133	.0028
SDev	.011	.009	.0039	.0181	2.15	.015	.0001
%RSD	.5401	.4353	2.903	22.92	11.09	.7176	2.792
#1	1.970	2.059	.1337	.0871	17.18	2.146	.0029
#2	1.957	2.047	.1387	.1001	19.54	2.116	.0028
#3	1.978	2.064	.1310	.0704	21.47	2.136	.0028
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value	2.000	2.000				2.000	
Range	10.00	10.00				10.00	

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.010	4.577	.0049	.0462	23.60	.0025	1.976
SDev	.004	.494	.0001	.0041	.13	.0002	.012
%RSD	.1743	10.78	3.159	8.952	.5552	7.839	.6147
#1	2.013	4.512	.0049	.0501	23.55	.0025	1.983
#2	2.006	5.100	.0051	.0418	23.50	.0026	1.987
#3	2.011	04.119	.0047	.0466	23.76	.0022	1.964
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	2.000	5.000			25.00		2.000
Range	10.00	10.00			10.00		10.00

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	.9371	.0055	-.0208
SDev	.0022	.0007	.0019
%RSD	.2340	12.19	9.302
#1	.9379	.0062	-.0204
#2	.9388	.0056	-.0228
#3	.9346	.0048	-.0190
Errors	QC Pass	NOCHECK	NOCHECK
Value	1.000		
Range	10.00		

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Method: ICP1A Sample Name: QC SSTA 9512081902 Operator: DRS
Run Time: 02/20/96 09:33:23
Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0274	250.8	.6775	.3093	.0100	.0006	197.5
SDev	.0007	.3	.0009	.0030	.0001	.0001	.2
%RSD	2.526	.1243	.1337	.9575	.8672	12.19	.1226
#1	-.0267	250.9	.6781	.3121	.0101	.0007	197.4
#2	-.0281	250.4	.6764	.3096	.0099	.0006	197.2
#3	-.0275	251.0	.6779	.3062	.0099	.0006	197.7

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	246.8	.0669	.1035	.0166	.2781	-.1518	.0240
SDev	.4	.0121	.0125	.0023	.0044	.0023	.0008
%RSD	.1699	18.13	12.11	14.00	1.593	1.530	3.312
#1	246.7	.0587	.1096	.0171	.2812	-.1538	.0244
#2	246.4	.0611	.0891	.0140	.2730	-.1524	.0231
#3	247.2	.0808	.1119	.0186	.2801	-.1492	.0245

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0891	199.6	101.6	50.31	.0354	-.6719	.0194
SDev	.0005	.2	.3	.10	.0010	.0286	.0003
%RSD	.5225	.1230	.2963	.1915	2.932	4.263	1.281
#1	.0896	199.7	101.8	50.30	.0362	-.7050	.0196
#2	.0890	199.3	101.2	50.21	.0342	-.6552	.0192
#3	.0887	199.8	101.8	50.41	.0357	-.6556	.0195

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1156	.8727	.1635	192.0	200.0	1.031	.4182
SDev	.0019	.0087	.0044	.4	.7	.025	.0107
%RSD	1.625	.9950	2.684	.2074	.3447	2.438	2.569
#1	.1172	.8709	.1614	191.9	200.0	1.040	.4097
#2	.1162	.8822	.1605	191.6	199.3	1.003	.4147
#3	.1135	.8651	.1685	192.4	200.7	1.051	.4303

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1223	.1986	.7746	1.665	9.447	1.900	.0196
SDev	.0034	.0038	.0103	.017	1.010	.054	.0001
%RSD	2.820	1.930	1.327	1.013	10.69	2.833	.4007
#1	.1251	.1955	.7756	1.646	10.47	1.892	.0195
#2	.1184	.2029	.7844	1.668	9.428	1.851	.0196
#3	.1234	.1975	.7639	1.679	8.447	1.958	.0196

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.6444	.6035	.0039	.4172	200.5	.0457	.5321
SDev	.0086	.0074	.0004	.0164	.1	.0015	.0144

%RSD	1.342	1.227	10.65	3.929	.0571	3.324	2.702
#1	.6359	.6066	.0040	.4190	200.6	.0449	.5423
#2	.6442	.5951	.0034	.3999	200.4	.0446	.5384
#3	.6532	.6089	.0041	.4326	200.4	.0475	.5157

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	.0255	.0133	.0016
SDev	.0003	.0059	.0004
%RSD	1.264	44.75	24.83
#1	.0259	.0201	.0016
#2	.0252	.0091	.0012
#3	.0255	.0107	.0020

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Method: ICP1A Sample Name: QC SSTMCV 9512081903 Operator: DRS
Run Time: 02/20/96 09:37:14
Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5151	5.259	2.146	.0790	.1031	.0997	1.811
SDev	.0021	.015	.018	.0039	.0001	.0001	.013
%RSD	.4126	.2766	.8599	4.928	.1453	.1292	.6952
#1	.5126	5.270	2.124	.0828	.1030	.0996	1.825
#2	.5163	5.265	2.159	.0790	.1031	.0998	1.807
#3	.5164	5.243	2.153	.0751	.1033	.0996	1.801

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.295	.1875	.0063	-.0002	.3147	-.0046	.0010
SDev	.022	.0038	.0017	.0007	.0014	.0020	.0002
%RSD	1.675	2.041	26.43	366.6	.4327	43.42	18.90
#1	1.317	.1899	.0050	.0004	.3134	-.0060	.0011
#2	1.295	.1831	.0058	.0000	.3161	-.0055	.0008
#3	1.274	.1896	.0082	-.0010	.3146	-.0023	.0011

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0080	.7728	50.30	.0643	.0023	-.0686	.1040
SDev	.0002	.0173	.08	.0041	.0013	.0037	.0005
%RSD	2.750	2.236	.1655	6.296	56.69	5.440	.4515
#1	.0080	.7905	50.29	.0685	.0033	-.0687	.1035
#2	.0078	.7717	50.38	.0646	.0008	-.0649	.1045
#3	.0082	.7560	50.22	.0603	.0028	-.0723	.1039

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0054	5.200	.0066	.9049	4.254	3.119	-.0250
SDev	.0022	.021	.0022	.0161	.029	.011	.0084
%RSD	41.13	.3967	32.58	1.775	.6790	.3550	33.68
#1	.0066	5.206	.0042	.9223	4.282	3.110	-.0212
#2	.0028	5.218	.0082	.9017	4.256	3.131	-.0346
#3	.0066	5.178	.0075	.8906	4.224	3.116	-.0192

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	.0118	2.689	2.624	5.370	.0700	.0015
SDev	.0028	.0005	.003	.010	.103	.0142	.0000
%RSD	232.7	3.903	.1004	.3882	1.923	20.33	.0173
#1	-.0044	.0114	2.691	2.631	5.475	.0562	.0015
#2	.0003	.0123	2.689	2.630	5.367	.0692	.0015
#3	.0005	.0116	2.686	2.613	5.269	.0846	.0015

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0320	.0668	.0002	.0192	20.31	.5148	.0360
SDev	.0042	.0108	.0001	.0060	.04	.0002	.0084

%RSD	13.15	16.21	95.25	31.34	.1729	.0408	23.23
#1	.0288	.0590	-.0000	.0224	20.30	.5146	.0410
#2	.0305	.0791	.0002	.0123	20.28	.5150	.0407
#3	.0368	.0622	.0003	.0230	20.35	.5149	.0264

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	.0008	-.0018	.5069
SDev	.0002	.0002	.0009
%RSD	26.86	10.25	.1752
#1	.0006	-.0019	.5065
#2	.0010	-.0016	.5062
#3	.0009	-.0020	.5079

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Method: ICP1A Sample Name: QC_SRM-1643d 106518 Operator: DRS
Run Time: 02/20/96 09:41:05
Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.0024	0.1886	0.0687	0.1725	.5233	0.0125	.0824
SDev	.0004	.0034	.0097	.0012	.0011	.0001	.0076
%RSD	18.37	1.777	14.08	.7049	.2110	.3669	9.153
#1	0.0023	0.1900	0.0715	0.1738	.5245	.0125	.0820
#2	0.0020	0.1910	0.0767	0.1714	.5229	0.0125	.0902
#3	0.0029	0.1848	0.0580	0.1722	.5224	0.0124	.0752
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Pass	QC Fail	NOCHECK
Value	.0013	.1276	.0560	.1448	.5065	.0125	
Range	.0570	3.500	.7300	5.200	6.900	.2800	

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	31.04	0.0090	.0070	0.0265	0.0216	0.0151	.0005
SDev	.08	.0039	.0067	.0009	.0004	.0003	.0006
%RSD	.2674	42.75	95.46	3.554	1.671	1.950	123.3
#1	31.13	0.0087	.0028	0.0274	0.0214	0.0148	-.0002
#2	30.98	0.0130	.0035	0.0265	0.0214	0.0154	.0007
#3	30.99	0.0053	.0147	0.0255	0.0220	0.0152	.0009
Errors	QC Pass	QC Fail	NOCHECK	QC Fail	QC Fail	QC Fail	NOCHECK
Value	31.04	.0065		.0250	.0165	.0205	
Range	.6400	.3700		.5900	.2000	3.800	

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0015	0.1352	02.370	.0197	0.0196	08.660	0.0390
SDev	.0003	.0032	.135	.0008	.0011	.042	.0003
%RSD	17.09	2.380	5.686	4.021	5.871	.4899	.7907
#1	.0012	0.1379	02.220	.0200	0.0203	08.707	0.0392
#2	.0016	0.1362	02.410	.0202	0.0183	08.624	0.0387
#3	.0016	0.1317	02.481	.0188	0.0203	08.649	0.0392
Errors	NOCHECK	QC Fail	QC Fail	NOCHECK	QC Fail	QC Fail	QC Fail
Value		.0912	2.356		.0165	7.989	.0377
Range		3.900	.0350		.5500	.0350	.8300

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.1153	022.29	.0174	0.1521	.0830	0.0197	.0263
SDev	.0029	.09	.0014	.0039	.0176	.0086	.0111
%RSD	2.501	.4109	7.824	2.579	21.25	43.88	42.11
#1	0.1158	022.38	.0173	0.1525	.0725	0.0173	.0136
#2	0.1179	022.30	.0161	0.1558	.0731	0.0125	.0316
#3	.1122	22.20	.0188	0.1480	.1034	0.0293	.0338
Errors	QC Fail	QC Fail	NOCHECK	QC Fail	NOCHECK	QC Fail	NOCHECK
Value	.1129	22.07		.0581		.0181	

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Range	1.700	.6400		2.700		.6400	
Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0100	.0036	0.0779	0.0344	3.660	.0104	0.3053
SDev	.0036	.0034	.0043	.0061	.040	.0070	.0007
%RSD	36.23	92.30	5.590	17.65	1.088	67.55	.2363
#1	.0073	.0062	0.0738	0.0406	3.699	.0166	0.3061
#2	.0083	-.0001	0.0774	0.0342	3.661	.0028	0.3051
#3	.0142	.0048	0.0824	0.0284	3.619	.0118	.3048
Errors	NOCHECK	NOCHECK	QC Fail	QC Fail	NOCHECK	NOCHECK	QC Fail
Value			.0541	.0114			.2948
Range			1.100	.1700			3.400

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0209	-.0111	.0007	0.0198	.4201	0.0336	.0066
SDev	.0095	.0036	.0001	.0103	.0508	.0001	.0071
%RSD	45.43	32.98	12.58	52.83	12.09	.1600	82.59
#1	.0154	-.0082	.0007	0.0081	.3919	0.0357	.0127
#2	.0154	-.0098	.0006	0.0230	.3897	0.0357	.0004
#3	.0319	-.0152	.0007	0.0284	.4789	.0356	.0126
Errors	NOCHECK	NOCHECK	NOCHECK	QC Fail	NOCHECK	QC Fail	NOCHECK
Value				.0073		.0351	
Range				.2500		1.400	

Elem	Y	Zn	Zr
Units	ppm	ppm	ppm
Avge	.0009	0.0738	.0009
SDev	.0006	.0015	.0003
%RSD	61.29	1.989	36.97
#1	.0008	.0722	.0006
#2	.0004	0.0741	.0009
#3	.0016	0.0751	.0012
Errors	NOCHECK	QC Fail	NOCHECK
Value		.0725	
Range		.6500	

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Method: ICP1A Sample Name: QC CCV1 960126H901 Operator: DRS
Run Time: 02/20/96 09:45:18
Comment: (CORE 118 KOH/KNO3 FUSIONS)K.SILVERS
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0021	1.957	2.077	2.041	.9982	.9876	1.980
SDev	.0005	.008	.002	.012	.0032	.0024	.022
%RSD	24.25	.4202	.0813	.5945	.3229	.2483	1.102
#1	.0027	1.965	2.077	2.042	.9984	.9885	1.996
#2	.0020	1.958	2.076	2.052	1.001	.9895	1.988
#3	.0017	1.949	2.079	2.028	.9949	.9848	1.955

Elem	Ca	Cd	Ce	Co	Cr	Cu	Dy
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.009	1.019	.0012	1.024	.5105	1.974	.0011
SDev	.010	.014	.0021	.001	.0047	.005	.0001
%RSD	.4807	1.404	170.3	.1177	.9301	.2320	10.80
#1	2.016	1.029	.0025	1.024	.5159	1.969	.0010
#2	2.013	1.026	-.0012	1.025	.5084	1.978	.0010
#3	1.998	1.003	.0023	1.022	.5071	1.974	.0012

Elem	Eu	Fe	K	La	Li	Mg	Mn
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	2.049	4.788	.0052	1.976	2.110	1.025
SDev	.0001	.004	.090	.0004	.005	.007	.003
%RSD	14.32	.2016	1.874	8.157	.2343	.3479	.2739
#1	.0008	2.048	4.851	.0050	1.978	2.103	1.026
#2	.0008	2.054	4.827	.0049	1.979	2.118	1.026
#3	.0010	2.046	4.695	.0057	1.970	2.110	1.022

Elem	Mo	Na	Nd	Ni	P	Pb	Pd
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.992	8.453	.0040	2.065	4.828	2.035	.0205
SDev	.005	.009	.0012	.002	.035	.010	.0130
%RSD	.2267	.1031	30.57	.1021	.7273	.4678	63.50
#1	1.990	8.455	.0043	2.067	4.832	2.041	.0213
#2	1.997	8.461	.0026	2.066	4.861	2.024	.0071
#3	1.988	8.444	.0050	2.063	4.791	2.040	.0330

Elem	Rh	Ru	Sb	Se	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0079	.0074	.0175	2.036	5.225	.0386	2.008
SDev	.0034	.0018	.0154	.015	.015	.0097	.006
%RSD	42.48	23.98	87.88	.7261	.2777	25.10	.2769
#1	.0117	.0094	.0260	2.023	5.241	.0285	2.008
#2	.0053	.0063	-.0003	2.033	5.222	.0395	2.013
#3	.0068	.0065	.0267	2.052	5.212	.0478	2.002

Elem	Te	Th	Ti	Tl	U	V	W
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0341	.0086	.0000	1.959	.1188	.9694	.0159
SDev	.0059	.0143	.0004	.004	.0558	.0026	.0036