United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park, NC 27711

EPA - 454/R-99-041c
August 1999

Air

EPA

Integrated Iron and Steel Industry Final Report Manual Testing

Volume III of III

Youngstown Sinter Company
Youngstown, Ohio

Office of Air Quality
Clean Air
OAQPS
Planning and Standards

Integrated Iron and Steel Industry

Final Report
Volume III of III

Appendices

Contract No. 68-D7-0068
Work Assignment 2-13

Youngstown Sinter Company
Youngstown, Ohio

Prepared for:

Michael K. Ciolek
Emission Measurement Center
Emission, Monitoring, and Analysis Division
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, North Carolina 27711

August 1999

ERG

EASTERN RESEARCH GROUP, INC.

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Metals Laboratory Analysis Data

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of Trace Metals

Method 29 April 1996 Rev.

Client:	Eastern Research Group
TLI Project Number:	43159A
Date:	October 20, 1997

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Rev. 25-Sept-96

Triangle Laboratories, Inc.
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Overview

Twelve train samples, one blank train sample, and two DI water samples were analyzed for arsenic (As), beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), manganese (Mn), nickel (Ni), lead (Pb), antimony (Sb), selenium (Se), and mercury (Hg). For all analyses, the samples and associated QC samples were prepared and analyzed following the guidelines of Method 29 April 1996 Rev. Results reported relate only to the items tested.

QC Remarks

The release of this set of data by Triangle Laboratories, Inc. was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effects of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample Receipt:

Twelve train samples, two blank train samples, two DI water samples, and five filters were received without coolant on September 09, 1997 under project# 43159 and in good condition. Sample YCP-169 arrived with these samples, but was not listed on the client's chain-of-custody. Per the client's request, this sample was not analyzed. Samples YCP-21, YCP-27, YCP-33, YCP-44, and YCP-59 were missing from the shipment. Samples YCP-21, YCP-27, and YCP-33 were later received at 22 ^{0}C on September 10, 1997 under project# 43187 in good condition. These samples arrived without coolant which resulted in the high temperature. All samples (except the six filters) were combined and analyzed under project# 43159A. Only the twelve train samples, one blank train sample, and two DI water samples were reported in this data package.

Sample Preparation:

Laboratory documentation of the sample preparation is included in the data package.

Instrumentation:

Arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), manganese (Mn), nickel (Ni), lead (Pb), antimony (Sb), and selenium (Se) concentrations were determined by Inductively Coupled Plasma Emission Spectroscopy (ICP). Cobalt (Co) concentrations for the back half samples were determined by Inductively Coupled Plasma Emission Spectroscopy (ICP).

Cobalt (Co) concentrations for the front half samples were analyzed by Graphite Furnace Atomic Absorption (GFAA).

Mercury (Hg) concentrations were determined by Cold Vapor Atomic Absorption (CVAA).

The linear range for the instrument TJA 61E Trace Analyzer was based on four standards and a blank, which established a correlation coefficient value greater than or equal to 0.995. A calibration curve, based on a blank and one standard, is established for each analytical run, followed by a check high standard and an initial calibration verification (ICV). The check high standard does not deviate from the calibration curve by more than 5%. In addition, continuing calibration verifications (CCVs) are performed throughout the analytical run.

A Reporting Detection Limit (RDL) is used instead of an Instrument Detection Limit (IDL). The spectrometer and atomic absorption instruments can achieve low detection limits between 0.2-8 ppb levels for many analytes. Triangle Labs is using RDL values of 1-10 times the IDL as detection limits for reporting purposes.

Data Review:

All analytes found in the method blank (MB) are detected at a level equal to or less than the respective Reporting Detection Limits (RDLs) except Ni. The following guidelines may be used to assess analyte concentrations relative to the method blank: 1. Analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2. Analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3. Analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample. The contamination of Ni in the front half samples is insignificant in comparison to the level of Ni in the native samples. Please note that the concentration of the back half samples should be considered biased high near the lower end of the calibration range due to possible contamination.

The analysis by ICP demonstrated negative cobalt (Co) concentrations for the front half samples, therefore, the front half samples were reanalyzed and reported by Graphite Furnace Atomic Absorption (GFAA).

Some samples were received near the 28 day sampling to analysis holding time for Hg, therefore, the lab was unable to analyzed them within the holding time for Hg. All samples were analyzed outside the 28 day sampling to analysis holding time for Hg and within the six month sampling to analysis holding time for all other requested analytes.

Two missing blank components (YCP-44 and YCP-59) were not sent by the client, therefore, two separate blanks were not prepared. Sample YCP-57 was used with samples YCP-45 and YCP-46 in order to make a complete blank train sample.

The serial dilution result for Cr for the sample YCP-88,01,02 FH demonstrated a RPD outside the QC control criteria of 10.0 percent, which indicates the presence of a significant amount of interferents specific to these analytes in the native sample matrix. Please note that the post-digestion spike (PDS) demonstrated a percent recovery within the QC criteria. Also note that this sample should be considered biased low for Cr due to matrix interferences.

A duplicate analysis was not reported for Co for sample YCP-89,07,08 FH which was analyzed by GFAA. The GFAA instrument analyzes two separate aliquots of the sample and averages the values for a final result. These two analyses agree within a RPD of 20% or a second run is done for that sample. The ICP instrument analyzes one continuous aliquot three times and averages the values for a final result. The ICP does not take two separate aliquots, therefore a DA was performed.

The recoveries for the post-digestion spike (PDS) are not reported for Se for sample YCP-03 BH and Pb for sample YCP-88,01,02 FH. The spike concentrations added were insignificant in comparison to the levels of this analyte present in the native sample.

QC requirements:

The duplicate analyses for analytes analyzed by ICP cannot be considered valid qualifiers if the concentrations of the analytes in the original and/or duplicate sample are not at least ten times the respective RDLs. The RPDs for these analyses are indicated by or "<RDL" in the Analyte Summary Reports.

For duplicate analyses which are valid qualifiers, the quality control RPD is ± 20.0 percent. If RPDs are outside this range, interferences are suspected.

The serial dilution analyses for analytes analyzed by GFAA cannot be considered valid qualifiers if the concentrations of the analytes in the serial dilution sample are not at least five times the respective RDLs. The serial dilution RPDs for these analyses are indicated by "<RDL" in the Analyte Summary Reports.

The serial dilution analyses for analytes analyzed by ICP cannot be considered valid qualifiers if the concentrations of the analytes in the serial dilution sample are less than ten times the respective RDLs. The serial dilution RPDs for these analyses are indicated by "<RDL" in the Analyte Summary Reports.

For serial dilution analyses which are valid qualifiers, the quality control RPD is ± 10.0 percent. If RPDs are outside this range, interferences are suspected.

The quality control range for percent recoveries of laboratory control spiked samples is 80-120.

The quality control range for percent recoveries of spiked samples is 75-125. If recoveries are outside this range, a matrix effect is suspected.

If the analyte concentrations analyzed by GFAA in the native samples are less than five times the respective RDLs, or if valid serial dilution analyses demonstrate RPDs outside the ten percent quality control range, the percent recoveries of post-digestion spiked samples is 75-125. If recoveries are outside this range, all matrix-related samples are analyzed by the Method of Standard Additions (MSA). The MSA analysis for each sample is reported only if the correlation coefficient value is at least 0.995.

By our interpretation, the analytical data in this project are valid based on the guidelines of Method 29 April 1996 Rev. Any specific QC concerns or problems have been discussed in the QC REMARKS section with emphasis on their effect on the data. Should Eastern Research Group have any questions or comments regarding this data package, please feel free to contact Project Scientist, Amy J. Boehm, at (919) 544-5729 ext.268.

For Triangle Laboratories, Inc.,

Report Preparation

Linda F. Jones
Report Preparation Chemist

Quality Control

Brenda H. Bell
Report Preparation Chemist

The total number of pages in this data package is: 264

TRIANGLE LABS

TRIANGLE LABORATORIES, INC.

LIST OF CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

American Association for Laboratory Accreditation. Certification pending. Certificate Number 0226-01. Accreditation for technical competence in Environmental Testing.(Including Waste Water, Sol/Haz Waste, Pulp/Paper, and Air Matrices) Parameters are AOX/TOX, Volatiles, Pesticides, PCB's, BNA's, and Dioxin/Furan. Method 1613 for Drinking Water.

State of Alabama, Department of Environmental Management. Expires December 31, 1997. Laboratory I.D. # 40950. Dioxin in drinking water.

State of Alaska, Department of Environmental Conservation. Expires December 21, 1997. Certificate number OS-00397. Dioxin in drinking water.

State of Arizona, Department of Health Services. Expires May 26, 1998. Certificate #AZ0423. Drinking Water for Dioxin, Dioxin in WW and S/H Waste.

State of Arkansas, Department of Pollution Control and Ecology. Expires February 18, 1998. Pulp/paper, soil, water, and Hazardous Waste for Dioxin/Furan; AOX/TOX.

State of California, Department of Health Services. Expires August 31, 1999. Certificate #1922. Selected Metals in Waste Water; Volatiles, Semi-volatiles, and Dioxin/furan in WW and Sol/Haz Waste. Dioxin in drinking water.

State of Connecticut, Department of Health Services. Certification pending. Registration # PH-0117. Dioxin in drinking water.

Delaware Health and Social Services. Expires December 31, 1997. Certificate #NC 140. Dioxin in drinking water.

Florida Department of Health and Rehabilitative Services. Expires June 30, 1998.Dioxin in DW. Drinking Water ID HRS# 87424. Metals, Extractable Organics (GC/MS), Pesticides/PCB's (GC) and Volatiles (GC/MS) in Environmental Samples. Environmental water ID HRS# E87411.

Hawaii Department of Health. Expires March 1, 1998. Dioxin in drinking water. "Accepted" status for regulatory purposes .

Revised 10/15/97 RM

Printed 10/15/97

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Idaho Department of Health and Welfare. Expires November 30, 1997. Dioxin in drinking water.

State of Kansas, Department of Health and Environment. Expires January 31, 1998. Environmental Analyses/Non potable Water and Solid and Hazardous Waste. Method 1613 for drinking water. ID #'s - Drinking water and/or pollution control - E-215. Solid or Hazardous Waste - E-1209.

Commonwealth of Kentucky, Department for Environmental Protection. Expires December 31, 1997. ID#90060. Dioxin in drinking water.

Maryland Department of Health and Mental Hygiene. Expires September 30, 1998. Certification #235. Drinking water by Method 1613A.

State of Michigan, Department of Public Health. Expires June 3, 1998. Drinking water by Method 1613.

Mississippi State Department of Health. No expiration date.. Dioxin in drinking water.

Montana Department of Health and Environmental Services. Expires December 31, 1997. Dioxin in drinking water.

State of New Jersey, Department of Environmental Protection and Energy. Extended by state. Temporary certificate until December 31, 1997. ID #67851. BNAs and Volatiles. Dioxin in drinking water.

State of New Mexico, Environment Department. Certification pending. Dioxin in drinking water.

New York State Department of Health. Expires April 1, 1998. ID #11026. Environmental Analyses of non-potable Water, Solid and Hazardous Waste. Method 1613 in DW.

State of North Carolina, Department of Environment Health and Natural Resources Expires August 31, 1999. Certificate # 37751. Dioxin in drinking water.

State of North Carolina, Department of Environment, Health, and Natural Resources, Division of Environmental Management. Expires December 31, 1997. Certificate # 485. Metals, pesticides & PCBs, semi-volatiles and volatiles; TCLP.

North Dakota State Department of Health and Consolidated Laboratories. Expires December 31, 1997. Certificate # R-076. Effective October 4, 1993. Dioxin in drinking water.

Revised 10/15/97 RM

Printed 10/15/97

Oklahoma Department of Environmental Quality. Expires August 31, 1998. Laboratory #9612. Dioxin by 1613A, 8290 and 8280.

State of South Carolina, Department of Health and Environmental Control. October 31, 1997. Certificate number #99040001 (drinking water). Expires August 31, 1999. Certificate number #99040002 (other parameters). Dioxin/Furans, BNA, Volatiles, and PCBs/pesticides under Clean Water Act, 2,3,7,8-TCDD for Drinking Water, and Organic extractables for Solid and Hazardous Waste.

State of Tennessee. Department of Environment and Conservation. Expires February 5, 1999. ID #02992. Method 1613 Drinking water only.

U.S. Department of Agriculture Soil Permit. Expires September 30, 2001. Permit No. S-3790. Under the authority of the Federal Plant Pest Act, permission is granted to receive foreign soil samples for use in laboratory analysis.

U.S. Army Corps of Engineers. Expires November 30, 1997. Validated to perform methods 8280 & 8290 for Lockbourne Landfill Site Investigation, Defense Distribution Depot Projects, and assorted projects for the USACE North Pacific Division Laboratory.

U.S. EPA Region V. Expires November 14, 1999. Dioxin in drinking water.

U.S. EPA Region VIII, for the State of Wyoming. Expires November 13, 1997. Dioxin in drinking water.

State of Utah, Department of Health. Expires December 31, 1997. Certificate Number E-166. Certification for the following parameters: Semi-Volatiles and Volatiles under RCRA; Volatiles under Clean Water Act; Dioxin/furans by Method 8280; Drinking water for Dioxin by Method 1613; Metals including Mercury and Microwave Digestion.

Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services. Expires June 30, 1998. ID # 00341. Dioxin in drinking water.

State of Washington, Department of Ecology. Expires September 11, 1998. Lab Accreditation Number C067. Scope of Accreditation applies to water analyses for Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans, BNA Extr (Semivolatile) Organics and Purgeable (Volatile) Organics.

State of Washington, Department of Health. Expires April 30, 1998. Dioxin in drinking water. Lab I.D. 129

State of West Virginia, Department of Health. Expires December 31, 1997. Certificate No. 9923(C). Dioxin in drinking water.

State of Wisconsin, Department of Natural Resources. Expires August 31, 1998. Laboratory ID Number 999869530. Certification for the following categories of Organics: Purgeable, Base/Neutral, Acid, PCBs, and Dioxin. Expires November 14, 1999. Laboratory ID 999869530. Dioxin in drinking water.

PHARMACEUTICAL

Drug Enforcement Agency (DEA). Expires November 30, 1997. Registration number RT01195835. Controlled substance registration for schedules 1,2,3,3N,4,5.

N.C. Department of Human Resources. Expires October 31, 1997. Registration number NC-PT 0000 0031. North Carolina controlled substances registration. Application submitted for renewal.

Food & Drug Administration (FDA) Registration. Expires June 1998. ID #'s 001500 1053481. Annual registration of drug establishment. Annual registration of drug establishment.

OTHER

Clinical Laboratory Improvement Amendments (CLIA) Registration. Expires May 30, 1999. ID # 34D0705123. Department of Health & Human Services, Health Care Financing Administration.

U.S. EPA Large Quantity Hazardous Waste Generator. No expiration date. EPA ID #NCD982156879. Permit indicates that the laboratory is a large generator of hazardous waste.

North Carolina Radioactive Materials License. Expires April 30 1998. License No. 032-0954-1. License authorizes the licensee to receive, acquire, own, possess, transfer, import and use such radioactive materials as designated.

North Carolina General License for Radiation Protection. No. expiration date. License No. 032-875-OG. The general license applies only to radioactive material contained in devices which have been manufactured and labeled in accordance with specific requirements.

ABBREVIATIONS

BH = Back Half
CCB = Continuing Calibration Blank
CCV = Continuing Calibration Verification
CHECK HS = Check High Standard
D = DUP = Analytical Duplicate (Prepared Duplicate)
DA = Duplicate Analysis
FH = Front Half
FV = Final Digestate Volume
ICB = Initial Calibration Blank
ICV = Initial Calibration Verification
ICSAB = Interference Check Solution (Solution AB)
    I = Initial
    F = Final
    Solution AB contains common interferents in addition to the analyte of interest.
IDL = Instrument Detection Limit
L = Serial Dilution
LCS = Laboratory Control Spike Sample
MB = Method Blank
MPV = Mercury Preparation Volume
MS = Pre-digestion Spike
MSD = Pre-digestion Spike Duplicate
N/A = Not Applicable
N/Av = Not Available
N/V = Not Valid
PDS = Post-digestion Spike
%REC = Percent Recovery
RDL = Reporting Detection Limit
RPD = Relative Percent Difference
T = Analytical Triplicate (Prepared Triplicate; for Hg analysis by Method 7471 only)
TV = Total Sample Volume
< = Analyte concentration in the sample is less than the respective RDL

STANDARD CONCENTRATIONS
for the TJA 61E TRACE ANALYZER

Analyte	Units	High Std	ICV/CCV	ICSAB	RDL	Wavelength
Ag	ppb	1000	500	500	1	3280
As	ppb	1000	500	500	5	1890
Al	ppb	1000	500	500000	50	3082
B	ppb	1000	500	500	7	2496
Ba	ppb	1000	500	500	2	4934
Be	ppb	1000	500	500	1	3130
Ca	ppb	1000	500	500000	60	3179
Cd	ppb	1000	500	500	1	2265
Ce	ppb	1000	500	500	3	4186
Co	ppb	1000	500	500	1	2286
Cr	ppb	1000	500	500	2	2677
Cu	ppb	1000	500	500	2	3247
Fe	ppb	1000	500	200000	40	2714
K	ppb	10000	5000	19000	220	7664
Li	ppb	1000	500	500	1	6706
Mg	ppb	1000	500	500000	30	2790
Mn	ppb	1000	500	500	2	2576
Mo	ppb	1000	500	500	2	2020
Na	ppb	10000	5000	5000	300	3302
Ni	ppb	1000	500	500	3	2316
P	ppb	1000	500	500	30	2149
Pb	ppb	1000	500	500	2	2203
Sb	ppb	1000	500	500	4	2068
Se	ppb	1000	500	500	3	1960
Sn	ppb	1000	500	500	13	1899
Sr	ppb	1000	500	650	1	4215
Ti	ppb	1000	500	500	8	3349
Tl	ppb	1000	500	500	5	1908
V	ppb	1000	500	500	2	2924
Zn	ppb	1000	500	500	12	2062

Note: Use this reference page to review the raw data from the TJA 61E Trace Analyzer.

This page includes the standard concentrations for the check high standard, initial calibration verification (ICV), continuing calibration verification (CCV), and the interference check solution (ICSAB). In addition the reporting detection limit (RDL) and wavelength are reported for each analyte.

Revision Date: 15-Jul-96

CALCULATIONS FOR AIR SAMPLES

RESULTS FOR TRACE METALS (except mercury):

$$\text{RESULT in } \mu g \text{ (Front Half)} = \frac{\mu g/L * FV\ (mL) * DF}{1000\ mL/L}$$

$$\text{RESULT in } \mu g \text{ (Back Half \& Impingers)} = \frac{\mu g/L * TV\ (mL) * FV\ (mL) * DF}{mL\ used * 1000\ mL/L}$$

FV = final volume in mL
TV = total volume in mL
DF = Dilution Factor

The RESULTS for combined Front Half & Back Half samples use the same calculation as the Back Half & impinger samples.

RESULTS FOR MERCURY (Hg):

$$\text{RESULT in } \mu g \text{ (Front Half)} = \mu g/L * (mL\ FV/mL\ aliquot) * MPV * DF$$

$$\text{RESULT in } \mu g \text{ (Back Half \& Impingers)} = \mu g/L * (mL\ TV/mL\ aliquot) * MPV * DF$$

MPV = mercury preparation volume = 0.1 L

%REC (Percent Recovery) for MS/MSD Hg spikes:

$$\%REC = \frac{\text{spike sample results - original sample results}}{\text{true spike sample results}} * 100$$

NOTE: Original sample results less than the RDL are not used in calulations.

%REC (Percent Recovery) for PDS:

$$\%REC = \frac{\text{Spike sample } \mu g/L \text{ conc. - original sample } \mu g/L \text{ conc.}}{\text{spike conc. } (\mu g/L)} * 100$$

%REC (Percent Recovery) for LCS/LCSD:

$$\%REC = \frac{\text{Spike sample } \mu g/L \text{ conc.}}{\text{spike conc. } (\mu g/L)} * 100$$

RPDs:

$$RPD = \frac{|\text{Result 2 - Result 1}|}{(\text{Result 2 + Result 1})/2} * 100$$

Rev. 2-Oct-96

Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-88,01,02 FH
TLI Sample ID:	182-30-1GAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	15.051	N/A	N/A	100	1	1.51
Be	0.004	N/A	N/A	100	1	< 0.100
Cd	19.262	N/A	N/A	100	1	1.93
Co	6.400	N/A	N/A	100	1	0.640
Cr	103.558	N/A	N/A	100	1	10.4
Mn	173.130	N/A	N/A	100	1	17.3
Ni	68.332	N/A	N/A	100	1	6.83
Pb	1198.959	N/A	N/A	100	1	120
Sb	44.601	N/A	N/A	100	1	4.46
Se	44.639	N/A	N/A	100	1	4.46

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Printed: 07-Oct-97 at 10:16 AM

Client: Eastern Research Group
Project Number: 43159A

Sample Report

Client Sample ID:	YCP-88,01,02 FH L
TLI Sample ID:	182-30-1GAB FH L
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	3.769	N/A	N/A	100	5	< 2.50
Be	0.076	N/A	N/A	100	5	< 0.500
Cd	3.854	N/A	N/A	100	5	1.93
Co	1.600	N/A	N/A	100	5	0.800
Cr	26.669	N/A	N/A	100	5	13.3
Mn	35.756	N/A	N/A	100	5	17.9
Ni	16.112	N/A	N/A	100	5	8.06
Pb	262.547	N/A	N/A	100	5	131
Sb	7.677	N/A	N/A	100	5	3.84
Se	10.635	N/A	N/A	100	5	5.32

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-03 BH
TLI Sample ID:	182-30-1C BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	13.810	720	620	100	1	1.60
Be	-0.257	720	620	100	1	< 0.116
Cd	0.605	720	620	100	1	< 0.116
Co	4.594	720	620	100	1	0.534
Cr	110.762	720	620	100	1	12.9
Mn	238.203	720	620	100	1	27.7
Ni	20.123	720	620	100	1	2.34
Pb	38.587	720	620	100	1	4.48
Sb	2.902	720	620	100	1	< 0.465
Se	946.637	720	620	100	1	110

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Client: Eastern Research Group
Project Number: 43159A

Sample Report

Client Sample ID:	YCP-03 BH L
TLI Sample ID:	182-30-1C BH L
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	3.270	720	620	100	5	< 2.90
Be	0.035	720	620	100	5	< 0.581
Cd	0.103	720	620	100	5	< 0.581
Co	1.155	720	620	100	5	< 0.671
Cr	23.054	720	620	100	5	13.4
Mn	49.757	720	620	100	5	28.9
Ni	5.032	720	620	100	5	2.92
Pb	8.133	720	620	100	5	4.72
Sb	0.533	720	620	100	5	< 2.32
Se	182.662	720	620	100	5	106

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-89,07,08 FH
TLI Sample ID:	182-30-2GAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	14.342	N/A	N/A	100	1	1.43
Be	0.086	N/A	N/A	100	1	< 0.100
Cd	2.094	N/A	N/A	100	1	0.209
Co	4.800	N/A	N/A	100	1	0.480
Cr	158.262	N/A	N/A	100	1	15.8
Mn	180.853	N/A	N/A	100	1	18.1
Ni	115.421	N/A	N/A	100	1	11.5
Pb	1096.979	N/A	N/A	100	1	110
Sb	85.642	N/A	N/A	100	1	8.56
Se	80.201	N/A	N/A	100	1	8.02

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Client: Eastern Research Group
Project Number: 43159A

Sample Report

Client Sample ID:	YCP-89,07,08 FH DA
TLI Sample ID:	182-30-2GAB FH DA
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	15.858	N/A	N/A	100	1	1.59
Be	0.063	N/A	N/A	100	1	< 0.100
Cd	2.353	N/A	N/A	100	1	0.235
Co	N/A	N/A	N/A	N/A	N/A	N/A
Cr	159.170	N/A	N/A	100	1	15.9
Mn	181.493	N/A	N/A	100	1	18.1
Ni	115.923	N/A	N/A	100	1	11.6
Pb	1103.107	N/A	N/A	100	1	110
Sb	85.807	N/A	N/A	100	1	8.58
Se	82.205	N/A	N/A	100	1	8.22

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-09 BH
TLI Sample ID:	182-30-2C BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	12.694	840	740	100	1	1.44
Be	-0.180	840	740	100	1	< 0.114
Cd	3.931	840	740	100	1	0.446
Co	1.376	840	740	100	1	< 0.156
Cr	124.709	840	740	100	1	14.2
Mn	3101.524	840	740	100	1	352
Ni	29.126	840	740	100	1	3.31
Pb	59.633	840	740	100	1	6.77
Sb	0.864	840	740	100	1	< 0.454
Se	897.285	840	740	100	1	102

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-09 BH DA
TLI Sample ID:	182-30-2C BH DA
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	12.983	840	740	100	1	1.47
Be	-0.231	840	740	100	1	< 0.114
Cd	3.949	840	740	100	1	0.448
Co	1.741	840	740	100	1	0.198
Cr	124.091	840	740	100	1	14.1
Mn	3086.906	840	740	100	1	350
Ni	29.469	840	740	100	1	3.35
Pb	58.995	840	740	100	1	6.70
Sb	0.055	840	740	100	1	< 0.454
Se	890.588	840	740	100	1	101

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Client: Eastern Research Group
Project Number: 43159A

Sample Report

Client Sample ID:	YCP-90,13,14 FH
TLI Sample ID:	182-30-3GAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	11.772	N/A	N/A	100	1	1.18
Be	0.066	N/A	N/A	100	1	< 0.100
Cd	1.156	N/A	N/A	100	1	0.116
Co	4.100	N/A	N/A	100	1	0.410
Cr	128.091	N/A	N/A	100	1	12.8
Mn	186.247	N/A	N/A	100	1	18.6
Ni	85.064	N/A	N/A	100	1	8.51
Pb	1158.789	N/A	N/A	100	1	116
Sb	63.693	N/A	N/A	100	1	6.37
Se	63.610	N/A	N/A	100	1	6.36

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Sample Report

Client Sample ID:	YCP-15 BH
TLI Sample ID:	182-30-3C BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	5.383	800	700	100	1	0.615
Be	-0.082	800	700	100	1	< 0.114
Cd	2.746	800	700	100	1	0.314
Co	0.344	800	700	100	1	< 0.114
Cr	91.342	800	700	100	1	10.4
Mn	577.793	800	700	100	1	66.0
Ni	26.342	800	700	100	1	3.01
Pb	65.347	800	700	100	1	7.47
Sb	0.405	800	700	100	1	< 0.457
Se	691.469	800	700	100	1	79.0

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Sample Report

Client Sample ID:	YCP-91,19.20 FH
TLI Sample ID:	182-30-4FAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	218.869	N/A	N/A	100	1	21.9
Be	-12.097	N/A	N/A	100	1	< 0.100
Cd	744.661	N/A	N/A	100	1	74.5
Co	29.700	N/A	N/A	100	10	29.7
Cr	2423.271	N/A	N/A	100	1	242
Mn	6269.022	N/A	N/A	100	10	6270
Ni	431.930	N/A	N/A	100	1	43.2
Pb	14800.228	N/A	N/A	100	10	14800
Sb	51.989	N/A	N/A	100	1	5.20
Se	311.994	N/A	N/A	100	1	31.2

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Sample Report

Client Sample ID:	YCP-21 BH
TLI Sample ID:	182-58-1 BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	35.798	750	650	100	1	4.13
Be	-1.062	750	650	100	1	< 0.115
Cd	176.885	750	650	100	1	20.4
Co	97.456	750	650	100	1	11.2
Cr	354.591	750	650	100	1	40.9
Mn	7448.916	750	650	100	1	859
Ni	88.758	750	650	100	1	10.2
Pb	33195.172	750	650	100	1	3830
Sb	1.574	750	650	100	1	< 0.462
Se	236.200	750	650	100	1	27.3

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Sample Report

Client Sample ID:	YCP-92,183,25,26 FH
TLI Sample ID:	182-30-5FGAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	166.755	N/A	N/A	100	1	16.7
Be	-7.321	N/A	N/A	100	1	< 0.100
Cd	664.753	N/A	N/A	100	1	66.5
Co	82.300	N/A	N/A	100	2	16.5
Cr	2026.857	N/A	N/A	100	1	203
Mn	4895.973	N/A	N/A	100	10	4900
Ni	371.809	N/A	N/A	100	1	37.2
Pb	16746.617	N/A	N/A	100	10	16700
Sb	77.869	N/A	N/A	100	1	7.79
Se	183.454	N/A	N/A	100	1	18.3

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Sample Report

Client Sample ID:	YCP-27 BH
TLI Sample ID:	182-58-2 BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	48.146	820	720	100	1	5.48
Be	0.009	820	720	100	1	< 0.114
Cd	236.846	820	720	100	1	27.0
Co	11.548	820	720	100	1	1.32
Cr	307.456	820	720	100	1	35.0
Mn	7231.152	820	720	100	1	824
Ni	96.442	820	720	100	1	11.0
Pb	41239.508	820	720	100	1	4700
Sb	2.464	820	720	100	1	< 0.456
Se	376.042	820	720	100	1	42.8

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Sample Report

Client Sample ID:	YCP-93,184,31,32 FH
TLI Sample ID:	182-30-6FGAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	167.166	N/A	N/A	100	1	16.7
Be	-6.455	N/A	N/A	100	1	< 0.100
Cd	631.707	N/A	N/A	100	1	63.2
Co	93.200	N/A	N/A	100	2	18.6
Cr	2067.044	N/A	N/A	100	1	207
Mn	5238.502	N/A	N/A	100	10	5240
Ni	41[illegible].619	N/A	N/A	100	1	41.2
Pb	16026.856	N/A	N/A	100	10	16000
Sb	69.565	N/A	N/A	100	1	6.96
Se	238.247	N/A	N/A	100	1	23.8

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Sample Report

Client Sample ID:	YCP-33 BH
TLI Sample ID:	182-58-3 BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	47.918	900	800	100	1	5.39
Be	0.043	900	800	100	1	< 0.113
Cd	194.676	900	800	100	1	21.9
Co	19.366	900	800	100	1	2.18
Cr	349.710	900	800	100	1	39.3
Mn	7792.857	900	800	100	1	877
Ni	117.651	900	800	100	1	13.2
Pb	42771.484	900	800	100	1	4810
Sb	2.149	900	800	100	1	< 0.450
Se	474.568	900	800	100	1	53.4

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Sample Report

Client Sample ID:	YCP-39,37,38 FH
TLI Sample ID:	182-30-7CAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	10.584	N/A	N/A	100	1	1.06
Be	0.159	N/A	N/A	100	1	< 0.100
Cd	-7.411	N/A	N/A	100	1	< 0.100
Co	2.100	N/A	N/A	100	1	0.210
Cr	125.615	N/A	N/A	100	1	12.6
Mn	211.206	N/A	N/A	100	1	21.1
Ni	89.245	N/A	N/A	100	1	8.92
Pb	170.306	N/A	N/A	100	1	17.0
Sb	70.267	N/A	N/A	100	1	7.03
Se	63.839	N/A	N/A	100	1	6.38

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Sample Report

Client Sample ID:	YCP-40,38 BH
TLI Sample ID:	182-30-7DB BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-5.030	300	300	100	1	< 0.500
Be	0.084	300	300	100	1	< 0.100
Cd	1.189	300	300	100	1	0.119
Co	-0.897	300	300	100	1	< 0.100
Cr	10.982	300	300	100	1	1.10
Mn	745.005	300	300	100	1	74.5
Ni	4.392	300	300	100	1	0.439
Pb	89.827	300	300	100	1	8.98
Sb	1.230	300	300	100	1	< 0.400
Se	1.500	300	300	100	1	< 0.300

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Sample Report

Client Sample ID:	YCP-45,46,57 FH
TLI Sample ID:	182-30-8AB,10A FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	9.535	N/A	N/A	100	1	0.953
Be	0.100	N/A	N/A	100	1	< 0.100
Cd	-13.902	N/A	N/A	100	1	< 0.100
Co	3.300	N/A	N/A	100	1	0.330
Cr	131.468	N/A	N/A	100	1	13.1
Mn	56.285	N/A	N/A	100	1	5.63
Ni	84.906	N/A	N/A	100	1	8.49
Pb	-10.335	N/A	N/A	100	1	< 0.200
Sb	76.304	N/A	N/A	100	1	7.63
Se	67.563	N/A	N/A	100	1	6.76

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Sample Report

Client Sample ID:	YCP-47,45 BH
TLI Sample ID:	182-30-8CA BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-5.746	300	300	100	1	< 0.500
Be	0.070	300	300	100	1	< 0.100
Cd	-0.270	300	300	100	1	< 0.100
Co	-1.808	300	300	100	1	< 0.100
Cr	13.905	300	300	100	1	1.39
Mn	27.042	300	300	100	1	2.70
Ni	1.452	300	300	100	1	< 0.300
Pb	10.126	300	300	100	1	1.01
Sb	2.187	300	300	100	1	< 0.400
Se	-1.647	300	300	100	1	< 0.300

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Sample Report

Client Sample ID:	YCP-52,50,51 FH
TLI Sample ID:	182-30-9CAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	9.968	N/A	N/A	100	1	0.997
Be	0.095	N/A	N/A	100	1	< 0.100
Cd	-0.082	N/A	N/A	100	1	< 0.100
Co	2.900	N/A	N/A	100	1	0.290
Cr	94.281	N/A	N/A	100	1	9.43
Mn	182.502	N/A	N/A	100	1	18.3
Ni	70.143	N/A	N/A	100	1	7.01
Pb	256.905	N/A	N/A	100	1	25.7
Sb	45.045	N/A	N/A	100	1	4.50
Se	40.307	N/A	N/A	100	1	4.03

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Sample Report

Client Sample ID:	YCP-53,51 BH
TLI Sample ID:	182-30-9DB BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-4.036	300	300	100	1	< 0.500
Be	0.069	300	300	100	1	< 0.100
Cd	3.323	300	300	100	1	0.332
Co	-0.114	300	300	100	1	< 0.100
Cr	11.366	300	300	100	1	1.14
Mn	2856.354	300	300	100	1	286
Ni	6.990	300	300	100	1	0.699
Pb	1299.855	300	300	100	1	130
Sb	0.707	300	300	100	1	< 0.400
Se	5.248	300	300	100	1	0.525

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Sample Report

Client Sample ID:	YCP-96,94,95 FH
TLI Sample ID:	182-30-11CAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	11.578	N/A	N/A	100	1	1.16
Be	0.128	N/A	N/A	100	1	< 0.100
Cd	-10.877	N/A	N/A	100	1	< 0.100
Co	11.300	N/A	N/A	100	1	1.13
Cr	138.486	N/A	N/A	100	1	13.8
Mn	120.736	N/A	N/A	100	1	12.1
Ni	103.955	N/A	N/A	100	1	10.4
Pb	66.160	N/A	N/A	100	1	6.62
Sb	82.037	N/A	N/A	100	1	8.20
Se	73.608	N/A	N/A	100	1	7.36

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Sample Report

Client Sample ID:	YCP-97 BH
TLI Sample ID:	182-30-11D BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-6.007	490	390	100	1	< 0.628
Be	0.064	490	390	100	1	< 0.126
Cd	0.570	490	390	100	1	< 0.126
Co	-1.286	490	390	100	1	< 0.126
Cr	12.078	490	390	100	1	1.52
Mn	106.967	490	390	100	1	13.4
Ni	7.792	490	390	100	1	0.979
Pb	50.396	490	390	100	1	6.33
Sb	-0.418	490	390	100	1	< 0.503
Se	-0.916	490	390	100	1	< 0.377

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Sample Report

Client Sample ID:	YCP-103,101,102 FH
TLI Sample ID:	182-30-12CAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	11.162	N/A	N/A	100	1	1.12
Be	0.140	N/A	N/A	100	1	< 0.100
Cd	-8.110	N/A	N/A	100	1	< 0.100
Co	2.700	N/A	N/A	100	1	0.270
Cr	147.044	N/A	N/A	100	1	14.7
Mn	128.194	N/A	N/A	100	1	12.8
Ni	94.195	N/A	N/A	100	1	9.42
Pb	89.755	N/A	N/A	100	1	8.98
Sb	77.389	N/A	N/A	100	1	7.74
Se	69.850	N/A	N/A	100	1	6.98

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Sample Report

Client Sample ID:	YCP-104 BH
TLI Sample ID:	182-30-12D BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-5.585	680	580	100	1	< 0.586
Be	0.036	680	580	100	1	< 0.117
Cd	1.788	680	580	100	1	0.210
Co	-0.613	680	580	100	1	< 0.117
Cr	59.943	680	580	100	1	7.03
Mn	2210.000	680	580	100	1	259
Ni	69.527	680	580	100	1	8.15
Pb	39.559	680	580	100	1	4.64
Sb	2.951	680	580	100	1	< 0.469
Se	-0.656	680	580	100	1	< 0.352

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-110,108,109 FH
TLI Sample ID:	182-30-13CAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	10.281	N/A	N/A	100	1	1.03
Be	0.097	N/A	N/A	100	1	< 0.100
Cd	-2.334	N/A	N/A	100	1	< 0.100
Co	2.400	N/A	N/A	100	1	0.240
Cr	128.654	N/A	N/A	100	1	12.9
Mn	106.480	N/A	N/A	100	1	10.6
Ni	84.906	N/A	N/A	100	1	8.49
Pb	212.334	N/A	N/A	100	1	21.2
Sb	68.238	N/A	N/A	100	1	6.82
Se	63.190	N/A	N/A	100	1	6.32

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-111 BH
TLI Sample ID:	182-30-13D BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-2.486	630	530	100	1	< 0.594
Be	0.051	630	530	100	1	< 0.119
Cd	1.810	630	530	100	1	0.215
Co	0.454	630	530	100	1	< 0.119
Cr	85.824	630	530	100	1	10.2
Mn	961.811	630	530	100	1	114
Ni	106.132	630	530	100	1	12.6
Pb	40.032	630	530	100	1	4.76
Sb	-0.759	630	530	100	1	< 0.475
Se	0.320	630	530	100	1	< 0.357

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-161,159,160 FH
TLI Sample ID:	182-30-14CAB FH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	10.285	N/A	N/A	100	1	1.03
Be	0.126	N/A	N/A	100	1	< 0.100
Cd	-12.339	N/A	N/A	100	1	< 0.100
Co	2.200	N/A	N/A	100	1	0.220
Cr	143.198	N/A	N/A	100	1	14.3
Mn	34.033	N/A	N/A	100	1	3.40
Ni	98.800	N/A	N/A	100	1	9.88
Pb	-14.557	N/A	N/A	100	1	< 0.200
Sb	85.380	N/A	N/A	100	1	8.54
Se	77.119	N/A	N/A	100	1	7.71

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-160,161 BH
TLI Sample ID:	182-30-14BC BH
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	-2.809	150	150	100	1	< 0.500
Be	0.084	150	150	100	1	< 0.100
Cd	0.146	150	150	100	1	< 0.100
Co	-0.670	150	150	100	1	< 0.100
Cr	4.712	150	150	100	1	0.471
Mn	15.171	150	150	100	1	1.52
Ni	0.449	150	150	100	1	< 0.300
Pb	11.974	150	150	100	1	1.20
Sb	-0.604	150	150	100	1	< 0.400
Se	-1.485	150	150	100	1	< 0.300

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Client: **Eastern Research Group**
Project Number: **43159A**

Sample Report

Client Sample ID:	YCP-170 DI H2O
TLI Sample ID:	182-30-15B
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	3.755	397	397	100	1	< 0.500
Be	0.074	397	397	100	1	< 0.100
Cd	-0.675	397	397	100	1	< 0.100
Co	-2.167	397	397	100	1	< 0.100
Cr	8.115	397	397	100	1	0.812
Mn	5.123	397	397	100	1	0.512
Ni	3.871	397	397	100	1	0.387
Pb	1.675	397	397	100	1	< 0.200
Sb	3.960	397	397	100	1	< 0.400
Se	3.009	397	397	100	1	0.301

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Client: Eastern Research Group
Project Number: 43159A

Sample Report

Client Sample ID:	YCP-171 DI H2O
TLI Sample ID:	182-30-15C
Date Received:	September 09, 1997
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	5.790	367	367	100	1	0.579
Be	0.025	367	367	100	1	< 0.100
Cd	-1.526	367	367	100	1	< 0.100
Co	-5.312	367	367	100	1	< 0.100
Cr	16.217	367	367	100	1	1.62
Mn	5.310	367	367	100	1	0.531
Ni	7.916	367	367	100	1	0.792
Pb	10.822	367	367	100	1	1.08
Sb	5.370	367	367	100	1	0.537
Se	6.344	367	367	100	1	0.634

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Client: **Eastern Research Group**
Project Number: 43159A

QA: Serial Dilution

Client Sample ID:	YCP-88,01,02 FH	YCP-88,01,02 FH L
TLI Sample ID:	182-30-1GAB FH	182-30-1GAB FH L
Date Prepared:	September 18-24, 1997	September 18-24, 1997
Date Analyzed:	October 03-06, 1997	October 03-06, 1997
Matrix:	Air	Air

	Native Sample		Serial Dilution		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
As	1.51	15.051	< 2.50	3.769	<RDL
Be	< 0.100	0.004	< 0.500	0.076	<RDL
Cd	1.93	19.262	1.93	3.854	0.000%
Co	0.640	6.400	0.800	1.600	<RDL
Cr	10.4	103.558	13.3	26.669	24.5%
Mn	17.3	173.130	17.9	35.756	3.41%
Ni	6.83	68.332	8.06	16.112	<RDL
Pb	120	1198.959	131	262.547	8.76%
Sb	4.46	44.601	3.84	7.677	<RDL
Se	4.46	44.639	5.32	10.635	<RDL
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Pr 07-Oct-97 at 10:23 AM

Client: **Eastern Research Group**
Project Number: 43159A

QA: Serial Dilution

Client Sample ID:	YCP-03 BH	YCP-03 BH L
TLI Sample ID:	182-30-1C BH	182-30-1C BH L
Date Prepared:	September 18-24, 1997	September 18-24, 1997
Date Analyzed:	October 03-06, 1997	October 03-06, 1997
Matrix:	Air	Air

	Native Sample		Serial Dilution		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
As	1.60	13.810	< 2.90	3.270	<RDL
Be	< 0.116	-0.257	< 0.581	0.035	<RDL
Cd	< 0.116	0.605	< 0.581	0.103	<RDL
Co	0.534	4.594	< 0.671	1.155	<RDL
Cr	12.9	110.762	13.4	23.054	3.80%
Mn	27.7	238.203	28.9	49.757	4.24%
Ni	2.34	20.123	2.92	5.032	<RDL
Pb	4.48	38.587	4.72	8.133	<RDL
Sb	< 0.465	2.902	< 2.32	0.533	<RDL
Se	110	946.637	106	182.662	3.70%

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Client: Eastern Research Group
Project Number: 43159A

QA: Duplicate

Client Sample ID:	YCP-88.07.08 FH	YCP-88.07.08 FH DA
TLI Sample ID:	182-30-2GAB FH	182-30-2GAB FH DA
Date Prepared:	September 18-24, 1997	September 18-24, 1997
Date Analyzed:	October 03-06, 1997	October 03-06, 1997
Matrix:	Air	Air

	Sample		Duplicate		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
As	1.43	14.342	1.59	15.858	<RDL
Be	< 0.100	0.086	< 0.100	0.063	<RDL
Cd	0.209	2.094	0.235	2.353	<RDL
Co	0.480	4.800	N/A	N/A	N/A
Cr	15.8	158.262	15.9	159.170	0.631%
Mn	18.1	180.853	18.1	181.493	0.000%
Ni	11.5	115.421	11.6	115.923	0.866%
Pb	110	1096.979	110	1103.107	0.000%
Sb	8.56	85.642	8.58	85.807	0.233%
Se	8.02	80.201	8.22	82.205	2.46%
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Client: Eastern Research Group
Project Number: 43159A

QA: Duplicate

Client Sample ID:	YCP-09 BH	YCP-09 BH DA
TLI Sample ID:	182-30-2C BH	182-30-2C BH DA
Date Prepared:	September 18-24, 1997	September 18-24, 1997
Date Analyzed:	October 03-06, 1997	October 03-06, 1997
Matrix:	Air	Air

	Sample		Duplicate		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
As	1.44	12.694	1.47	12.983	<RDL
Be	< 0.114	-0.180	< 0.114	-0.231	<RDL
Cd	0.446	3.931	0.448	3.949	<RDL
Co	< 0.156	1.376	0.198	1.741	<RDL
Cr	14.2	124.709	14.1	124.091	0.707%
Mn	352	3101.524	350	3086.906	0.570%
Ni	3.31	29.126	3.35	29.469	<RDL
Pb	6.77	59.633	6.70	58.995	1.04%
Sb	< 0.454	0.864	< 0.454	0.055	<RDL
Se	102	897.285	101	890.588	0.985%

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Client: **Eastern Research Group**
Project Number: **43159A**

QA: Matrix Spikes (Post-Digestion)

Client Sample ID:	YCP-88,01,02 FH PDS	
TLI Sample ID:	182-30-1GAB FH PDS	
Date Prepared:	September 18-24, 1997	
Date Analyzed:	October 03-06, 1997	
Matrix:	Air	

	Post-Digestion Spike			Post-Digestion Spike Duplicate			RPD
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	
As	60.32	50	91%				---
Be	46.22	50	92%				---
Cd	66.29	50	94%				---
Co	28.30	25	88%				---
Cr	153.99	50	101%				---
Mn	220.58	50	95%				---
Ni	115.37	50	94%				---
Pb	1230.97	50	Spike Low				---
Sb	92.78	50	96%				---
Se	89.28	50	89%				---

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Client: **Eastern Research Group**
Project Number: **43159A**

QA: Matrix Spikes (Post-Digestion)

Client Sample ID:	YCP-03 BH PDS	
TLI Sample ID:	182-30-1C BH PDS	
Date Prepared:	September 18-24, 1997	
Date Analyzed:	October 03-06, 1997	
Matrix:	Air	

	Post-Digestion Spike			Post-Digestion Spike Duplicate			RPD
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	
As	63.27	50	99%				---
Be	48.63	50	97%				---
Cd	49.17	50	98%				---
Co	53.78	50	98%				---
Cr	158.27	50	95%				---
Mn	285.04	50	94%				---
Ni	67.61	50	95%				---
Pb	86.30	50	95%				---
Sb	49.23	50	98%				---
Se	991.56	50	Spike Low				---

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Client: **Eastern Research Group**
Project Number: **43159A**

QA: ICP Method Blank

TLI Sample ID:	43159A MB
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	N/A

	Method Blank		
Analyte	Recovered Amount (ug/L)	Detection Limit (ug/L)	Pass or Fail
As	0.94	5	Pass
Be	0.07	1	Pass
Cd	-0.11	1	Pass
Co	-0.19	1	Pass
Cr	0.42	2	Pass
Mn	0.59	2	Pass
Ni	6.55	3	Fail
Pb	1.45	2	Pass
Sb	0.46	4	Pass
Se	-0.19	3	Pass
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Client: **Eastern Research Group**
Project Number: **43159A**

QA: GFAA Method Blank

TLI Sample ID:	43159A MB
Date Prepared:	September 18-24, 1997
Date Analyzed:	October 03-06, 1997
Matrix:	N/A

	Method Blank		
Analyte	Recovered Amount (ug/L)	Detection Limit (ug/L)	Pass or Fail
Co	0.40	1.5	Pass
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Client: **Eastern Research Group**
Project Number: **43159A**

QA: ICP Lab Control Spikes

TLI Sample ID:	43159A LCS	
Date Prepared:	September 18-24, 1997	
Date Analyzed:	October 03-06, 1997	
Matrix:	N/A	

	Lab Control Spike			Lab Control Spike Duplicate			
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	RPD
As	51.03	50	102%				---
Be	47.36	50	95%				---
Cd	49.24	50	98%				---
Co	49.32	50	99%				---
Cr	49.55	50	99%				---
Mn	49.56	50	99%				---
Ni	56.73	50	113%				---
Pb	50.52	50	101%				---
Sb	48.63	50	97%				---
Se	48.82	50	98%				---

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Client: Eastern Research Group
Project Number: 43159A

QA: GFAA Lab Control Spikes

TLI Sample ID:	43159A LCS	
Date Prepared:	September 18-24, 1997	
Date Analyzed:	October 03-06, 1997	
Matrix:	N/A	

	Lab Control Spike			Lab Control Spike Duplicate			
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	RPD
Co	49.70	50	99%				---

							---

ient: Eastern Research Group
oject Number: 43159A

ample Report

e Received:	September 09, 1997
e Prepared:	September 18-29, 1997
e Analyzed:	Sept. 26 & 30 & Oct. 1 & 9, 1997
TA FILE:	AB810, AB811, AB812 & AB817
rix:	Air

ANALYTE: Hg	
ug/L RDL: 0.2	
Analysis Method:	29
Instrument: P E Zeeman 5100	
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

nt Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
:P-88,01,02 FH	182-30-1GAB	0.053	N/A	100	5	1	< 0.400	--	--	--
:P-88,01,02 FH D	182-30-1GAB D	0.040	N/A	100	5	1	< 0.400	< 0.400	--	--
:P-03 BH	182-30-1C	0.995	720	N/A	5	1	14.3	--	--	--
:P-03 BH D	182-30-1C D	1.003	720	N/A	5	1	14.4	14.4	--	--
:P-04 HNO3	182-30-1D	0.019	90	N/A	5	1	< 0.360	--	--	--
:P-04 HNO3 D	182-30-1D D	0.008	90	N/A	5	1	< 0.360	< 0.360	--	--
P-05 KMnO4	182-30-1E	2.224	238	N/A	5	1	10.6	--	--	--
P-05 KMnO4 D	182-30-1E D	2.267	238	N/A	5	1	10.8	10.7	--	--
P-06 HCl	182-30-1F	0.048	295	N/A	5	1	< 1.18	--	--	--
P-06 HCl D	182-30-1F D	0.043	295	N/A	5	1	< 1.18	< 1.18	--	--
P-89,07,08 FH	182-30-2GAB	0.013	N/A	100	5	1	< 0.400	--	--	--
P-89,07,08 FH D	182-30-2GAB D	0.016	N/A	100	5	1	< 0.400	< 0.400	--	--
P-09 BH	182-30-2C	0.941	840	N/A	5	1	15.8	--	--	--
P-09 BH D	182-30-2C D	0.845	840	N/A	5	1	14.2	15.0	--	--
P-10 HNO3	182-30-2D	0.024	76	N/A	5	1	< 0.304	--	--	--
P-10 HNO3 D	182-30-2D D	0.011	76	N/A	5	1	< 0.304	< 0.304	--	--
P-11 KMnO4	182-30-2E	1.987	345	N/A	5	1	13.7	--	--	--
P-11 KMnO4 D	182-30-2E D	1.928	345	N/A	5	1	13.3	13.5	--	--
P-12 HCl	182-30-2F	0.032	300	N/A	5	1	< 1.20	--	--	--
P-12 HCl D	182-30-2F D	0.019	300	N/A	5	1	< 1.20	< 1.20	--	--
P-90,13,14 FH	182-30-3GAB	0.024	N/A	100	5	1	< 0.400	--	--	--
P-90,13,14 FH D	182-30-3GAB D	0.019	N/A	100	5	1	< 0.400	< 0.400	--	--
P-15 BH	182-30-3C	1.021	800	N/A	5	1	16.3	--	--	--
P-15 BH D	182-30-3C D	1.024	800	N/A	5	1	16.4	16.4	--	--
P-16 HNO3	182-30-3D	0.048	50	N/A	5	1	< 0.200	--	--	--
P-16 HNO3 D	182-30-3D D	0.045	50	N/A	5	1	< 0.200	< 0.200	--	--
P-17 KMnO4	182-30-3E	1.591	345	N/A	5	1	11.0	--	--	--
P-17 KMnO4 D	182-30-3E D	1.524	345	N/A	5	1	10.5	10.7	--	--
P-18 HCl	182-30-3F	0.032	200	N/A	5	1	< 0.800	--	--	--
P-18 HCl D	182-30-3F D	0.027	200	N/A	5	1	< 0.800	< 0.800	--	--

ent: Eastern Research Group
ject Number: 43159A

ample Report

e Received:	September 09, 1997
e Prepared:	September 18-29, 1997
e Analyzed:	Sept. 26 & 30 & Oct. 1 & 9, 1997
TA FILE:	AB810, AB811, AB812 & AB817
rix:	Air

ANALYTE: Hg	
ug/L RDL: 0.2	
Analysis Method:	29
Instrument: P E Zeeman 5100	
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

nt Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
;P-91,19,20 FH	182-30-4FAB	0.663	N/A	100	5	1	1.33	--	--	--
;P-91,19,20 FH D	182-30-4FAB D	0.660	N/A	100	5	1	1.32	1.32	--	--
;P-21 BH	182-58-1	0.222	750	N/A	5	1	3.33	--	--	--
;P-21 BH D	182-58-1 D	0.211	750	N/A	5	1	3.17	3.25	--	--
;P-22 HNO3	182-30-4C	0.021	70	N/A	5	1	< 0.280	--	--	--
;P-22 HNO3 D	182-30-4C D	0.024	70	N/A	5	1	< 0.280	< 0.280	--	--
;P-23 KMnO4	182-30-4D	1.754	305	N/A	5	1	10.7	--	--	--
;P-23 KMnO4 D	182-30-4D D	1.644	305	N/A	5	1	10.0	10.4	--	--
;P-24 HCl	182-30-4E	0.043	275	N/A	5	1	< 1.10	--	--	--
;P-24 HCl D	182-30-4E D	0.032	275	N/A	5	1	< 1.10	< 1.10	--	--
;P-92,183,25,26 FH	182-30-5FGAB	0.211	N/A	100	5	1	0.422	--	--	--
;P-92,183,25,26 FH D	182-30-5FGAB D	0.211	N/A	100	5	1	0.422	0.422	--	--
;P-27 BH	182-58-2	0.257	820	N/A	5	1	4.21	--	--	--
;P-27 BH D	182-58-2 D	0.235	820	N/A	5	1	3.85	4.03	--	--
;P-28 HNO3	182-30-5C	0.027	98	N/A	5	1	< 0.392	--	--	--
;P-28 HNO3 D	182-30-5C D	0.027	98	N/A	5	1	< 0.392	< 0.392	--	--
;P-29 KMnO4	182-30-5D	1.382	400	N/A	5	1	11.1	--	--	--
;P-29 KMnO4 D	182-30-5D D	1.257	400	N/A	5	1	10.1	10.6	--	--
;P-30 HCl	182-30-5E	0.021	300	N/A	5	1	< 1.20	--	--	--
;P-30 HCl D	182-30-5E D	0.029	300	N/A	5	1	< 1.20	< 1.20	--	--
;P-93,184,31,32 FH	182-30-6FGAB	0.193	N/A	100	5	1	< 0.400	--	--	--
;P-93,184,31,32 FH D	182-30-6FGAB D	0.184	N/A	100	5	1	< 0.400	< 0.400	--	--
;P-33 BH	182-58-3	0.471	900	N/A	5	1	8.48	--	--	--
;P-33 BH D	182-58-3 D	0.436	900	N/A	5	1	7.85	8.16	--	--
;P-34 HNO3	182-30-6C	0.008	126	N/A	5	1	< 0.504	--	--	--
;P-34 HNO3 D	182-30-6C D	0.013	126	N/A	5	1	< 0.504	< 0.504	--	--
;P-35 KMnO4	182-30-6D	1.299	415	N/A	5	1	10.8	--	--	--
;P-35 KMnO4 D	182-30-6D D	1.238	415	N/A	5	1	10.3	10.5	--	--
;P-36 HCl	182-30-6E	0.059	150	N/A	5	1	< 0.600	--	--	--
;P-36 HCl D	182-30-6E D	0.056	150	N/A	5	1	< 0.600	< 0.600	--	--

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rix:	Air

ANALYTE: Hg	
ug/L RDL: 0.2	
Analysis Method:	29
Instrument: P E Zeeman 5100	
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

nt Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
P-39,37,38 FH	182-30-7CAB	0.005	N/A	100	5	1	< 0.400	--	--	--
P-39,37,38 FH D	182-30-7CAB D	-0.003	N/A	100	5	1	< 0.400	< 0.400	--	--
P-40,38 BH	182-30-7DB	0.018	295	N/A	5	1	< 1.18	--	--	--
P-40,38 BH D	182-30-7DB D	0.021	295	N/A	5	1	< 1.18	< 1.18	--	--
P-41 HNO3	182-30-7E	0.193	50	N/A	5	1	< 0.200	--	--	--
P-41 HNO3 D	182-30-7E D	0.166	50	N/A	5	1	< 0.200	< 0.200	--	--
P-42 KMnO4	182-30-7F	0.005	415	N/A	5	1	< 1.66	--	--	--
P-42 KMnO4 D	182-30-7F D	0.013	415	N/A	5	1	< 1.66	< 1.66	--	--
P-42,43 HCl	182-30-7FG	-0.005	142	N/A	5	1	< 0.568	--	--	--
P-42,43 HCl D	182-30-7FG D	-0.003	142	N/A	5	1	< 0.568	< 0.568	--	--
P-45,46.57 FH	182-30-8AB,10A	0.008	N/A	100	5	1	< 0.400	--	--	--
P-45,46.57 FH D	182-30-8AB,10A D	0.000	N/A	100	5	1	< 0.400	< 0.400	--	--
P-47,45 BH	182-30-8CA	0.021	300	N/A	5	1	< 1.20	--	--	--
P-47,45 BH D	182-30-8CA D	0.000	300	N/A	5	1	< 1.20	< 1.20	--	--
P-45 HNO3	182-30-8A	0.019	100	N/A	5	1	< 0.400	--	--	--
P-45 HNO3 D	182-30-8A D	0.005	100	N/A	5	1	< 0.400	< 0.400	--	--
P-48,171 KMnO4	182-30-8D,15C	0.003	400	N/A	5	1	< 1.60	--	--	--
P-48,171 KMnO4 D	182-30-8D,15C D	0.008	400	N/A	5	1	< 1.60	< 1.60	--	--
P-48,49,171 HCl	182-30-8DE,15C	-0.005	268	N/A	5	1	< 1.07	--	--	--
P-48,49,171 HCl D	182-30-8DE,15C D	-0.008	268	N/A	5	1	< 1.07	< 1.07	--	--
P-52,50,51 FH	182-30-9CAB	0.011	N/A	100	5	1	< 0.400	--	--	--
P-52,50,51 FH D	182-30-9CAB D	0.005	N/A	100	5	1	< 0.400	< 0.400	--	--
P-53,51 BH	182-30-9DB	0.112	300	N/A	5	1	< 1.20	--	--	--
P-53,51 BH D	182-30-9DB D	0.104	300	N/A	5	1	< 1.20	< 1.20	--	--
P-54 HNO3	182-30-9E	0.091	64	N/A	5	1	< 0.256	--	--	--
P-54 HNO3 D	182-30-9E D	0.070	64	N/A	5	1	< 0.256	< 0.256	--	--
P-55,170 KMnO4	182-30-9F,15B	0.029	400	N/A	5	1	< 1.60	--	--	--
P-55,170 KMnO4 D	182-30-9F,15B D	0.008	400	N/A	5	1	< 1.60	< 1.60	--	--
P-55,56,170 HCl	182-30-9FG,15B	0.003	188	N/A	5	1	< 0.752	--	--	--
P-55,56,170 HCl D	182-30-9FG,15B D	-0.003	188	N/A	5	1	< 0.752	< 0.752	--	--

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ANALYTE: Hg	
ug/L RDL: 0.2	
Analysis Method:	29
Instrument: P E Zeeman 5100	
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

nt Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
CP-96,94,95 FH	182-30-11CAB	0.027	N/A	100	5	1	< 0.400	--	–	–
CP-96,94,95 FH D	182-30-11CAB D	0.005	N/A	100	5	1	< 0.400	< 0.400	–	–
CP-97 BH	182-30-11D	0.051	490	N/A	5	1	< 1.96	--	–	–
CP-97 BH D	182-30-11D D	0.035	490	N/A	5	1	< 1.96	< 1.96	–	–
CP-98 HNO3	182-30-11E	0.005	50	N/A	5	1	< 0.200	--	–	–
CP-98 HNO3 D	182-30-11E D	0.011	50	N/A	5	1	< 0.200	< 0.200	–	–
CP-99 KMnO4	182-30-11F	0.075	122	N/A	5	1	< 0.488	--	–	–
CP-99 KMnO4 D	182-30-11F D	0.064	122	N/A	5	1	< 0.488	< 0.488	–	–
CP-100 HCl	182-30-11G	0.008	102	N/A	5	1	< 0.408	--	–	–
CP-100 HCl D	182-30-11G D	0.019	102	N/A	5	1	< 0.408	< 0.408	–	–
CP-103,101,102 FH	182-30-12CAB	0.008	N/A	100	5	1	< 0.400	--	–	–
CP-103,101,102 FH D	182-30-12CAB D	0.013	N/A	100	5	1	< 0.400	< 0.400	–	–
CP-104 BH	182-30-12D	0.040	680	N/A	5	1	< 2.72	--	–	–
CP-104 BH D	182-30-12D D	0.043	680	N/A	5	1	< 2.72	< 2.72	–	–
CP-105 HNO3	182-30-12E	0.008	80	N/A	5	1	< 0.320	--	–	–
CP-105 HNO3 D	182-30-12E D	0.008	80	N/A	5	1	< 0.320	< 0.320	–	–
CP-106 KMnO4	182-30-12F	0.064	305	N/A	5	1	< 1.22	--	–	–
CP-106 KMnO4 D	182-30-12F D	0.061	305	N/A	5	1	< 1.22	< 1.22	–	–
CP-107 HCl	182-30-12G	0.019	260	N/A	5	1	< 1.04	--	–	–
CP-107 HCl D	182-30-12G D	0.005	260	N/A	5	1	< 1.04	< 1.04	–	–
CP-110,108,109 FH	182-30-13CAB	0.003	N/A	100	5	1	< 0.400	--	–	–
CP-110,108,109 FH D	182-30-13CAB D	0.003	N/A	100	5	1	< 0.400	< 0.400	–	–
CP-111 BH	182-30-13D	0.045	630	N/A	5	1	< 2.52	--	–	–
CP-111 BH D	182-30-13D D	0.035	630	N/A	5	1	< 2.52	< 2.52	–	–
CP-112 HNO3	182-30-13E	0.008	64	N/A	5	1	< 0.256	--	–	–
CP-112 HNO3 D	182-30-13E D	0.005	64	N/A	5	1	< 0.256	< 0.256	–	–
CP-113 KMnO4	182-30-13F	0.094	305	N/A	5	1	< 1.22	--	–	–
CP-113 KMnO4 D	182-30-13F D	0.094	305	N/A	5	1	< 1.22	< 1.22	–	–
CP-114 HCl	182-30-13G	0.019	200	N/A	5	1	< 0.800	--	–	–
CP-114 HCl D	182-30-13G D	0.003	200	N/A	5	1	< 0.800	< 0.800	–	–

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ix:	Air

ANALYTE: Hg	
ug/L RDL: 0.2	
Analysis Method:	29
Instrument: P E Zeeman 5100	
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

t Sample ID	TLI SAMP ID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
P-165,159,160 FH	182-30-14GAB	0.011	N/A	100	5	1	< 0.400	--	--	--
P-165,159,160 FH D	182-30-14GAB D	0.019	N/A	100	5	1	< 0.400	< 0.400	--	--
P-160,161 BH	182-30-14BC	0.000	150	N/A	5	1	< 0.600	--	--	--
P-160,161 BH D	182-30-14BC D	0.003	150	N/A	5	1	< 0.600	< 0.600	--	--
P-162 HNO3	182-30-14D	0.060	40	N/A	5	1	< 0.160	--	--	--
P-162 HNO3 D	182-30-14D D	0.024	40	N/A	5	1	< 0.160	< 0.160	--	--
P-163 KMnO4	182-30-14E	0.000	285	N/A	5	1	< 1.14	--	--	--
P-163 KMnO4 D	182-30-14E D	0.000	285	N/A	5	1	< 1.14	< 1.14	--	--
P-163,164 HCl	182-30-14EF	-0.013	130	N/A	5	1	< 0.520	--	--	--
P-163,164 HCl D	182-30-14EF D	-0.013	130	N/A	5	1	< 0.520	< 0.520	--	--
P-170 DI H2O	182-30-15B	0.043	397	N/A	5	1	< 1.59	--	--	--
P-170 DI H2O D	182-30-15B D	0.024	397	N/A	5	1	< 1.59	< 1.59	--	--
P-171 DI H2O	182-30-15C	0.035	367	N/A	5	1	< 1.47	--	--	--
P-171 DI H2O D	182-30-15C D	0.057	367	N/A	5	1	< 1.47	< 1.47	--	--
P-88,01,02 FH MS	182-30-1GAB MS	4.960	N/A	100	5	1	9.92	--	--	99%
P-88,01,02 FH MSD	182-30-1GAB MSD	4.588	N/A	100	5	1	9.18	9.55	7.79%	92%
P-06 HCl MS	182-30-1F MS	4.604	295	N/A	5	1	27.2	--	--	92%
P-06 HCl MSD	182-30-1F MSD	4.559	295	N/A	5	1	26.9	27.0	0.982%	91%
P-21 BH MS	182-58-1 MS	5.176	750	N/A	5	1	77.6	--	--	99%
P-21 BH MSD	182-58-1 MSD	4.920	750	N/A	5	1	73.8	75.7	5.07%	94%
P-23 KMnO4 MS	182-30-4D MS	6.294	305	N/A	5	1	38.4	--	--	92%
P-23 KMnO4 MSD	182-30-4D MSD	6.058	305	N/A	5	1	37.0	37.7	3.82%	87%
P-41 HNO3 MS	182-30-7E MS	4.726	50	N/A	5	1	4.73	--	--	95%
P-41 HNO3 MSD	182-30-7E MSD	4.779	50	N/A	5	1	4.78	4.75	1.12%	96%
P-52,50,51 FH MS	182-30-9CAB MS	5.034	N/A	100	5	1	10.1	--	--	101%
P-52,50,51 FH MSD	182-30-9CAB MSD	5.176	N/A	100	5	1	10.4	10.2	2.78%	104%
P-99 KMnO4 MS	182-30-11F MS	5.361	122	N/A	5	1	13.1	--	--	107%
P-99 KMnO4 MSD	182-30-11F MSD	5.329	122	N/A	5	1	13.0	13.0	0.599%	107%

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CP-114 HCl MS	182-30-13G MS	5.139	200	N/A	5	1	20.6	--	--	103%
CP-114 HCl MSD	182-30-13G MSD	5.096	200	N/A	5	1	20.4	20.5	0.840%	102%
CP-40,38 BH MS	182-30-7DB MS	4.946	295	N/A	5	1	29.2	--	--	99%
CP-40,38 BH MSD	182-30-7DB MSD	4.930	295	N/A	5	1	29.1	29.1	0.324%	99%
CP-88,01,02 FH MS	True Spike MS	5	N/A	100	5	1	10.0	--	--	--
CP-88,01,02 FH MSD	True Spike MSD	5	N/A	100	5	1	10.0	--	--	--
CP-06 HCl MS	True Spike MS	5	295	N/A	5	1	29.5	--	--	--
CP-06 HCl MSD	True Spike MSD	5	295	N/A	5	1	29.5	--	--	--
CP-21 BH MS	True Spike MS	5	750	N/A	5	1	75.0	--	--	--
CP-21 BH MSD	True Spike MSD	5	750	N/A	5	1	75.0	--	--	--
CP-23 KMnO4 MS	True Spike MS	5	305	N/A	5	1	30.5	--	--	--
CP-23 KMnO4 MSD	True Spike MSD	5	305	N/A	5	1	30.5	--	--	--
CP-41 HNO3 MS	True Spike MS	5	50	N/A	5	1	5.00	--	--	--
CP-41 HNO3 MSD	True Spike MSD	5	50	N/A	5	1	5.00	--	--	--
CP-52,50,51 FH MS	True Spike MS	5	N/A	100	5	1	10.0	--	--	--
CP-52,50,51 FH MSD	True Spike MSD	5	N/A	100	5	1	10.0	--	--	--
CP-21 BH MS	True Spike MS	5	122	N/A	5	1	12.2	--	--	--
CP-21 BH MSD	True Spike MSD	5	122	N/A	5	1	12.2	--	--	--
CP-27 BH MS	True Spike MS	5	200	N/A	5	1	20.0	--	--	--
CP-27 BH MSD	True Spike MSD	5	200	N/A	5	1	20.0	--	--	--
CP-40,38 BH MS MS	True Spike MS	5	295	N/A	5	1	29.5	--	--	--
CP-40,38 BH MS MSD	True Spike MSD	5	295	N/A	5	1	29.5	--	--	--

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t Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
od Blank	43159A MB1	0.000	--	--	--	--	--	--	--	--
od Blank D	43159A MB1 D	0.000	--	--	--	--	--	--	--	--
	43159A LCS1	4.756	--	--	--	--	--	--	--	95%
D	43159A LCS1 D	5.032	--	--	--	--	--	--	--	101%
od Blank	43159A MB2	0.005	--	--	--	--	--	--	--	--
od Blank D	43159A MB2 D	0.000	--	--	--	--	--	--	--	--
	43159A LCS2	5.139	--	--	--	--	--	--	--	103%
D	43159A LCS2 D	5.280	--	--	--	--	--	--	--	106%
od Blank	43159A MB3	0.014	--	--	--	--	--	--	--	--
od Blank D	43159A MB3 D	0.038	--	--	--	--	--	--	--	--
	43159A LCS3	5.534	--	--	--	--	--	--	--	111%
D	43159A LCS3 D	5.753	--	--	--	--	--	--	--	115%
od Blank	43159A MB4	0.003	--	--	--	--	--	--	--	--
od Blank D	43159A MB4 D	-0.005	--	--	--	--	--	--	--	--
	43159A LCS4	4.365	--	--	--	--	--	--	--	87%
D	43159A LCS4 D	4.319	--	--	--	--	--	--	--	86%
od Blank	43159A MB5	0.010	--	--	--	--	--	--	--	--
od Blank D	43159A MB5 D	0.005	--	--	--	--	--	--	--	--
	43159A LCS5	5.233	--	--	--	--	--	--	--	105%
D	43159A LCS5 D	4.941	--	--	--	--	--	--	--	99%

gle Laboratories, Inc.
Capitola Drive * Durham, North Carolina 27713
(919) 544-5729 * Fax: (919) 544-5491

Printed: 13-Oct-97 at 01:31 PM

Eastern Research Group COC

Youngstown Sintering Plant
CHAIN OF CUSTODY

RELINQUISHED BY = Carol Hughin DATE = 9-9-97 RECEIVED BY: Jim McGarry DATE: 9/9/97
RELINQUISHED BY = Jim McGarry DATE = 9/9/97 RECEIVED BY: [illegible] DATE: 9/9/97

SAMPLE ID	FIELD ID						SAMPLE TYPE	PRESERVATIVE	COMMENTS	ANALYSIS	
YCP-01	YCP-	81297	M29-	SBOUTLET-	APR-	1	METHOD 29, SBOUTLET, RUN 1	ACETONE PROBE RINSE	Beaker # 1	266.5	404.5
YCP-02	YCP-	81297	M29-	SBOUTLET-	HN-	1	METHOD 29, SBOUTLET, RUN 1	NITRIC ACID PROBE RINSE		267.5	411.5
YCP-03	YCP-	81297	M29-	SBOUTLET-	BH-	1	METHOD 29, SBOUTLET, RUN 1	HNO3/H2O2 BACK HALF		391.3	1126.7
YCP-04	YCP-	81297	M29-	SBOUTLET-	BHM-	1	METHOD 29, SBOUTLET, RUN 1	0.1N HNO3 RINSE - Hg		269.4	360.0
YCP-05	YCP-	81297	M29-	SBOUTLET-	KMnO-	1	METHOD 29, SBOUTLET, RUN 1	KMnO4 IMPINGERS		268.5	531.2
YCP-06	YCP-	81297	M29-	SBOUTLET-	HCl-	1	METHOD 29, SBOUTLET, RUN 1	8N HCl RINSE - Hg		270.5	595.2
YCP-07	YCP-	81397	M29-	SBOUTLET-	APR-	2	METHOD 29, SBOUTLET, RUN 2	ACETONE PROBE RINSE	Beaker # 2	267.2	326.2
YCP-08	YCP-	81397	M29-	SBOUTLET-	HN-	2	METHOD 29, SBOUTLET, RUN 2	NITRIC ACID PROBE RINSE		270.8	480.6
YCP-09	YCP-	81397	M29-	SBOUTLET-	BH-	2	METHOD 29, SBOUTLET, RUN 2	HNO3/H2O2 BACK HALF		391.1	1246.0
YCP-10	YCP-	81397	M29-	SBOUTLET-	BHM-	2	METHOD 29, SBOUTLET, RUN 2	0.1N HNO3 RINSE - Hg		270.7	346.0
YCP-11	YCP-	81397	M29-	SBOUTLET-	KMnO-	2	METHOD 29, SBOUTLET, RUN 2	KMnO4 IMPINGERS		268.7	648.7
YCP-12	YCP-	81397	M29-	SBOUTLET-	HCl-	2	METHOD 29, SBOUTLET, RUN 2	8N HCl RINSE - Hg		268.9	606.2
YCP-13	YCP-	81497	M29-	SBOUTLET-	APR-	3	METHOD 29, SBOUTLET, RUN 3	ACETONE PROBE RINSE	Beaker # 3	266.7	375.0
YCP-14	YCP-	81497	M29-	SBOUTLET-	HN-	3	METHOD 29, SBOUTLET, RUN 3	NITRIC ACID PROBE RINSE		267.4	375.4
YCP-15	YCP-	81497	M29-	SBOUTLET-	BH-	3	METHOD 29, SBOUTLET, RUN 3	HNO3/H2O2 BACK HALF		391.7	1206.1
YCP-16	YCP-	81497	M29-	SBOUTLET-	BHM-	3	METHOD 29, SBOUTLET, RUN 3	0.1N HNO3 RINSE - Hg		267.3	316.6
YCP-17	YCP-	81497	M29-	SBOUTLET-	KMnO-	3	METHOD 29, SBOUTLET, RUN 3	KMnO4 IMPINGERS		267.1	655.6
YCP-18	YCP-	81497	M29-	SBOUTLET-	HCl-	3	METHOD 29, SBOUTLET, RUN 3	8N HCl RINSE - Hg		267.1	491.3
YCP-19	YCP-	81297	M29-	SBINLET-	APR-	1	METHOD 29, SBINLET, RUN 1	ACETONE PROBE RINSE	Beaker # 11	266.7	457.8
YCP-20	YCP-	81297	M29-	SBINLET-	HN-	1	METHOD 29, SBINLET, RUN 1	NITRIC ACID PROBE RINSE		268.6	410.6
YCP-21	YCP-	81297	M29-	SBINLET-	BH-	1	METHOD 29, SBINLET, RUN 1	HNO3/H2O2 BACK HALF		391.3	1076.4
YCP-22	YCP-	81297	M29-	SBINLET-	BHM-	1	METHOD 29, SBINLET, RUN 1	0.1N HNO3 RINSE - Hg		270.8	342.4
YCP-23	YCP-	81297	M29-	SBINLET-	KMnO-	1	METHOD 29, SBINLET, RUN 1	KMnO4 IMPINGERS		269.6	607.4
YCP-24	YCP-	81297	M29-	SBINLET-	HCl-	1	METHOD 29, SBINLET, RUN 1	8N HCl RINSE - Hg		269.3	581.0
YCP-25	YCP-	81397	M29-	SBINLET-	APR-	2	METHOD 29, SBINLET, RUN 2	ACETONE PROBE RINSE	Beaker # 12	267.7	537.0
YCP-26	YCP-	81397	M29-	SBINLET-	HN-	2	METHOD 29, SBINLET, RUN 2	NITRIC ACID PROBE RINSE		266.5	554.0

YCP-27	YCP-	81397	M29-	SBINLET-	BH-	2	METHOD 29, SBINLET, RUN 2	HNO3/H2O2 BACK HALF		391.6	1161.6
YCP-28	YCP-	81397	M29-	SBINLET-	BHM-	2	METHOD 29, SBINLET, RUN 2	0.1N HNO3 RINSE - Hg		267.5	365.3
YCP-29	YCP-	81397	M29-	SBINLET-	KMnO-	2	METHOD 29, SBINLET, RUN 2	KMnO4 IMPINGERS		266.5	718.9
YCP-30	YCP-	81397	M29-	SBINLET-	HCl-	2	METHOD 29, SBINLET, RUN 2	8N HCl RINSE - Hg		267.1	605.4
YCP-31	YCP-	81497	M29-	SBINLET-	APR-	3	METHOD 29, SBINLET, RUN 3	ACETONE PROBE RINSE	Beaker # 13	267.3	495.3
YCP-32	YCP-	81497	M29-	SBINLET-	HN-	3	METHOD 29, SBINLET, RUN 3	NITRIC ACID PROBE RINSE		266.3	410.9
YCP-33	YCP-	81497	M29-	SBINLET-	BH-	3	METHOD 29, SBINLET, RUN 3	HNO3/H2O2 BACK HALF		391.5	1295.3
YCP-34	YCP-	81497	M29-	SBINLET-	BHM-	3	METHOD 29, SBINLET, RUN 3	0.1N HNO3 RINSE - Hg		266.5	394.5
YCP-35	YCP-	81497	M29-	SBINLET-	KMnO-	3	METHOD 29, SBINLET, RUN 3	KMnO4 IMPINGERS		266.2	725.4
YCP-36	YCP-	81497	M29-	SBINLET-	HCl-	3	METHOD 29, SBINLET, RUN 3	8N HCl RINSE - Hg		267.5	438.6
YCP-37	YCP-	81397	M29-	SBOUTLET-	APR-	FB1	METHOD 29, SBOUTLET, FB1	ACETONE PROBE RINSE	Beaker # 4	269.3	369.0
YCP-38	YCP-	81397	M29-	SBOUTLET-	HN-	FB1	METHOD 29, SBOUTLET, FB1	NITRIC ACID PROBE RINSE		269.4	398.6
YCP-39	YCP-	81397	M29-	SBOUTLET-	F-	FB1	METHOD 29, SBOUTLET, FB1	FILTER	Filter # 080497-24	XX	XX
YCP-40	YCP-	81397	M29-	SBOUTLET-	BH-	FB1	METHOD 29, SBOUTLET, FB1	HNO3/H2O2 BACK HALF		268.2	573.2
YCP-41	YCP-	81397	M29-	SBOUTLET-	BHM-	FB1	METHOD 29, SBOUTLET, FB1	0.1N HNO3 RINSE - Hg		269.4	316.9
YCP-42	YCP-	81397	M29-	SBOUTLET-	KMnO-	FB1	METHOD 29, SBOUTLET, FB1	KMnO4 IMPINGERS		269.4	752.3
YCP-43	YCP-	81397	M29-	SBOUTLET-	HCl-	FB1	METHOD 29, SBOUTLET, FB1	8N HCl RINSE - Hg		269.2	429.6
YCP-44	YCP-	81397	M29-	SBOUTLET-	ACE-	RB1	METHOD 29, SBOUTLET, RB1	ACETONE		269.5	444.0
YCP-45	YCP-	81397	M29-	SBOUTLET-	HNO-	RB1	METHOD 29, SBOUTLET, RB1	0.1N HNO3		269.3	739.8
4 Filter 1460	YCP-	81397	M29-	SBOUTLET-	F-	RB1	METHOD 29, SBOUTLET, RB1	FILTER	Filter # 080497-01	XX	XX
YCP-47	YCP-	81397	M29-	SBOUTLET-	BH-	RB1	METHOD 29, SBOUTLET, RB1	HNO3/H2O2		268.4	567.3
YCP-48	YCP-	81397	M29-	SBOUTLET-	KMnO-	RB1	METHOD 29, SBOUTLET, RB1	KMnO4		269.1	493.3
YCP-49	YCP-	81397	M29-	SBOUTLET-	HCl-	RB1	METHOD 29, SBOUTLET, RB1	8N HCl		268.9	510.2
YCP-50	YCP-	81397	M29-	SBINLET-	APR-	FB2	METHOD 29, SBINLET, FB2	ACETONE PROBE RINSE	Beaker # 5	268.2	387.0
YCP-51	YCP-	81397	M29-	SBINLET-	HN-	FB2	METHOD 29, SBINLET, FB2	NITRIC ACID PROBE RINSE		267.2	439.2
YCP-52	YCP-	81397	M29-	SBINLET-	F-	FB2	METHOD 29, SBINLET, FB2	FILTER	Filter # 080497-23	XX	XX
YCP-53	YCP-	81397	M29-	SBINLET-	BH-	FB2	METHOD 29, SBINLET, FB2	HNO3/H2O2 BACK HALF		269.4	795.8
YCP-54	YCP-	81397	M29-	SBINLET-	BHM-	FB2	METHOD 29, SBINLET, FB2	0.1N HNO3 RINSE - Hg		268.5	333.4
YCP-55	YCP-	81397	M29-	SBINLET-	KMnO-	FB2	METHOD 29, SBINLET, FB2	KMnO4 IMPINGERS		268.7	691.5
YCP-56	YCP-	81397	M29-	SBINLET-	HCl-	FB2	METHOD 29, SBINLET, FB2	8N HCl RINSE - Hg		269.7	439.3
YCP-57	YCP-	81597	M29-	SBINLET-	ACE-	RB2	METHOD 29, SBINLET, RB2	ACETONE	Beaker # 6	268.1	407.0

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YCP-46
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YCP-58	YCP-	81597	M29-	SBINLET-	HNO-	RB2	METHOD 29, SBINLET, RB2	0.1N HNO3		391.7	648.0
YCP-59	YCP-	81597	M29-	SBINLET-	F-	RB2	METHOD 29, SBINLET, RB2	FILTER		XX	XX
YCP-60	YCP-	81597	M29-	SBINLET-	BH-	RB2	METHOD 29, SBINLET, RB2	HNO3/H2O2		391.6	636.3
YCP-61	YCP-	81597	M29-	SBINLET-	KMnO-	RB2	METHOD 29, SBINLET, RB2	KMnO4		391.2	650.3
YCP-62	YCP-	81597	M29-	SBINLET-	HCl-	RB2	METHOD 29, SBINLET, RB2	8N HCl		390.9	602.2
YCP-88	YCP-	81297	M29-	SBOUTLET-	F-	1	METHOD 29, SBOUTLET, RUN 1		FILTER # 080497-20	XX	XX
YCP-89	YCP-	81397	M29-	SBOUTLET-	F-	2	METHOD 29, SBOUTLET, RUN 2		FILTER # 080497-15	XX	XX
YCP-90	YCP-	81497	M29-	SBOUTLET-	F-	3	METHOD 29, SBOUTLET, RUN 3		FILTER # 080497-19	XX	XX
YCP-91	YCP-	81297	M29-	SBINLET-	F-	1	METHOD 29, SBINLET, RUN 1		FILTER # 080497-22	XX	XX
YCP-92	YCP-	81397	M29-	SBINLET-	F-	2	METHOD 29, SBINLET, RUN 2		FILTER # 080497-21 (1 of 2)	XX	XX
YCP-93	YCP-	81497	M29-	SBINLET-	F-	3	METHOD 29, SBINLET, RUN 3		FILTER # 080497-05 (1 of 2)	XX	XX
YCP-94	YCP-	81597	M29-	BAGAOUT-	APR-	1	METHOD 29, BAG A OUTLET, RUN	ACETONE PROBE RINSE	Beaker # 7	269.1	323.0
YCP-95	YCP-	81597	M29-	BAGAOUT-	HN-	1	METHOD 29, BAG A OUTLET, RUN	NITRIC ACID PROBE RINSE		269.1	336.9
YCP-96	YCP-	81597	M29-	BAGAOUT-	F-	1	METHOD 29, BAG A OUTLET, RUN	FILTER	Filter # 080497-08	XX	XX
YCP-97	YCP-	81597	M29-	BAGAOUT-	BH-	1	METHOD 29, BAG A OUTLET, RUN	HNO3/H2O2		268.6	768.4
YCP-98	YCP-	81597	M29-	BAGAOUT-	BHM-	1	METHOD 29, BAG A OUTLET, RUN	0.1N HNO3 RINSE - Hg		271.0	322.3
YCP-99	YCP-	81597	M29-	BAGAOUT-	KMnO4-	1	METHOD 29, BAG A OUTLET, RUN	KMnO4 IMPINGERS		270.1	601.6
YCP-100	YCP-	81597	M29-	BAGAOUT-	HCl-	1	METHOD 29, BAG A OUTLET, RUN	8N HCl RINSE - Hg		269.5	406.3
YCP-101	YCP-	81597	M29-	BAGAOUT-	APR-	2	METHOD 29, BAG A OUTLET, RUN	ACETONE PROBE RINSE	Beaker # 8	268.3	324.5
YCP-102	YCP-	81597	M29-	BAGAOUT-	HN-	2	METHOD 29, BAG A OUTLET, RUN	NITRIC ACID PROBE RINSE		268.6	372.2
YCP-103	YCP-	81597	M29-	BAGAOUT-	F-	2	METHOD 29, BAG A OUTLET, RUN	FILTER	Filter # 080497-06	XX	XX
YCP-104	YCP-	81597	M29-	BAGAOUT-	BH-	2	METHOD 29, BAG A OUTLET, RUN	HNO3/H2O2		388.7	1089.7
YCP-105	YCP-	81597	M29-	BAGAOUT-	BHM-	2	METHOD 29, BAG A OUTLET, RUN	0.1N HNO3 RINSE - Hg		268.6	348.0
YCP-106	YCP-	81597	M29-	BAGAOUT-	KMnO4-	2	METHOD 29, BAG A OUTLET, RUN	KMnO4 IMPINGERS		268.3	610.6
YCP-107	YCP-	81597	M29-	BAGAOUT-	HCl-	2	METHOD 29, BAG A OUTLET, RUN	8N HCl RINSE - Hg		269.4	517.8
YCP-108	YCP-	81697	M29-	BAGAOUT-	APR-	3	METHOD 29, BAG A OUTLET, RUN	ACETONE PROBE RINSE	Beaker # 9	265.2	318.4
YCP-109	YCP-	81697	M29-	BAGAOUT-	HN-	3	METHOD 29, BAG A OUTLET, RUN	NITRIC ACID PROBE RINSE		265.5	344.9
YCP-110	YCP-	81697	M29-	BAGAOUT-	F-	3	METHOD 29, BAG A OUTLET, RUN	FILTER	Filter # 080497-14	XX	XX
YCP-111	YCP-	81697	M29-	BAGAOUT-	BH-	3	METHOD 29, BAG A OUTLET, RUN	HNO3/H2O2		389.1	1040.1
YCP-112	YCP-	81697	M29-	BAGAOUT-	BHM-	3	METHOD 29, BAG A OUTLET, RUN	0.1N HNO3 RINSE - Hg		266.6	333.6
YCP-113	YCP-	81697	M29-	BAGAOUT-	KMnO4-	3	METHOD 29, BAG A OUTLET, RUN	KMnO4 IMPINGERS		267.8	609.5

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YCP-114	YCP-	81697	M29-	BAGAOUT-	HCl-	3	METHOD 29, BAG A OUTLET, RUN	8N HCl RINSE - Hg		266.1	486.2
YCP-141	YCP-	81597	M29-	BAGA	APR-	GPB1	ETHOD 29, BAGA, GLASSWARE BL	ACETONE PROBE RINSE	Archived at ERG	268.5	310.1
YCP-142	YCP-	81597	M29-	BAGA	HCl-	GPB1	ETHOD 29, BAGA, GLASSWARE BL	8N HCl RINSE - Hg	Archived at ERG	269.1	462.8
YCP-143	YCP-	81597	M29-	BAGA	HN-	GBP1	ETHOD 29, BAGA, GLASSWARE BL	NITRIC ACID PROBE RINSE	Archived at ERG	268.9	329.1
YCP-144	YCP-	81597	M29-	BAGA	APR-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	ACETONE PROBE RINSE	Archived at ERG	268.4	302.4
YCP-145	YCP-	81597	M29-	BAGA	BH-	GBP1	ETHOD 29, BAGA, GLASSWARE BL	HNO3/H2O2	Archived at ERG	269.1	624.4
YCP-146	YCP-	81597	M29-	BAGA	HN-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	NITRIC ACID PROBE RINSE	Archived at ERG	268.1	399.9
YCP-147	YCP-	81597	M29-	BAGA	IMP	GBP1	ETHOD 29, BAGA, GLASSWARE BL	0.1N HNO3 RINSE - Hg	Archived at ERG	268.7	336.2
YCP-148	YCP-	81597	M29-	BAGA	BH-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	HNO3/H2O2	Archived at ERG	268.4	590.9
YCP-149	YCP-	81597	M29-	BAGA	KMnO4-	GBP1	ETHOD 29, BAGA, GLASSWARE BL	KMnO4 IMPINGERS	Archived at ERG	268.5	613.4
YCP-150	YCP-	81597	M29-	BAGA	IMP	GPB2	ETHOD 29, BAGA, GLASSWARE BL	0.1N HNO3 RINSE - Hg	Archived at ERG	268.6	370.5
YCP-151	YCP-	81597	M29-	BAGA	KMnO4-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	KMnO4 IMPINGERS	Archived at ERG	268.4	445.6
YCP-152	YCP-	81597	M29-	BAGA	HCl-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	8N HCl RINSE - Hg	Archived at ERG	268.8	446.8
YCP-159	YCP-	81697	M29-	BAGA-	APR-	FB	METHOD 29, INLET, FB2	ACETONE PROBE RINSE	Beaker # 10	275.8	326.4
YCP-160	YCP-	81697	M29-	BAGA-	HN-	FB	METHOD 29, INLET, FB2	NITRIC ACID PROBE RINSE		274.8	369.6
YCP-161	YCP-	81697	M29-	BAGA-	BH-	FB	METHOD 29, INLET, FB2	HNO3/H2O2 BACK HALF		391.6	859.7
YCP-162	YCP-	81697	M29-	BAGA-	IMP	FB	METHOD 29, INLET, FB2	0.1N HNO3 RINSE - Hg		268.4	309.8
YCP-163	YCP-	81697	M29-	BAGA-	KMnO-	FB	METHOD 29, INLET, FB2	KMnO4 IMPINGERS		268.4	599.0
YCP-164	YCP-	81697	M29-	BAGA-	HCl-	FB	METHOD 29, INLET, FB2	8N HCl RINSE - Hg		268.4	411.5
YCP-165	YCP-	81697	M29-	BAGA-	F	FB	METHOD 29, INLET, FB2	FILTER	Filter # 080497-03	XX	XX
YCP-170	YCP-	81397	M29-	-		RB1	METHOD 29, REAGENT BLANK	DI WATER		393.0	803.8
YCP-171	YCP-	81597	M29-	-		RB2	METHOD 29, REAGENT BLANK	DI WATER		391.1	795.9
YCP-178	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN1	FILTER FOR YCP-21	FILTER	Filter # 082797-02	METALS	
YCP-179	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN2	FILTER FOR YCP-27	FILTER	Filter # 082797-03	METALS	
YCP-180	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN3	FILTER FOR YCP-33 (1 of 2)	FILTER	Filter # 082797-04	METALS	
YCP-181	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN3	FILTER FOR YCP-33 (2 of 2)	FILTER	Filter # 082797-05	METALS	
YCP-182	YCP-	9/2/97	M29-	BLANK	FILTER	BLANK	FILTER BLANK	FILTER	Filter # 082797-01	METALS	
YCP-183	YCP-	8/13/97	M29-	SBINLET	FILTER	RUN2	2nd Filter fo SBInlet Run 2 (2of2)	FILTER	Filter # 080497-25 (2 of 2)	METALS	
YCP-184	YCP-	8/14/97	M29-	SBINLET	FILTER	RUN3	2nd Filter fo SBInlet Run 3 (2of2)	FILTER	Filter # 080497-18 (2 of 2)	METALS	

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TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

Book 182

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TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-1A	YCP-01	BEAKER									
	YCP-01	METALS LAB									
182-30-1B	YCP-02	PR									
	YCP-02	METALS LAB									
182-30-1C	YCP-03	HN03/H202									
	YCP-03	METALS LAB									
182-30-1D	YCP-04	0.1N HNO3									
	YCP-04	METALS LAB									
182-30-1E	YCP-05	KMN04									
	YCP-05	METALS LAB									
182-30-1F	YCP-06	HCL									
	YCP-06	METALS LAB									
182-30-1G	YCP-88	FILTER									
	YCP-88	METALS LAB									
182-30-2A	YCP-07	BEAKER									
	YCP-07	METALS LAB									
182-30-2B	YCP-08	PR									
	YCP-08	METALS LAB									
182-30-2C	YCP-09	HN03/H202									
	YCP-09	METALS LAB									
182-30-2D	YCP-10	0.1NHN03									
	YCP-10	METALS LAB									
182-30-2E	YCP-11	KMN04									
	YCP-11	METALS LAB									
182-30-2F	YCP-12	HCL									
	YCP-12	METALS LAB									
182-30-2G	YCP-89	FILTER									
	YCP-89	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent	Sample Seals: Absent	TLI Project Number 43159	Book
Chain of Custody : Present	Container...: Intact	Client: ERG02 - Eastern Research Group	182
Sample Tags : Absent			
Sample Tag Numbers: Not Listed on Chain of Custody		Date Received 09/09/97 By	Page
SMO Forms : N/A			
Ice Chest/Box NO COOLANT		Carrier and Number JIM MC	30

TLI Number.. mR/H:CPM.	....Client Sample ID..... .....Client COC ID.....*	.....Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-3A	YCP-13	BEAKER									
	YCP-13	METALS LAB									
182-30-3B	YCP-14	PR									
	YCP-14	METALS LAB									
182-30-3C	YCP-15	HN03/H202									
	YCP-15	METALS LAB									
182-30-3D	YCP-16	0.1NHN03									
	YCP-16	METALS LAB									
182-30-3E	YCP-17	KMN04									
	YCP-17	METALS LAB									
182-30-3F	YCP-18	HCL									
	YCP-18	METALS LAB									
182-30-3G	YCP-90	FILTER									
	YCP-90	METALS LAB									
182-30-4A	YCP-19	BEAKER									
	YCP-19	METALS LAB									
182-30-4B	YCP-20	PR									
	YCP-20	METALS LAB									
182-30-4C	YCP-22	0.1NHN03									
	YCP-22	METALS LAB									
182-30-4D	YCP-23	KMN04									
	YCP-23	METALS LAB									
182-30-4E	YCP-24	HCL									
	YCP-24	METALS LAB									
182-30-4F	YCP-91	FILTER									
	YCP-91	METALS LAB									
182-30-5A	YCP-25	BEAKER									
	YCP-25	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Book 182

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Ice Chest/Box NO COOLANT

Carrier and Number JIM MC

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-5B	YCP-26	PR									
	YCP-26	METALS LAB									
182-30-5C	YCP-28	KMN04									
	YCP-28	METALS LAB									
182-30-5D	YCP-29	HCL									
	YCP-29	METALS LAB									
182-30-5E	YCP-30	FILTER									
	YCP-30	METALS LAB									
182-30-5F	YCP-92	FILTER									
	YCP-92	METALS LAB									
182-30-5G	YCP-183	FILTER									
	YCP-183	METALS LAB									
182-30-6A	YCP-31	BEAKER									
	YCP-31	METALS LAB									
182-30-6B	YCP-32	PR									
	YCP-32	METALS LAB									
182-30-6C	YCP-34	.1N HNO3									
	YCP-34	METALS LAB									
182-30-6D	YCP-35	KMN04									
	YCP-35	METALS LAB									
182-30-6E	YCP-36	HCL									
	YCP-36	METALS LAB									
182-30-6F	YCP-93	FILTER									
	YCP-93	METALS LAB									
182-30-6G	YCP-184	FILTER									
	YCP-184	METALS LAB									
182-30-7A	YCP-37	BEAKER									
	YCP-37	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

100

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Book 182 Page 30

Ice Chest/Box NO COOLANT

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-7B	YCP-38	PR									
	YCP-38	METALS LAB									
182-30-7C	YCP-39	FILTER									
	YCP-39	METALS LAB									
182-30-7D	YCP-40	HNO3/H2O2									
	YCP-40	METALS LAB									
182-30-7E	YCP-41	Hg HNO3									
	YCP-41	METALS LAB									
182-30-7F	YCP-42	Hg KMnO4									
	YCP-42	METALS LAB									
182-30-7G	YCP-43	Hg HCl									
	YCP-43	METALS LAB									
182-30-8A	YCP-45	0.1NHN03									
	YCP-45	METALS LAB									
182-30-8B	YCP-46	FILTER									
	YCP-46	METALS LAB									
182-30-8C	YCP-47	HN03/H2O2									
	YCP-47	METALS LAB									
182-30-8D	YCP-48	KMN04									
	YCP-48	METALS LAB									
182-30-8E	YCP-49	HCL									
	YCP-49	METALS LAB									
182-30-9A	YCP-50	BEAKER									
	YCP-50	METALS LAB									
182-30-9B	YCP-51	PR									
	YCP-51	METALS LAB									
182-30-9C	YCP-52	FILTER									
	YCP-52	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Book 182

Date Received 09/09/97 By

Page 30

Ice Chest/Box NO COOLANT

Carrier and Number JIM MC

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-9D	YCP-53	HN03/H202									
	YCP-53	METALS LAB									
182-30-9E	YCP-54	Hg HNO3									
	YCP-54	METALS LAB									
182-30-9F	YCP-55	Hg KMnO4									
	YCP-55	METALS LAB									
182-30-9G	YCP-56	Hg HCl									
	YCP-56	METALS LAB									
182-30-10A	YCP-57	BEAKER									
	YCP-57	METALS LAB									
182-30-10B	YCP-58	0.1NHN03									
	YCP-58	METALS LAB									
182-30-10C	YCP-60	HN03/H202									
	YCP-60	METALS LAB									
182-30-10D	YCP-61	KMN04									
	YCP-61	METALS LAB									
182-30-10E	YCP-62	HCL									
	YCP-62	METALS LAB									
182-30-11A	YCP-94	BEAKER									
	YCP-94	METALS LAB									
182-30-11B	YCP-95	PR									
	YCP-95	METALS LAB									
182-30-11C	YCP-96	FILTER									
	YCP-96	METALS LAB									
182-30-11D	YCP-97	HNO3/H2O2									
	YCP-97	METALS LAB									
182-30-11E	YCP-98	IMP 4									
	YCP-98	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Book 182

Date Received 09/09/97 By

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Ice Chest/Box NO COOLANT

Carrier and Number JIM MC

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-11F	YCP-99 YCP-99	Hg KMnO4 METALS LAB									
182-30-11G	YCP-100 YCP-100	Hg HCl METALS LAB									
182-30-12A	YCP-101 YCP-101	BEAKER METALS LAB									
182-30-12B	YCP-102 YCP-102	PR METALS LAB									
182-30-12C	YCP-103 YCP-103	FILTER METALS LAB									
182-30-12D	YCP-104 YCP-104	HNO3/H2O2 METALS LAB									
182-30-12E	YCP-105 YCP-105	IMP 4 METALS LAB									
182-30-12F	YCP-106 YCP-106	KMNO4 METALS LAB									
182-30-12G	YCP-107 YCP-107	Hg HCl METALS LAB									
182-30-13A	YCP-108 YCP-108	BEAKER METALS LAB									
182-30-13B	YCP-109 YCP-109	PR METALS LAB									
182-30-13C	YCP-110 YCP-110	FILTER METALS LAB									
182-30-13D	YCP-111 YCP-111	HNO3/H2O2 METALS LAB									
182-30-13E	YCP-112 YCP-112	IMP 4 METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

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TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Ice Chest/Box NO COOLANT

Carrier and Number JIM MC

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TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-13F	YCP-113	Hg KMnO4									
	YCP-113	METALS LAB									
182-30-13G	YCP-114	Hg HCl									
	YCP-114	METALS LAB									
182-30-14A	YCP-159	BEAKER									
	YCP-159	METALS LAB									
182-30-14B	YCP-160	PR									
	YCP-160	METALS LAB									
182-30-14C	YCP-161	IMP 1,2,3									
	YCP-161	METALS LAB									
182-30-14D	YCP-162	IMP4									
	YCP-162	METALS LAB									
182-30-14E	YCP-163	KMNO4									
	YCP-163	METALS LAB									
182-30-14F	YCP-164	HCL									
	YCP-164	METALS LAB									
182-30-14G	YCP-165	FILTER									
	YCP-165	METALS LAB									
182-30-15A	YCP-169	HPLC									
	YCP-169	METALS LAB									
182-30-15B	YCP-170	DI H20									
	YCP-170	METALS LAB									
182-30-15C	YCP-171	1ATER									
	YCP-171	METALS LAB									
182-30-16A	YCP-178	FILTER									
	YCP-178	METALS LAB									
182-30-16B	YCP-179	FILTER									
	YCP-179	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Book 182

Date Received 09/09/97 By

Page 30

Ice Chest/Box NO COOLANT

Carrier and Number JIM MC

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-16C	YCP-180	FILTER									
	YCP-180	METALS LAB									
182-30-16D	YCP-181	FILTER									
	YCP-181	METALS LAB									
182-30-16E	YCP-182	FILTER									
	YCP-182	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Absent
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43187
Client: ERG02 - Eastern Research Group

Date Received 09/10/97 By [illegible]

Carrier and Number JIM MC

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Styro Cooler NO COOLANT Temp 22.0 C

TLI Number.. mR/H:CPM.	....Client Sample ID..... .....Client COC ID.....*	.....Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-58-1	YCP-21 REFER TO TLI PROJECT43159*	WATER C02									
182-58-2	YCP-27 REFER TO TLI PROJECT43159*	WATER C02									
182-58-3	YCP-33 REFER TO TLI PROJECT43159*	WATER C02									

Receiving Remarks: NO COOLANT PRESENT WITH SAMPLES THUS THE HIGH TEMPERATURE. SAMPLES ARE PART OF TLI PROJECT #43159.

Archive Remarks:

Client: Eastern Research Group

Date/Int.: September 18, 1997 DSE

Client Run#: Method 29, SB outlet, Run 1

Triangle Laboratories of RTP

(919) 544-5729

ICP	GFAA	FLAA	CVAA
As Be Cd Co Cr Mn Ni Pb Sb Se			Hg

CONT # 1

Filter type: G or Q

label 182-30-1G

CONT # 2

Acetone Rinse

label 182-30-1A

Volume DRY

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF conc. HNO3 — Int DSE — Date 9/23/97

CONT # 3

HNO3 Rinse

label 182-30-1B

Volume 144

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label 182-30-1C,A,B

CONT # 4

Back Half Impinger

label 182-30-1C

Volume 720

For Metals: label 182-30-1C, Volume 620

For Hg: label 182-30-1C, Volume 100

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-1C,A,B

Volume 100 ML

For Metal: label 182-30-1C,A,B — Int DSE — Volume 100 — Date 9/23/97

(post digest spike on FH for GFAA))

For Hg: label 182-30-1C,A,B — Int me — Volume 100 ml — Date 9/25/97

Reduce Volume to 20 ml. on Hotplate — Int. DSE — Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc — Int. ____ — Date ____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-30-1C — Int DSE — Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A — HNO3

label 182-30-1D

Volume 90 ml

Aliquot A 5

Aliquot B 5

Int me

Date 9/25/97

CONT # 5B — KMNO4

label 182-30-1E

Volume 238 ml

Aliquot A 5

Aliquot B 5

Int me

Date 9/25/97

CONT # 5C — HCl

label 182-30-1F

Volume 295 ml

Aliquot A 5

Aliquot B 5

Int me

Date 9/25/97

(Duplicate Analysis of Eac

Sample: label 182-30-1C — Int me — Volume 100 — Date 9/26/97

Aliquot A: 5

Aliquot B: 5

Spike (1 BH Hg Spike required): label 182-30-1F — Int me — Volume 100 — Date 9/25/97

Aliquot A: 5ml

Aliquot B: 5ml

spk 5 ml of 100 ppb — Int me

final spk conc. added 5 ppb — Date 9/25/97

FH & BH post dig. spk.

01 ppb (instrument spiked)

Aliquot A: 5 ml (No spike required)

Aliquot B: 5 ml — spiked to Final Conc. 5 ppb

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

Client: _____

Date/Int.: _____

Client Run# Method 29, SBOUTLET, RUN 2

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label 182-30-2G

CONT # 2

Acetone Rinse

label 182-30-2A

Volume DRY

CONT # 3

HNO3 Rinse

label 182-30-2B

Volume 210

CONT # 4

Back Half Impinger

label 182-30-2C

Volume 840

Hg Impingers

CONT # 5A — HNO3

label 182-30-2D

Volume 76 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

CONT # 5B — KMNO4

label 182-30-2E

Volume 345 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

CONT # 5C — HCl

label 182-30-2F

Volume 300 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE, Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE, Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97

label 182-30-2G, A, B

Combine digestates

Front Half Digestate

Add ~~500~~ uL Sc

Dilute to 100 mls — Int DSE, Date 9/23/97

label 182-30-2G, A, B

Volume 100 ML

For Metal

label 182-30-2G, A, B Int DSE

Volume 100 Date 9/23/97

post digest spike on FH for GFAA))

FH & BH Post dig. spk.

3

92 ppb (Instrument spiked)

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

For Metals

label 182-30-2C

Volume 740

For Hg

label 182-30-2C

Volume 100

Reduce Volume to 20 mL on Hotplate — Int. DSE, Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE, Date 9/24/97

Add 500 uL Sc — Int. ____, Date ____

Dilute to 100 mls — Int. DSE, Date 9/24/97

label 182-30-2C, Int DSE, Volume 100, Date 9/24/97

(One post digestion spk on BH for GFAA)

For Hg

label 182-30-2GAB Int ME

Volume 100 ml Date 9/25/97

Sample

label ____ Int ____

Volume ____ Date ____

Aliquot A: ____

Aliquot B: ____

~~Spike~~ 9/26/97 ME SAMPLE

~~(1 BH Hg Spike required)~~

label 182-30-2C Int ME

Volume 100 Date 9/26/97

Aliquot A: 5

Aliquot B: 5

spk ____ ml of ____ ppb Int ____

final spk conc. added ____ ppb Date ____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: _____

(Duplicate Analysis of Each)

Client: _____

Date/Int.: _____

Client Run# Method 29, SBOUTLET, RUN 3

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter
Type: G or Q

label 182-30-3G

CONT # 2

Acetone Rinse

label 182-30-3A

Volume DRY

CONT # 3

HNO3 Rinse

label 182-30-3B

Volume 108

CONT # 4

Back Half Impinger

label 182-30-3C

Volume 800

Hg Impingers

CONT # 5A — HNO3

label 182-30-3D
Volume 50 ml
Aliquot A 5
Aliquot B 5
Int ML
Date 9/25/97

CONT # 5B — KMNO4

label 182-30-3E
Volume 345 ml
Aliquot A 5
Aliquot B 5
Int ML
Date 9/25/97

CONT # 5C — HCl

label 182-30-3F
Volume 200 ml
Aliquot A 5
Aliquot B 5
Int ML
Date 9/25/97

~~Dessicate to dryness and~~ redissolve in 10ml con HN03 — Int DSE, Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE, Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97

label 182-30-3G, 3A, 3B

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int DSE, Date 9/23/97

label 182-30-3G, A, B
Volume 100 ML

For Metal

label 182-30-3G, A, B — Int DSE
Volume 100 — Date 9/23/97

post digest spike on FH for GFAA))

For Hg

label 182-30-3G AB — Int ML
Volume 100 ml — Date 9/25/97

FH & BH Post dig. spk.
~~3~~ ppb (Instrument spiked)

Aliquot A: 5 mL
(No spike required)
Aliquot B: 5 mL

For Metals

label 182-30-3C

Volume 700

For Hg

label 182-30-3C

Volume 100

Reduce Volume to 20 mL on Hotplate — Int. DSE, Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE, Date 9/24/97

Add 500 uL Sc — Int. _____, Date _____

Dilute to 100 mls — Int. DSE, Date 9/24/97

label 182-30-3C — Int DSE
Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

(Duplicate Analysis of Each)

Sample

~~Spike~~ SAMPLE 9/26/97 ML
(1 ~~BH Hg Spike required~~)

label _____ Int _____
Volume _____ Date _____

Aliquot A: _____
Aliquot B: _____

label 182-30-3C Int ML
Volume 100 Date 9/26/97

Aliquot A: 5
Aliquot B: 5

spk ____ ml of ____ ppb — Int _____
final spk conc. added ____ ppb — Date _____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: _____

Client: _____

Date/Int.: _____

Client Run# Method 29, INLET, RUN 1

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1 — Filter
Type: G or Q
label 182-30-4F

CONT # 2 — Acetone Rinse
label 182-30-4A
Volume DRY

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE, Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE, Date 9/18/97

CONT # 3 — HNO3 Rinse
label 182-30-4B
Volume 144

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97
label 182-30-4F,A,B

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int DSE, Date 9/23/97
label 182-30-4F,A,B
Volume 100 ML

For Metal
label 182-30-4F,A,B
Int DSE
Volume 100 Date 9/23/97

For Hg
label 182-30-4FAB Int ME
Volume 100 ml Date 9/25/97

(One post digest spike on FH for GFAA))

FH & BH Post dig. spk.
[illegible] ppb (instrument spiked)

Aliquot A: 5 mL
(No spike required)
Aliquot B: 5 mL

CONT # 4 — Back Half Impinger
label ~~182-30-4C~~ 182-58-1 EE SRB 9/18/97
Volume 750

For Metals
label 182-58-1
Volume 650

For Hg
label 182-58-1
Volume 100

Reduce Volume to 20 mL on Hotplate — Int. DSE, Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE, Date 9/24/97

Add 500 uL Sc — Int. ____, Date ____

Dilute to 100 mls — Int. DSE, Date 9/24/97

label 182-58-1 Int DSE
Volume 100 Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A — HNO3
label 182-30-4C
Volume 70 ml
Aliquot A 5
Aliquot B 5
Int ME
Date 9/25/97

CONT # 5B — KMNO4
label 182-30-4D
Volume 305 ml
Aliquot A 5
Aliquot B 5
Int ME
Date 9/25/97

CONT # 5C — HCl
label 182-30-4E
Volume 275 ml
Aliquot A 5
Aliquot B 5
Int ME
Date 9/25/97

(Duplicate Analysis of Each)

Sample

Spike
(1 BH Hg Spike required)

label 182-58-1 Int ME
Volume 100 Date 9/25/97
Aliquot A: 5
Aliquot B: 5

label 182-58-1 Int ME
Volume 100 Date 9/25/97
Aliquot A: 5
Aliquot B: 5

spk 5 ml of 100 ppb — Int ME
final spk conc. added 5 ppb — Date 9/25/97

FH & BH Serial dilution performed
____ ml to ____ ml FV + ____ uL Sc
Initials: _____

Client: _____

Date/Int.: _____

Client Run# Method 29, INLET, RUN 2

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1 — Filter Type: G or Q

label 182-30-5F,5G

CONT # 2 — Acetone Rinse

label 182-30-5A

Volume DRY

CONT # 3 — HNO3 Rinse

label 182-30-5B

Volume 290

CONT # 4 — Back Half Impinger

label ~~182-30-5C~~ 182-58-2 EE SRB 9/18/97

Volume 820

~~Dessicate to dryness and~~ redissolve in 10ml con HN03 — Int DSE — Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label 182-30-5F,5G,A,B

Combine digestates

Front Half Digestate

Add ~~X~~ 00 uL Sc

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-5F,G,A,B

Volume 100ML

For Metal

label 182-30-5F,G,A,B Int DSE

Volume 100 Date 9/23/97

post digest spike on FH for GFAA))

FH & BH Post dig. spk.

50 ppb (Instrument spiked)

For Hg

label 182-30-5FGAB Int ME

Volume 100 ml Date 9/25/97

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

For Metals

label 182-58-2

Volume 720

For Hg

label 182-58-2

Volume 100

Reduce Volume to 20 mL on Hotplate — Int. DSE — Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc — Int. _____ — Date _____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-58-2 Int DSE

Volume 100 Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A — HNO3

EE SRB 9/18/97

label ~~182-30~~ 182-30-5C

Volume 98 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/26/97

CONT # 5B — KMNO4

label 182-30-5D

Volume 400 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/26/97

CONT # 5C — HCl

label 182-30-5E

Volume 300 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/26/97

(Duplicate Analysis of Each)

Sample

~~Spike~~ SAMPLE (1 ~~BH Hg Spike required~~) 9/25/97 ME

label _____ Int _____

Volume _____ Date _____

Aliquot A: _____

Aliquot B: _____

label 182-58-2 Int ME

Volume 100 Date 9/25/97

Aliquot A: 5

Aliquot B: 5

spk _____ ml of _____ ppb — Int _____

final spk conc. added _____ ppb — Date _____

FH & BH Serial dilution performed

_____ ml to _____ ml FV + _____ uL Sc

Initials: _____

Client:

Date/Int.:

Client Run# Method 29, INLET, RUN 3

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label 182-30-6F, 6G

Volume DRY

CONT # 2

Acetone Rinse

label 182-30-6A

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

CONT # 3

HNO3 Rinse

label 182-30-6B

Volume 146

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label 182-6F,G,A,B

Combine digestates

Front Half Digestate

Add ~~500~~ uL Sc

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-6F,G,A,B

Volume 100 ML

For Metal

label 182-30-6F,G,A,B

Int DSE

Volume 100 — Date 9/23/97

For Hg

label 182-30-6FGAB — Int ME

Volume 100 ml — Date 9/25/97

(One post digest spike on FH for GFAA))

FH & BH Post dig. spk.

ppb (Instrument spiked)

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

CONT # 4

Back Half Impinger

label 182-58-3

Volume 900

For Metals

label 182-58-3

Volume 800

For Hg

label 182-58-3

Volume 100

Reduce Volume to 20 mL on Hotplate — Int. DSE — Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc — Int. ____ — Date ____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-58-3 — Int DSE

Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A — HNO3

label 182-30-6C

Volume 126 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

CONT # 5B — KMNO4

label 182-30-6D

Volume 415 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

CONT # 5C — HCl

label 182-30-6E

Volume 150 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

(Duplicate Analysis of Each)

Sample

~~Spike~~ SAMPLE (1 ~~BH Hg Spike required~~) 9/25/97 ME

label ____ Int ____

Volume ____ Date ____

Aliquot A: ____

Aliquot B: ____

label 182-58-3 Int ME

Volume 100 Date 9/25/97

Aliquot A: 5

Aliquot B: 5

spk ____ ml of ____ ppb — Int ____

final spk conc. added ____ ppb — Date ____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

Date:

Client: _____

Date/Int.: _____

Client Run# Method 29, SBout let, FB1 (Blank)

Triangle Laboratories of RTP

(919) 544-5729

ICP	GFAA	FLAA	CVAA

CONT # 1

Filter type: G or Q

label 182-30-7C

CONT # 2

Acetone Rinse

label 182-30-7A

Volume DRY

CONT # 3 used: 7B=30mls

HNO3 Rinse

label 182-30-7B

Volume 130

CONT # 4 used: 7B=100mls 7D=300mls

Back Half Impinger

label 182-30-7D

Volume 295

~~Dessicate to dryness and redissolve in 10ml con HNO3~~ Int DSE Date 9/23/97

Reduce volume to 20 ml on hotplate Int DSE Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 Int DSE Date 9/23/97

label 182-30-7C,A,B

Microwave dig with conc. HF conc. HNO3 Int DSE Date 9/23/97

Combine digestates

Front Half Digestate

Add ~~500~~ uL Sc

Dilute to 100 mls Int DSE Date 9/23/97

label 182-30-7C,A,B

Volume 100 ML

For Metal

label 182-30-7C,A,B Int DSE

Volume 100 Date 9/23/97

(post digest spike on FH for GFAA))

For Hg

label 182-30-7C,A,B Int MR

Volume 100 ml Date 9/25/97

FH & BH Post dig. spk. ∞ ppb (instrument spiked)

Aliquot A: 5 mL (No spike required)

Aliquot B: 5 mL

For Metals

label 182-30-7D,B

Volume 100

For Hg

label _____

Volume _____

Reduce Volume to 20 mL on Hotplate Int. SE Date 9-19-97

Hotplate dig with HNO3 and H202 Int. DSE Date 9/24/97

Add 500 uL Sc Int. _____ Date _____

Dilute to 100 mls Int. DSE Date 9/24/97

label 182-30-7D,B Int DSE

Volume 100 Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A HNO3

label 182-30-7E

Volume 50 ml

Aliquot A 5

Aliquot B 5

Int DSE

Date 9/21/97

CONT # 5B KMNO4

label 182-30-7F

Volume 415 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

CONT # 5C HCl

label 182-30-7F,G

Volume 142 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

(Duplicate Analysis of Eac

Sample

label 182-30-7D Int MR

Volume 100 Date 10/1/97

Aliquot A: 5 ml

Aliquot B: 5 ml

Spike (1 BH Hg Spike required)

label 182-30-7E Int MR

Volume 100 Date 10/1/97

Aliquot A: 5 ml

Aliquot B: 5 ml

spiked to final conc. 5ppb 10/9/97 MR

spk 5 ml of 100 ppb Int MR

final spk conc. added 5 ppb Date 10/1/97

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: _____

Client: _____

Date/Int.: _____

Client Run# Method 29, SBOUTLET RB (BLANK)

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label 182-30-8B

CONT # 2

Acetone Rinse

label 182-30-10A

Volume DRY

CONT # 3 use 6A=370

HNO3 Rinse

label 182-30-8A

Volume 470

CONT # 4 USE 8A=100 8C=200

Back Half Impinger

label 182-30-8C

Volume 285

~~Dessicate to dryness and~~ redissolve in 10ml con HN03 — Int DSE — Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/19/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label 182-30-8B, 10A, 8A

Combine digestates

Front Half Digestate

Add ~~500~~ uL Sc

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-8A, B, 10A

Volume 100 ML

For Metal

182-30-8B, 10A, 8A

label _____ Int DSE

Volume 100 Date 9/23/97

e post digest spike on FH for GFAA))

For Hg

label 182-30-8B, 10A, 5A Int MR

Volume 100 ml Date 9/25/97

H & BH Post dig. spk.

@ ~~10~~ 00 ppb (Instrument spiked)

Aliquot A: _____ mL

(No spike required)

Aliquot B: _____ mL

For Metals

label 182-30-8A, C

Volume 300

For Hg

label _____

Volume _____

Reduce Volume to 20 mL on Hotplate — Int. SF — Date 9-19-97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc — Int. _____ — Date _____

Dilute to 100 mls — Int DSE — Date 9/24/97

182-30-3C, A

label _____ Int DSE

Volume 100 Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A HNO3

label 182-30-8A

Volume 100 ml

Aliquot A 5

Aliquot B 5

Int MR

Date 9/26/97

CONT # 5B KMNO4

label 182-30-8D ISC

Volume 185 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

CONT # 5C HCl

used 33mL DI H2O 182-30-8C 8DE ISC

label 182-30-8C

Volume 235 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

(Duplicate Analysis of Each)

Sample

label 182-30-8A Int ME

Volume 100 Date 9/26/97

Aliquot A: 5

Aliquot B: 5

Spike

(1 BH Hg Spike required)

label _____ Int _____

Volume _____ Date _____

Aliquot A: _____

Aliquot B: _____

spk _____ ml of _____ ppb — Int _____

final spk conc. added _____ ppb — Date _____

FH & BH Serial dilution performed

_____ ml to _____ ml FV + _____ uL Sc

Initials: _____

Date: _____

Client: _____

Date/Int.: _____

Client Run# Method 29 SBT INLET, RFB 2 (BLANK)
EE SRB 9/18/97

Triangle Laboratories of RTP
(919) 544-5729

CONT # 1
Filter Type: G or Q
label 182-30-9C

CONT # 2
Acetone Rinse
label 182-30-9A
Volume DRY

CONT # 3
HNO3 Rinse
label 182-30-9B
Volume 172

CONT # 4
Back Half Impinger
label 182-30-9D
Volume 64 (50)

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE — Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97
label 182-30-9C, A, B

Combine digestates

Front Half Digestate

Add ~~X~~ 500 uL Sc

Dilute to 100 mls — Int DSE — Date 9/23/97
label 182-30-9C, A, B
Volume 100 ML

For Metals
label 182-30-9D, B — Int DSE
Volume 300

For Hg
label ~~X~~ — Int ~~X~~
Volume ~~X~~

Reduce Volume to 20 mL on Hotplate — Int. SF — Date 9-19-97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc — Int. ____ — Date ____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-30-9D, B — Int DSE
Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A — HNO3
label 182-30-9E
Volume 64 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 9/29/97

CONT # 5B — KMNO4
label 182-30-9F
Volume 375 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 9/26/97

CONT # 5C — HCl
label 182-30-9G
Volume 155 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 9/26/97

(Duplicate Analysis of Each)

Sample
label 182-30-9E — Int NR
Volume 100 — Date 9/29/97
Aliquot A: 5
Aliquot B: 5

Spike
(1 BH Hg Spike required)
label 182-30-9E — Int DSE
Volume 100 — Date 9/29/97
Aliquot A: 5
Aliquot B: 5
spk 5 ml of 100 ppb — Int DSE
final spk conc. added 5 ppb — Date 9/29/97

For Metal
label 182-30-9C, A, B — Int DSE
Volume 100 — Date 9/23/97

For Hg
label 182-30-9C A B — Int MR
Volume 100 ml — Date 9/26/97

e post digest spike on FH for GFAA))

H & BH Post dig. spk.
@ ∞ ppb (instrument spiked)

Aliquot A: 5 mL
~~(No spike required)~~
Aliquot B: 5 mL

FH & BH Serial dilution performed
____ ml to ____ ml FV + ____ uL Sc
Initials: _____

Client:

Date/Int.:

Client Run# Method 29, BAGA OUTLET, RUN 1

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label 182-30-11C

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/22/97

CONT # 2

Acetone Rinse

label 182-30-11A

Volume DRY

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label 182-30-11C,A,B

CONT # 3

HNO3 Rinse

label 182-30-11B

Volume 64

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-11C,A,B

Volume 100 ML

For Metal

label 182-30-11C,A,B — Int DSE

Volume 100 — Date 9/23/97

(One post digest spike on FH for GFAA))

FH & BH Post dig. spk.

@ 100 ppb (Instrument spiked)

For Hg

label 182-30-11CAB — Int ME

Volume 100 ml — Date 9/25/97

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

CONT # 4

Back Half Impinger

label 182-30-11 D

Volume 416

For Metals

label 182-30-11D

Volume 300

Reduce Volume to 20 mL on Hotplate — Int. DSE — Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc — Int. ____ — Date ____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-30-11D — Int DSE

Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

For Hg

label 182-30-11D

Volume 100

Sample

~~Spike~~ SAMPLE (~~1 BH Hg Spike required~~) 9/24/97

label ____ Int ____

Volume ____ Date ____

Aliquot A: ____

Aliquot B: ____

Hg Impingers

CONT # 5A — HNO3

label 182-30-11E

Volume 50 ml

Aliquot A 5

Aliquot B 5

Int ME

Date 9/25/97

CONT # 5B — KMNO4

label 182-30-11F

Volume 122 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

CONT # 5C — HCl

label 182-30-11G

Volume ~~150~~ 102 ml BE SC 9/19/97

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

(Duplicate Analysis of Each)

* MS & MSD prepared for 182-30-11F SRB 9/26/9

label 182-30-11D — Int ME

Volume 100 — Date 9/25/97

Aliquot A: 5

Aliquot B: 5

spk ____ ml of ____ ppb — Int ____

final spk conc. added ____ ppb — Date ____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

Client: _____

Date/Int.: _____

Client Run# Method 29, BAG A OUTLET, RUN 2

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1 — Filter Type: G or Q

label 182-30-12C

CONT # 2 — Acetone Rinse

label 182-30-12A

Volume DRY

CONT # 3 — HNO3 Rinse

label 182-30-12B

Volume 104

CONT # 4 — Back Half Impinger

label 182-30-12D

Volume 680

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE — Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label _____

Combine digestates

Front Half Digestate

Add ~~500~~ uL Sc X

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-12C,A,B

Volume 100 ML

For Metal

label 182-30-12C,A,B — Int DSE

Volume 100 — Date 9/23/97

(post digest spike on FH for GFAA))

FH & BH Post dig. spk.

00 ppb (instrument spiked)

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

For Hg

label 182-30-12C,A,B — Int ME

Volume 100 ml — Date 9/25/97

For Metals

label 182-30-12D

Volume 580

For Hg

label 182-30-12D

Volume 100

Reduce Volume to 20 mL on Hotplate — Int. DSE — Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc X — Int. _____ — Date _____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-30-12D — Int DSE

Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

Hg Impingers

CONT # 5A — HNO3

label 182-30-12E

Volume 80 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

CONT # 5B — KMNO4

label 182-30-12F

Volume 305 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

CONT # 5C — HCl

label 182-30-12G

Volume 260 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

(Duplicate Analysis of Each)

Sample

label _____ Int _____

Volume _____ Date _____

Aliquot A: _____

Aliquot B: _____

~~Spike~~ SAMPLE (1 ~~BH Hg Spike required~~) 9/25/97 ME

label 182-30-12D Int ME

Volume 100 Date 9/25/97

Aliquot A: 5 ml

Aliquot B: 5 ml

spk _____ ml of _____ ppb — Int _____

final spk conc. added _____ ppb — Date _____

FH & BH Serial dilution performed

_____ ml to _____ ml FV + _____ uL Sc

Initials: _____

Date: _____

Project #

Client:

Date/Int.:

Client Run# Method 29, BAGA OUTLET, RUN 3

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label 182-30-13C

CONT # 2

Acetone Rinse

label 182-30-13A

Volume DRY

CONT # 3

HNO3 Rinse

label 182-30-13B

Volume 76

CONT # 4

Back Half Impinger

label 182-30-13D

Volume 630

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE, Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE, Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 9/23/97

label 182-30-13C,A,B

Combine digestates

Front Half Digestate

Add 500 uL Sc — X

Dilute to 100 mls — Int DSE, Date 9/23/97

label 182-30-13C,A,B

Volume 100 ML

For Metal

label 182-30-13C,A,B Int DSE

Volume 100 Date 9/23/97

post digest spike on FH for GFAA))

For Hg

label 182-30-13C(A,B) Int ME

Volume 100 ml Date 9/25/97

Allquot A: 5 mL

(No spike required)

Allquot B: 5 ml

FH & BH Post dig. spk.

80 ppb (Instrument spiked)

For Metals

label 182-30-13D

Volume 530

Reduce Volume to 20 mL on Hotplate — Int. DSE, Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE, Date 9/24/97

Add 500 uL Sc — X — Int. ____, Date ____

Dilute to 100 mls — Int. DSE, Date 9/24/97

label 182-30-13D Int DSE

Volume 100 Date 9/24/97

(One post digestion spk on BH for GFAA)

For Hg

label 182-30-13D

Volume 100

Sample

Spike

(1 BH Hg Spike required)

label 182-30-13D Int ME

Volume 100 Date 9/26/97

Allquot A: 5

Allquot B: 5

label 182-30-13G Int ME

Volume 100 Date 9/26/97

Allquot A: 5

Allquot B: 5

spk 5 ml of 100 ppb — Int ME

final spk conc. added 5 ppb — Date 9/26/97

Hg Impingers

CONT # 5A — HNO3

label 182-30-13E

Volume 64 ml

Allquot A 5

Allquot B 5

Int SRB

Date 9/26/97

CONT # 5B — KMNO4

label 182-30-13F

Volume 305 ml

Allquot A 5

Allquot B 5

Int SRB

Date 9/26/97

CONT # 5C — HCl

label 182-30-13G

Volume 200 ml

Allquot A 5

Allquot B 5

Int SRB

Date 9/26/97

(Duplicate Analysis of Each)

* MS & MSD was prepared for 182-30-13G SRB 9/26/97

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: _____

Client:

Date/Int.:

Client Run# Method 29, InLET, FB2 (Blank)

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label 182-30-14G

CONT # 2

Acetone Rinse

label 182-30-14A

Volume DRY

CONT # 3

use 14B=50

HNO3 Rinse

label 182-30-14B

Volume 100

CONT # 4

14B=50

14C=100

Back Half Impinger

label 182-30-14C

Volume 460 = TV

Hg Impingers

CONT # 5A — HNO3

label 182-30-14D

Volume 40 ml

Aliquot A 5

Aliquot B 5

Int DSE

Date 9/29/97

CONT # 5B — KMNO4

label 182-30-14E

Volume 285 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

CONT # 5C — HCl

label 182-30-14ET

Volume 130 ml

Aliquot A 5

Aliquot B 5

Int SRB

Date 9/26/97

(Duplicate Analysis of Each)

~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE — Date 9/23/97

Reduce volume to 20 ml on hotplate — Int DSE — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 9/23/97

label 182-30-14G, A, B

For Metals: label 182-30-14B,C; Volume 150

For Hg: label ____; Volume ____

Combine digestates

Front Half Digestate

Add 500 uL Sc X

Dilute to 100 mls — Int DSE — Date 9/23/97

label 182-30-14G, A, B

Volume 100 ML

For Metal: label 182-30-14G A,B — Int DSE — Volume 100 — Date 9/23/97

For Hg: label 182-30-14G AB — Int MC — Volume 100 ml — Date 9/25/97

post digest spike on FH for GFAA))

FH & BH Post dig. spk.

— ppb (Instrument spiked)

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

Reduce Volume to 20 mL on Hotplate — Int. SE — Date 9/19/97

Hotplate dig with HNO3 and H202 — Int. DSE — Date 9/24/97

Add 500 uL Sc X — Int. ____ — Date ____

Dilute to 100 mls — Int. DSE — Date 9/24/97

label 182-30-14B,C — Int DSE — Volume 100 — Date 9/24/97

(One post digestion spk on BH for GFAA)

Sample

Spike (1 BH Hg Spike required)

label 182-30-14DE — Int MC — Volume 100 — Date 10/4/97

Aliquot A: 5

Aliquot B: 5

label ____ Int ____ Volume ____ Date ____

Aliquot A: ____

Aliquot B: ____

spk ____ ml of ____ ppb — Int ____

final spk conc. added ____ ppb — Date ____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

Client:_____

Date/Int.:_____

Client Run# BLANK

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1

Filter Type: G or Q

label____

CONT # 2

Acetone Rinse

label____

Volume____

CONT # 3

~~HNO3~~ Rinse — DI H_2O

33 mls HNO3 mixed with Blank 182-30-15C

used 397 mls

label 182-30-15B

Volume 430 TV

CONT # 4

Back Half Impinger

label____

Volume____

Hg Impingers

CONT # 5A — HNO3

label_____ Volume____ml Aliquot A____ Aliquot B____ Int _____ Date _____

CONT # 5B — KMNO4

label_____ Volume____ml Aliquot A____ Aliquot B____ Int _____ Date _____

CONT # 5C — HCl

label_____ Volume____ml Aliquot A____ Aliquot B____ Int _____ Date _____

Dessicate to dryness and redissolve in 10ml con HNO3 — Int _____ Date _____

Reduce volume to 20 ml on hotplate — Int DSE Date 9/19/97

Microwave dig with conc. HF and conc. HNO3 — Int _____ Date _____

Microwave dig with conc. HF and conc. HNO3 — Int DSE Date 9/23/97

label 182-30-15B

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int DSE Date 9/23/97

label 182-30-15B

Volume 100 ML

For Metal: label 182-30-15B Int DSE Volume 100 Date 9/23/97

For Hg: label 182-30-15B Int DSE Volume 100 ml Date 9/29/97

(post digest spike on FH for GFAA))

FH & BH Post dig. spk.

@ _____ppb (instrument spiked)

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

For Metals: label_____ Volume____

For Hg: label_____ Volume____

Reduce Volume to 20 mL on Hotplate — Int._____ Date_____

Hotplate dig with HNO3 and H202 — Int._____ Date_____

Add 500 uL Sc — Int._____ Date_____

Dilute to 100 mls — Int._____ Date_____

label_____ Int _____ Volume_____ Date _____

(One post digestion spk on BH for GFAA)

(Duplicate Analysis of Each)

Sample

label_____ Int _____ Volume_____ Date _____

Aliquot A:_____

Aliquot B:_____

Spike

(1 BH Hg Spike required)

label_____ Int _____ Volume_____ Date _____

Aliquot A: _____

Aliquot B: _____

spk____ml of_____ppb — Int _____

final spk conc. added_____ppb — Date _____

FH & BH Serial dilution performed

____ ml to ____ml FV + ____uL Sc

Initials: _____

Client:_____

Date/Int.:_____

Client Run# BLANK

Triangle Laboratories of RTP

(919) 544-5729

CONT # 1 — Filter Type: G or Q — label____

CONT # 2 — Acetone Rinse — label____ Volume____

93mls was used & mixed w/ Blank Sample ID# 182-30-8PC

CONT # 3 — ~~HNO3~~ Rinse — label 182-30-15C — Volume 400 = TV

Used = 367mls DI H_2O

CONT # 4 — Back Half Impinger — label____ Volume____

Hg Impingers

CONT # 5A — HNO3 — label____ Volume____ml Aliquot A____ Aliquot B____ Int____ Date____

CONT # 5B — KMNO4 — label____ Volume____ml Aliquot A____ Aliquot B____ Int____ Date____

CONT # 5C — HCl — label____ Volume____ml Aliquot A____ Aliquot B____ Int____ Date____

Dessicate to dryness and redissolve in 10ml con HNO3 — Int____ Date____

Reduce volume to 20 ml on hotplate — Int DSE Date 9/19/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE Date 9/23/97 — label 182-30-15C

Microwave dig with conc. HF and conc. HNO3 — Int____ Date____

Combine digestates

Front Half Digestate

Add ~~500~~ uL Sc

Dilute to 100 mls — Int DSE Date 9/23/97 — label 182-30-15C — Volume 100 ML

For Metals — label 182-30-15C Int DSE Volume 100 Date 9/23/97

For Hg — label 182-30-15C Int DSE Volume 100 ml Date 9/24/97

post digest spike on FH for GFAA))

FH & BH Post dig. spk.

_____ppb (Instrument spiked)

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

For Metals — Reduce Volume to 20 mL on Hotplate — Int.____ Date____

Hotplate dig with HNO3 and H202 — Int.____ Date____

Add 500 uL Sc — Int.____ Date____

Dilute to 100 mls — Int.____ Date____

label____ Int____ Volume____ Date____

(One post digestion spk on BH for GFAA)

For Hg — Sample — label____ Int____ Volume____ Date____ Aliquot A:____ Aliquot B:____

Spike (1 BH Hg Spike required) — label____ Int____ Volume____ Date____ Aliquot A:____ Aliquot B:____

spk____ml of____ppb — Int____ final spk conc. added____ppb — Date____

FH & BH Serial dilution performed

____ ml to ____ml FV + ____uL Sc

Initials: _____

Date:

(Duplicate Analysis of Each)

90

INORGANICS SPIKE LOG

DATE	PROJECT # SAMPLE IDs	ANALYTE	ORIGINAL STANDARD #	ORIGINAL STANDARD CONC. (PPM)	SPIKE SAMPLE (µL) / FINAL VOLUME (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
9/8/97	43028-B LCS	*	3-013-3	*	1000/100	*	DSE	MR
	180-97-2 MS						↓	↓
	180-97-2 MSD							
9/9/97	43021 - LCS	*	3-013-3	*	1000/100	*	DSE	MR
Reup	180-90-1A MS						↓	↓
	180-90-1A MSD							
9/9/97	43091-B-LCS	*	3-013-3	*	1000/100	*	DSE	MR
	181-61-1 MS						↓	↓
	181-61-1 MSD							
9/10/97	43138-LCS	*	3-013-3	*	250/50	*	DSE	MR
	182-9-2 MS						↓	↓
	182-9-2 MSD							
9/10/97	43027-LCS	*	3-013-3	*	1000/100	*	DSE	SF
9/11/97	43286C-LCS	*	3-013-3	*	1000/100	*	DSE	MR
	179-37-1 MS						↓	↓
	179-37-1 MSD							
9/23/97	43159-A LCS	*	3-013-3	*	1000/100	*	DSE	SRB

TU # 43159-A

*** SEE SPIKE LOG**

EXP date	Spiking Standard Preparation: Element	Standard ID	Orig. Std. (ppm)	Spike(uL) / Fvol(100mL)	conc (ppm)	SPIKING from Spiking Standard: Spike(uL) / FVol(100ml)	conc (ppb)	combined total
2/1/98	Ag	2-115-4	100	5000	5	1000	50	
9/1/98	As	3-010-10	100	5000	5	1000	50	
2/1/98	Al	2-115-4	100	5000	5	1000	50	
9/1/98	Al	3-010-7	10000	950	95	1000	950	1000
2/1/98	B	2-115-4	100	5000	5	1000	50	
2/1/98	Ba	2-115-4	100	5000	5	1000	50	
9/1/98	Be	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-012-7	10000	950	95	1000	950	1000
9/1/98	Cd	3-010-10	100	5000	5	1000	50	
9/1/98	Co	3-010-10	100	5000	5	1000	50	
9/1/98	Cr	3-010-10	100	5000	5	1000	50	
9/1/98	Cu	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-012-6	10000	950	95	1000	950	1000
2/1/98	K	2-115-4	1000	5000	50	1000	500	
9/1/98	K	3-012-5	10000	1500	150	1000	1500	2000
9/1/98	Mg	3-010-10	100	5000	5	1000	50	
8/1/98	Mg	3-010-8	10000	950	95	1000	950	1000
9/1/98	Mn	3-010-10	100	5000	5	1000	50	
9/1/98	Mo	3-010-10	100	5000	5	1000	50	
2/1/98	Na	2-115-4	100	5000	5	1000	50	
8/1/98	Na	3-010-9	10000	1950	195	1000	1950	2000
9/1/98	Ni	3-010-10	100	5000	5	1000	50	
9/1/98	Pb	3-010-10	100	5000	5	1000	50	
9/1/98	Sb	3-010-10	100	5000	5	1000	50	
9/1/98	Se	3-010-10	100	5000	5	1000	50	
9/1/98	Ti	3-010-10	100	5000	5	1000	50	
9/1/98	Tl	3-010-10	100	5000	5	1000	50	
9/1/98	V	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-10	100	5000	5	1000	50	
8/1/98	Zn	3-010-6	1000	1500	15	1000	150	200

1000uL of the Spiking Standard gives the listed conc. of the above elements.

****Spike seperately**

Element	Orig Std (ppm)	Spike(uL) / Fvol(100m	conc (ppb)
Au	1000	140	1400
Ce	1000	30	300
Li	1000	70	700
P	1000	100	1000
Pd	1000	160	1600
Pt	1000	300	3000
S	1000	350	3500
Si	10000	350	35000
Sn	1000	20	200
Sr	1000	5	50

Spiking Standard 3-013-3
EXP: 11/26/97

Spiked by:
Predigestion- D. Streeter-Edwards 9/23/97

Postdigestion-

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43159-A

Transfer From: IWLM To: IA I

	Initials..	Date.....	Time...
Released by:	QSE	9/24/97	17:50
Accepted by:	DWA	9/24/97	23:45

MILES.ID.....		TLI_No.....	Cust.Id.....
43159-A	-000	TLI Blank	TLI Method Blank
43159-A	-001	182-30-1A	YCP-01
43159-A	-002	182-30-1B	YCP-02
43159-A	-003	182-30-1C	YCP-03
43159-A	-004	182-30-1D	YCP-04
43159-A	-005	182-30-1E	YCP-05
43159-A	-006	182-30-1F	YCP-06
43159-A	-007	182-30-1G	YCP-88
43159-A	-008	182-30-2A	YCP-07
43159-A	-009	182-30-2B	YCP-08
43159-A	-010	182-30-2C	YCP-09
43159-A	-011	182-30-2D	YCP-10
43159-A	-012	182-30-2E	YCP-11
43159-A	-013	182-30-2F	YCP-12
43159-A	-014	182-30-2G	YCP-89
43159-A	-015	182-30-3A	YCP-13
43159-A	-016	182-30-3B	YCP-14
43159-A	-017	182-30-3C	YCP-15
43159-A	-018	182-30-3D	YCP-16
43159-A	-019	182-30-3E	YCP-17
43159-A	-020	182-30-3F	YCP-18
43159-A	-021	182-30-3G	YCP-90
43159-A	-022	182-30-4A	YCP-19
43159-A	-023	182-30-4B	YCP-20
43159-A	-024	182-30-4C	YCP-22
43159-A	-025	182-30-4D	YCP-23
43159-A	-026	182-30-4E	YCP-24
43159-A	-027	182-30-4F	YCP-91
43159-A	-028	182-58-1	YCP-21
43159-A	-029	182-30-5A	YCP-25

XfrCOC (Rev 11/01/94)

dditional comments or instructions:

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43159-A

Transfer From: IWLM To: IA I

	Initials..	Date.....	Time...
Released by:	DSG	9 24 97	1750
Accepted by:	MM	9 24 97	2345

MILES.ID.....		TLI_No.....	Cust.Id.....
43159-A	-030	182-30-5B	YCP-26
43159-A	-031	182-30-5C	YCP-28
43159-A	-032	182-30-5D	YCP-29
43159-A	-033	182-30-5E	YCP-30
43159-A	-034	182-30-5F	YCP-92
43159-A	-035	182-30-5G	YCP-183
43159-A	-036	182-58-2	YCP-27
43159-A	-037	182-30-6A	YCP-31
43159-A	-038	182-30-6B	YCP-32
43159-A	-039	182-30-6C	YCP-34
43159-A	-040	182-30-6D	YCP-35
43159-A	-041	182-30-6E	YCP-36
43159-A	-042	182-30-6F	YCP-93
43159-A	-043	182-30-6G	YCP-184
43159-A	-044	182-58-3	YCP-33
43159-A	-045	182-30-7A	YCP-37
43159-A	-046	182-30-7B	YCP-38
43159-A	-047	182-30-7C	YCP-39
43159-A	-048	182-30-7D	YCP-40
43159-A	-049	182-30-7E	YCP-41
43159-A	-050	182-30-7F	YCP-42
43159-A	-051	182-30-7G	YCP-43
43159-A	-052	182-30-8A	YCP-45
43159-A	-053	182-30-8B	YCP-46
43159-A	-054	182-30-8C	YCP-47
43159-A	-055	182-30-8D	YCP-48
43159-A	-056	182-30-8E	YCP-49
43159-A	-057	182-30-10A	YCP-57
43159-A	-058	182-30-9A	YCP-50
43159-A	-059	182-30-9B	YCP-51

XfrCOC (Rev 11/01/94)

ditional comments or instructions:

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43159-A

Transfer From: IWLM To: IA I

	Initials..	Date.....	Time..
Released by:	DSC	9/24/97	17:50
Accepted by:	MRA	9/24/97	23:45

MILES.ID.....		TLI_No.....	Cust.Id.....
43159-A	-060	182-30-9C	YCP-52
43159-A	-061	182-30-9D	YCP-53
43159-A	-062	182-30-9E	YCP-54
43159-A	-063	182-30-9F	YCP-55
43159-A	-064	182-30-9G	YCP-56
43159-A	-065	182-30-11A	YCP-94
43159-A	-066	182-30-11B	YCP-95
43159-A	-067	182-30-11C	YCP-96
43159-A	-068	182-30-11D	YCP-97
43159-A	-069	182-30-11E	YCP-98
43159-A	-070	182-30-11F	YCP-99
43159-A	-071	182-30-11G	YCP-100
43159-A	-072	182-30-12A	YCP-101
43159-A	-073	182-30-12B	YCP-102
43159-A	-074	182-30-12C	YCP-103
43159-A	-075	182-30-12D	YCP-104
43159-A	-076	182-30-12E	YCP-105
43159-A	-077	182-30-12F	YCP-106
43159-A	-078	182-30-12G	YCP-107
43159-A	-079	182-30-13A	YCP-108
43159-A	-080	182-30-13B	YCP-109
43159-A	-081	182-30-13C	YCP-110
43159-A	-082	182-30-13D	YCP-111
43159-A	-083	182-30-13E	YCP-112
43159-A	-084	182-30-13F	YCP-113
43159-A	-085	182-30-13G	YCP-114
43159-A	-086	182-30-14A	YCP-159
43159-A	-087	182-30-14B	YCP-160
43159-A	-088	182-30-14C	YCP-161
43159-A	-089	182-30-14D	YCP-162

XfrCOC (Rev 11/01/94)

dditional comments or instructions:

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43159-A

Transfer From: IWLM To: IA I

	Initials	Date	Time
Released by:	[illegible]	9/24/97	17:50
Accepted by:	MCW	9/24/97	23:45

MILES.ID		TLI_No	Cust.Id
43159-A	-090	182-30-14E	YCP-163
43159-A	-091	182-30-14F	YCP-164
43159-A	-092	182-30-14G	YCP-165
43159-A	-093	182-30-15B	YCP-170
43159-A	-094	182-30-15C	YCP-171
43159-A	-095	LCS	Lab Control Spike

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

Date	Project Sample IDs	Analyte	Std ID	Std conc ppm	Spike vol / sample vol	Spike conc	Initials	Wt.
24/97	43528B	+	3013-4	+	100/10	+	MKS	DKS
	180-97-2 PNS							
25/97	42869C	+	3-013-4	+	100/10	+	SRB	SRB
	179-37-1 PDS	↓	↓	↓	↓	↓	↓	↓
/97	42869C	+	3-013-4	+	100/10	+	MKS	MKS
	179-37-1 PDS	↓	↓	↓	↓	↓	↓	↓
3/97	43332A	+	3-013-4	+	100/10	+	MKS	MKS
	184-5-2 PNS	↓	↓	↓	↓	↓	↓	↓
3/97	43182	+	3-013-4	+	100/10	+	MKS	MKS
	182-53-1,3 PDS	↓	↓	↓	↓	↓	↓	↓
4/97	43159A	+	3-013-4	+	100/10	+	MKS	MKS
	182-30-1AB PNS	↓	↓	↓	↓	↓	↓	↓
	182-30-1C PNS							
4/97	43159B	+	3-013-4	+	100/10	+	MKS	MKS
	182-30-16A PNS	↓	↓	↓	↓	↓	↓	↓

* SEE SPIKE LOG

EXP date	Spiking Standard Preparation: Element	Standard ID	Orig. Std. (ppm)	Spike(uL) / Fvol(100mL)	conc (ppm)	SPIKING from Spiking Standard: Spike(uL) / FVol(100ml)	conc (ppb)	combined total
2/1/98	Ag	2-115-4	100	5000	5	1000	50	
9/1/98	As	3-010-10	100	5000	5	1000	50	
2/1/98	Al	2-115-4	100	5000	5	1000	50	
9/1/98	Al	3-010-7	10000	950	95	1000	950	1000
2/1/98	B	2-115-4	100	5000	5	1000	50	
2/1/98	Ba	2-115-4	100	5000	5	1000	50	
9/1/98	Be	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-012-7	10000	950	95	1000	950	1000
9/1/98	Cd	3-010-10	100	5000	5	1000	50	
9/1/98	Co	3-010-10	100	5000	5	1000	50	
9/1/98	Cr	3-010-10	100	5000	5	1000	50	
9/1/98	Cu	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-012-6	10000	950	95	1000	950	1000
2/1/98	K	2-115-4	1000	5000	50	1000	500	
9/1/98	K	3-012-5	10000	1500	150	1000	1500	2000
9/1/98	Mg	3-010-10	100	5000	5	1000	50	
8/1/98	Mg	3-010-8	10000	950	95	1000	950	1000
9/1/98	Mn	3-010-10	100	5000	5	1000	50	
9/1/98	Mo	3-010-10	100	5000	5	1000	50	
2/1/98	Na	2-115-4	100	5000	5	1000	50	
8/1/98	Na	3-010-9	10000	1950	195	1000	1950	2000
9/1/98	Ni	3-010-10	100	5000	5	1000	50	
9/1/98	Pb	3-010-10	100	5000	5	1000	50	
9/1/98	Sb	3-010-10	100	5000	5	1000	50	
9/1/98	Se	3-010-10	100	5000	5	1000	50	
9/1/98	Ti	3-010-10	100	5000	5	1000	50	
9/1/98	Tl	3-010-10	100	5000	5	1000	50	
9/1/98	V	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-10	100	5000	5	1000	50	
8/1/98	Zn	3-010-6	1000	1500	15	1000	150	200

1000uL of the Spiking Standard gives the listed conc. of the above elements.

**Spike seperately

Element	Orig Std (ppm)	Spike(uL) Fvol(100m	conc (ppb)
Au	1000	140	1400
Ce	1000	30	300
Li	1000	70	700
P	1000	100	1000
Pd	1000	160	1600
Pt	1000	300	3000
S	1000	350	3500
Si	10000	350	35000
Sn	1000	20	200
Sr	1000	5	50

Spiking Standard 3-013-4
EXP: 11/26/97

Spiked by:
Predigestion-
Postdigestion- MKt 10/4/98

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	STD1-BLANK	100397	TRIANGL2	10/03/97	23:02		X	IR
2	STD3	100397	TRIANGL2	10/03/97	23:07		X	IR
3	STD3	100397	TRIANGL2	10/03/97	23:12	DKH	Q	CONC
4	CHECK LO	100397	TRIANGL2	10/03/97	23:16	DKH	Q	CONC
5	ICV/CCV	100397	TRIANGL2	10/03/97	23:21	DKH	Q	CONC
6	ICB/CCB	100397	TRIANGL2	10/03/97	23:26	DKH	Q	CONC
7	ICB/CCB	100397	TRIANGL2	10/03/97	23:51	DKH	Q	CONC
8	ICSAB	100397	TRIANGL2	10/03/97	23:56	DKH	Q	CONC
9	43332A MB	100397	TRIANGL2	10/04/97	00:13	DKH	S	CONC
10	43332A LCS	100397	TRIANGL2	10/04/97	00:29	DKH	S	CONC
11	184-5-2	100397	TRIANGL2	10/04/97	00:44	DKH	S	CONC
12	184-5-2 D	100397	TRIANGL2	10/04/97	00:49	DKH	S	CONC
13	184-5-2 MS	100397	TRIANGL2	10/04/97	00:54	DKH	S	CONC
14	184-5-2 MSD	100397	TRIANGL2	10/04/97	00:58	DKH	S	CONC
15	184-5-2 PDS	100397	TRIANGL2	10/04/97	01:03	DKH	S	CONC
16	184-5-2 L	100397	TRIANGL2	10/04/97	01:08	DKH	S	CONC
17	CHECK 9972	100397	TRIANGL2	10/04/97	01:13	DKH	S	CONC
18	ICV/CCV	100397	TRIANGL2	10/04/97	01:18	DKH	Q	CONC
19	ICB/CCB	100397	TRIANGL2	10/04/97	01:23	DKH	Q	CONC
20	ICSAB	100397	TRIANGL2	10/04/97	01:28	DKH	Q	CONC
21	43182 MB	100397	TRIANGL2	10/04/97	01:39	DKH	S	CONC
22	43182 LCS	100397	TRIANGL2	10/04/97	01:44	DKH	S	CONC
23	182-53-1,3	100397	TRIANGL2	10/04/97	01:48	DKH	S	CONC
24	182-53-1,3 PDS	100397	TRIANGL2	10/04/97	01:53	DKH	S	CONC
25	182-53-1,3 L	100397	TRIANGL2	10/04/97	01:58	DKH	S	CONC
26	182-53-2,5	100397	TRIANGL2	10/04/97	02:03	DKH	S	CONC
27	182-53-2,5 DA	100397	TRIANGL2	10/04/97	02:07	DKH	S	CONC
28	ICV/CCV	100397	TRIANGL2	10/04/97	02:14	DKH	Q	CONC
29	ICV/CCV	100397	TRIANGL2	10/04/97	02:19	DKH	Q	CONC
30	ICB/CCB	100397	TRIANGL2	10/04/97	02:25	DKH	Q	CONC
31	ICB/CCB	100397	TRIANGL2	10/04/97	02:30	DKH	Q	CONC
32	ICSAB	100397	TRIANGL2	10/04/97	02:36	DKH	Q	CONC
33	STD1-BLANK	100397	TRIANGL2	10/03/97	19:12		X	IR
34	STD3	100397	TRIANGL2	10/03/97	19:16		X	IR
35	STD3	100397	TRIANGL2	10/03/97	19:21	DKH	Q	CONC
36	CHECK LO	100397	TRIANGL2	10/03/97	19:27	DKH	Q	CONC
37	ICV/CCV	100397	TRIANGL2	10/03/97	19:31	DKH	Q	CONC
38	ICB/CCB	100397	TRIANGL2	10/03/97	19:36	DKH	Q	CONC
39	ICB/CCB	100397	TRIANGL2	10/03/97	19:42	DKH	Q	CONC
40	ICSAB	100397	TRIANGL2	10/03/97	19:47	DKH	Q	CONC
41	43159A MB	100397	TRIANGL2	10/03/97	20:03	DKH	S	CONC
42	43159A LCS	100397	TRIANGL2	10/03/97	20:07	DKH	S	CONC
43	182-30-1AB	100397	TRIANGL2	10/03/97	20:12	DKH	S	CONC
44	182-30-1AB PDS	100397	TRIANGL2	10/03/97	20:17	DKH	S	CONC
45	182-30-1AB L	100397	TRIANGL2	10/03/97	20:21	DKH	S	CONC
46	182-30-2AB	100397	TRIANGL2	10/03/97	20:26	DKH	S	CONC
47	182-30-2AB DA	100397	TRIANGL2	10/03/97	20:31	DKH	S	CONC
48	182-30-3AB	100397	TRIANGL2	10/03/97	20:35	DKH	S	CONC
49	182-30-4AB	100397	TRIANGL2	10/03/97	20:40	DKH	S	CONC
50	182-30-5AB	100397	TRIANGL2	10/03/97	20:45	DKH	S	CONC
51	ICV/CCV	100397	TRIANGL2	10/03/97	21:24	DKH	Q	CONC
52	ICB/CCB	100397	TRIANGL2	10/03/97	21:31	DKH	Q	CONC
53	182-30-6AB	100397	TRIANGL2	10/03/97	21:39	DKH	S	CONC

Previous Run.

Ni = 6.549.

need dilutions for Pb, Mn.
X10.
MKA 10/5/97

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
54	182-30-7AB	100397	TRIANGL2	10/03/97	21:44	DKH	S	CONC
55	182-30-8AB	100397	TRIANGL2	10/03/97	21:49	DKH	S	CONC
56	182-30-9AB	100397	TRIANGL2	10/03/97	21:53	DKH	S	CONC
57	182-30-11AB	100397	TRIANGL2	10/03/97	21:58	DKH	S	CONC
58	182-30-12AB	100397	TRIANGL2	10/03/97	22:03	DKH	S	CONC
59	182-30-13AB	100397	TRIANGL2	10/03/97	22:07	DKH	S	CONC
60	182-30-14AB	100397	TRIANGL2	10/03/97	22:12	DKH	S	CONC
61	182-30-15B	100397	TRIANGL2	10/03/97	22:17	DKH	S	CONC
62	182-30-15C	100397	TRIANGL2	10/03/97	22:21	DKH	S	CONC
63	ICV/CCV	100397	TRIANGL2	10/03/97	22:26	DKH	Q	CONC
~~64~~	~~ICB/CCB~~	~~100397~~	~~TRIANGL2~~	~~10/03/97~~	~~22:32~~	~~DKH~~	~~Q~~	~~CONC~~
65	ICB/CCB	100397	TRIANGL2	10/03/97	22:48	DKH	Q	CONC
66	182-30-1C	100397	TRIANGL2	10/03/97	22:54	DKH	S	CONC
67	182-30-1C PDS	100397	TRIANGL2	10/03/97	22:59	DKH	S	CONC
68	182-30-1C L	100397	TRIANGL2	10/03/97	23:03	DKH	S	CONC
69	182-30-2C	100397	TRIANGL2	10/03/97	23:08	DKH	S	CONC
70	182-30-2C DA	100397	TRIANGL2	10/03/97	23:13	DKH	S	CONC
71	182-30-3C	100397	TRIANGL2	10/03/97	23:17	DKH	S	CONC
72	182-58-1	100397	TRIANGL2	10/03/97	23:22	DKH	S	CONC
73	182-58-2	100397	TRIANGL2	10/03/97	23:27	DKH	S	CONC
74	182-58-3	100397	TRIANGL2	10/03/97	23:31	DKH	S	CONC
75	182-30-7B	100397	TRIANGL2	10/03/97	23:36	DKH	S	CONC
76	ICV/CCV	100397	TRIANGL2	10/03/97	23:41	DKH	Q	CONC
~~77~~	~~ICB/CCB~~	~~100397~~	~~TRIANGL2~~	~~10/03/97~~	~~23:46~~	~~DKH~~	~~Q~~	~~CONC~~
78	ICB/CCB	100397	TRIANGL2	10/03/97	23:57	DKH	Q	CONC
79	182-30-8CA	100397	TRIANGL2	10/04/97	00:04	DKH	S	CONC
80	182-30-9DB	100397	TRIANGL2	10/04/97	00:09	DKH	S	CONC
81	182-30-11D	100397	TRIANGL2	10/04/97	00:13	DKH	S	CONC
82	182-30-12D	100397	TRIANGL2	10/04/97	00:18	DKH	S	CONC
83	182-30-13BD	100397	TRIANGL2	10/04/97	00:23	DKH	S	CONC
84	182-30-14BC	100397	TRIANGL2	10/04/97	00:27	DKH	S	CONC
85	ICV/CCV	100397	TRIANGL2	10/04/97	00:44	DKH	Q	CONC
86	ICB/CCB	100397	TRIANGL2	10/04/97	00:49	DKH	Q	CONC
87	ICSAB	100397	TRIANGL2	10/04/97	00:55	DKH	Q	CONC
88	43159B MB	100397	TRIANGL2	10/04/97	01:09	DKH	S	CONC
89	43159B LCS	100397	TRIANGL2	10/04/97	01:14	DKH	S	CONC
90	182-30-16A	100397	TRIANGL2	10/04/97	01:19	DKH	S	CONC
91	182-30-16A PDS	100397	TRIANGL2	10/04/97	01:23	DKH	S	CONC
92	182-30-16A L	100397	TRIANGL2	10/04/97	01:28	DKH	S	CONC
93	182-30-16B	100397	TRIANGL2	10/04/97	01:33	DKH	S	CONC
94	182-30-16B DA	100397	TRIANGL2	10/04/97	01:37	DKH	S	CONC
95	182-30-16C	100397	TRIANGL2	10/04/97	01:42	DKH	S	CONC
96	182-30-16D	100397	TRIANGL2	10/04/97	01:47	DKH	S	CONC
97	182-30-16E	100397	TRIANGL2	10/04/97	01:51	DKH	S	CONC
~~98~~	~~ICV/CCV~~	~~100397~~	~~TRIANGL2~~	~~10/04/97~~	~~01:56~~	~~DKH~~	~~Q~~	~~CONC~~
~~99~~	~~ICV/CCV~~	~~100397~~	~~TRIANGL2~~	~~10/04/97~~	~~02:02~~	~~DKH~~	~~Q~~	~~CONC~~
00	ICV/CCV	100397	TRIANGL2	10/04/97	02:34	DKH	Q	CONC
01	ICB/CCB	100397	TRIANGL2	10/04/97	02:44	DKH	Q	CONC
02	ICSAB	100397	TRIANGL2	10/04/97	03:00	DKH	Q	CONC

SOP # E010303
MCH
10/6/97

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	STD1-BLANK	100597	TRIANGL2	10/05/97	20:39		X	IR
2	STD3	100597	TRIANGL2	10/05/97	20:44		X	IR
3	STD3	100597	TRIANGL2	10/05/97	20:48	DKH	Q	CONC
4	CHECK LO	100597	TRIANGL2	10/05/97	20:53	DKH	Q	CONC
5	ICV/CCV	100597	TRIANGL2	10/05/97	20:58	DKH	Q	CONC
~~6~~	~~ICB/CCB~~	~~100597~~	~~TRIANGL2~~	~~10/05/97~~	~~21:02~~	~~DKH~~	~~Q~~	~~CONC~~
~~7~~	~~ICB/CCB~~	~~100597~~	~~TRIANGL2~~	~~10/05/97~~	~~21:08~~	~~DKH~~	~~Q~~	~~CONC~~
8	ICB/CCB	100597	TRIANGL2	10/05/97	21:21	DKH	Q	CONC
9	ICSAB	100597	TRIANGL2	10/05/97	21:25	DKH	Q	CONC
~~10~~	~~43287A MB~~	~~100597~~	~~TRIANGL2~~	~~10/05/97~~	~~22:16~~	~~DKH~~	~~S~~	~~CONC~~
11	43287A LCS	100597	TRIANGL2	10/05/97	22:21	DKH	S	CONC
12	183-59-1	100597	TRIANGL2	10/05/97	22:26	DKH	S	CONC
13	183-59-1 D	100597	TRIANGL2	10/05/97	22:30	DKH	S	CONC
14	183-59-2A-C	100597	TRIANGL2	10/05/97	22:35	DKH	S	CONC
15	183-59-3	100597	TRIANGL2	10/05/97	22:40	DKH	S	CONC
16	183-59-3 MS	100597	TRIANGL2	10/05/97	22:44	DKH	S	CONC
17	183-59-3 MSD	100597	TRIANGL2	10/05/97	22:49	DKH	S	CONC
18	183-59-3 PDS	100597	TRIANGL2	10/05/97	22:54	DKH	S	CONC
19	183-59-3 L	100597	TRIANGL2	10/05/97	22:58	DKH	S	CONC
20	ICV/CCV	100597	TRIANGL2	10/05/97	23:03	DKH	Q	CONC
21	ICB/CCB	100597	TRIANGL2	10/05/97	23:17	DKH	Q	CONC
22	43287A MB	100597	TRIANGL2	10/05/97	23:39	DKH	S	CONC
23	43287E MB	100597	TRIANGL2	10/05/97	23:55	DKH	S	CONC
24	43287E LCS	100597	TRIANGL2	10/06/97	00:00	DKH	S	CONC
25	183-59-4A	100597	TRIANGL2	10/06/97	00:04	DKH	S	CONC
26	183-59-4A D	100597	TRIANGL2	10/06/97	00:09	DKH	S	CONC
27	183-59-4A MS	100597	TRIANGL2	10/06/97	00:14	DKH	S	CONC
28	183-59-4A MSD	100597	TRIANGL2	10/06/97	00:18	DKH	S	CONC
29	183-59-4A PDS	100597	TRIANGL2	10/06/97	00:23	DKH	S	CONC
30	183-59-4A L	100597	TRIANGL2	10/06/97	00:28	DKH	S	CONC
~~31~~	~~ICV/CCV~~	~~100597~~	~~TRIANGL2~~	~~10/06/97~~	~~00:32~~	~~DKH~~	~~Q~~	~~CONC~~
32	ICV/CCV	100597	TRIANGL2	10/06/97	00:49	DKH	Q	CONC
~~33~~	~~ICB/CCB~~	~~100597~~	~~TRIANGL2~~	~~10/06/97~~	~~01:00~~	~~DKH~~	~~Q~~	~~CONC~~
34	ICB/CCB	100597	TRIANGL2	10/06/97	01:35	DKH	Q	CONC
35	ICSAB	100597	TRIANGL2	10/06/97	01:41	DKH	Q	CONC
36	182-30-4AB X10	100597	TRIANGL2	10/06/97	01:52	DKH	S	CONC
37	182-30-5AB X10	100597	TRIANGL2	10/06/97	01:56	DKH	S	CONC
38	182-30-6AB X10	100597	TRIANGL2	10/06/97	02:01	DKH	S	CONC
39	ICV/CCV	100597	TRIANGL2	10/06/97	02:10	DKH	Q	CONC
40	ICB/CCB	100597	TRIANGL2	10/06/97	02:15	DKH	Q	CONC
41	ICSAB	100597	TRIANGL2	10/06/97	02:22	DKH	Q	CONC

N/A Reanalyzed DKH 10/6/97

SOP E010303
DKH 10/6/97

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ect: 43159A

Client: Eastern Research Group (ERG02)

od: 7470

ent/Acids(): HNO3 / H2SO4

Sample Information

Extraction Date: 9/25/97

Lot: 117041 / 317021

Hg.

TLI SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt g / Vol ml	Final Volume ml	Digestive Date					
TLI Blank MBD / TLI Method Blank	N/A	100						
182-30-1A / YCP-01	Dry							
182-30-1B / YCP-02								
182-30-1C / 182-30-1C D / YCP-03	5/5	100	9/26/97 ASE					
182-30-1D / 182-30-1D D / YCP-04	5/5	100	9/25/97 ASE					
182-30-1E / 182-30-1E D / YCP-05	5/5	100	9/25/97 ASE					
182-30-1F / 182-30-1F D / YCP-06	5/5	100	9/25/97 ASE					
182-30-1G, A B / 182-30-1G A B D / YCP-88	5/5	100	9/25/97 ASE					
182-30-2A / YCP-07	Dry							
182-30-2B / YCP-08								
182-30-2C / 182-30-2C D / YCP-09	5/5	100	9/24/97 ASE					
182-30-2D / 182-30-2D D / YCP-10	5/5	100	9/25/97 ASE					
182-30-2E / 182-30-2E D / YCP-11	5/5	100	9/25/97 ASE					

ents: See HG SL-1, p. 64.
Use SOP No. INC 107; version 5 9/24/97

REV 07/26/93 (PSTMF 7)

DSC 9/29/97

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ect: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

Hg

od: 7470

rent/Acids(): HNO_3/H_2SO_4

Extraction Date: __/__/__

Lot: 117041/317021

TLI / SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt g / Vol ml	Final Volume ml	Digestion Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
182-30-2F 182-30-2F D YCP-12	5/5	100	9/25/97 me					
182-30-2G A B 182-30-2G A B D YCP-89	5/5		↓					
182-30-3A YCP-13	DRY							
182-30-3B YCP-14								
182-30-3C 182-30-3C D YCP-15	5/5		9/26/97 me					
182-30-3D 182-30-3D D YCP-16	5/5		9/25/97 me					
182-30-3E 182-30-3E D YCP-17	5/5		↓					
182-30-3F 182-30-3F D YCP-18	5/5		↓					
182-30-3G A B 182-30-3G A B D YCP-90	5/5		↓					
182-30-4A YCP-19	DRY							
182-30-4B YCP-20								
182-30-4C 182-30-4C D YCP-22	5/5		9/25/97 me					
182-30-4D 182-30-4D D YCP-23	5/5		↓					

ments: See p. 1

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ect: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

od: 7470

ent/Acids(): HNO_3 / H_2SO_4

Extraction Date: __/__/__

Lot: 117041 / 317021

Hg

TLI SAMPLE ID / CLIENT SAMPLE ID		Sample Wgt / Vol g / ml	Final Volume ml	Digestion Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
182-30-4E 182-30-4E D	YCP-24	5/5	100	9/25/97 RE					
182-30-4F A B 182-30-4F A B D	YCP-91	5/5							
182-58-1 182-58-1 D	YCP-21	5/5							
182-30-5A	YCP-25	DRY							
182-30-5B	YCP-26								
182-30-5C 182-30-5C D	YCP-28	5/5		9/25/97 RE					
182-30-5D 182-30-5D D	YCP-29	5/5							
182-30-5E 182-30-5E D	YCP-30	5/5							
182-30-5F G A B 182-30-5F G A B D	YCP-92	5/5							
182-30-5G	YCP-183								
182-58-2 182-58-2 D	YCP-27	5/5		9/25/97 RE					
182-30-6A	YCP-31	DRY							
182-30-6B	YCP-32								

ents: See p. 1

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ject: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

hod: 7470

vent/Acids(): HNO_3 / H_2SO_4

Extraction Date: __/__/__

Lot: 117041 / 317021

Hg

TLI / SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Digestion Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
182-30-6C 182-30-6C D YCP-34	5 / 5	100	9/25/97 ne					
182-30-6D 182-30-6D D YCP-35	5 / 5							
182-30-6E 182-30-6E D YCP-36	5 / 5							
182-30-6F GAB 182-30-6F GAB D YCP-93	5 / 5							
182-30-6G YCP-184								
182-58-3 182-58-3 D YCP-33	5 / 5		9/25/97 ne					
182-30-7A YCP-37	DRY							
182-30-7B YCP-38								
182-30-7C AB 182-30-7C AB D YCP-39	5 / 5		9/25/97 ne					
182-30-7D YCP-40								
182-30-7E 182-30-7E D YCP-41	5 / 5		10/1/97 ne					
182-30-7F 182-30-7F D YCP-42	5 / 5		9/26/97 SRB					
182-30-7G F 182-30-7GF D YCP-43	5 / 5		9/26/97 SRB					

ments: See p. 1

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ject: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

hod: 7470

vent/Acids(): HNO_3 / H_2SO_4

Extraction Date: __/__/__

Lot: 117041 / 317021

+19

le rd	TLI SAMPLE ID /	CLIENT SAMPLE ID	Sample Wgt g / Vol ml	Final Volume ml	Digestion Date					
	182-30-8A 182-30-8A D	YCP-45	5/5	100	9/26/97 SRB					
	182-30-8B-10A-8A 182-30-8B-10A-8A D	YCP-46	5/5	↓	9/25/97 MC					
	182-30-8C	YCP-47								
	182-30-8D 15C 182-30-8D 15C D	YCP-48	5/5	100	9/26/97 SRB					
	182-30-8E D 15C 182-30-8E D 15C	YCP-49	5/5	100	9/26/97 SRB					
	182-30-10A	YCP-57	DRY							
	182-30-9A	YCP-50	DRY							
	182-30-9B	YCP-51								
	182-30-9C A-B 182-30-9C A-B D	YCP-52	5/5	100	9/25/97 MC					
	182-30-9D	YCP-53								
	182-30-9E 182-30-9E D	YCP-54	5/5	100	10/1/97 MC					
	182-30-9F 15B 182-30-9F 15B D	YCP-55	5/5	100	9/26/97 SRB					
	182-30-9G F 15B 182-30-9G F 15B D	YCP-56	5/5	100	9/26/97 SRB					

ments: See p. 1

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ject: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

hod: 7470

vent/Acids(): HNO_3/H_2SO_4

Extraction Date: __/__/__

Lot: 117041 / 317024

Hg

le/ rd	TLI / SAMPLE ID / CLIENT / SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Digestion Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
	182-30-11A YCP-94	DRY	100						
	182-30-11B YCP-95								
	182-30-11C-A-B 182-30-11C AB D YCP-96	5/5		9/25/97 ne					
	182-30-11D 182-30-11D D YCP-97	5/5							
	182-30-11E 182-30-11E D YCP-98	5/5							
	182-30-11F 182-30-11F D YCP-99	5/5		SRB 9/26/97					
	182-30-11G 182-30-11G D YCP-100	5/5		9/26/97 SRB					
	182-30-12A YCP-101	DRY							
	182-30-12B YCP-102								
	182-30-12C AB 182-30-12C AB D YCP-103	5/5		9/25/97 ne					
	182-30-12D 182-30-12D D YCP-104	5/5							
	182-30-12E 182-30-12E D YCP-105	5/5		9/26/97 SRB					
	182-30-12F 182-30-12F D YCP-106	5/5		9/26/97 SRB					

ments: See p. 1

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ject: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

nod: 7470

vent/Acids(): HNO_3 | H_2SO_4

Extraction Date: __/__/__

Lot: 117041 | 317021

Hg

TLI SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt g / Vol ml	Final Volume ml	Digestion Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
182-30-12G / 182-30-12G D YCP-107	5/5	100	9/26/97 SRB					
182-30-13A YCP-108	DRY							
182-30-13B YCP-109								
182-30-13C A B / 182-30-13C A B D YCP-110	5/5	100	9/25/97 RE					
182-30-13D / 182-30-13D D YCP-111	5/5							
182-30-13E / 182-30-13E D YCP-112	5/5		9/26/97 SRB					
182-30-13F / 182-30-13F D YCP-113	5/5		9/26/97 SRB					
182-30-13G / 182-30-13G D YCP-114	5/5		9/26/97 SRB					
182-30-14A YCP-159	DRY							
182-30-14B YCP-160								
182-30-14C YCP-161								
182-30-14D YCP-162								
182-30-14E / 182-30-14E D YCP-163	5/5		9/26/97 SRB					

ents: See p. 1

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ject: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

hod: 7470

vent/Acids(): HNO_3/H_2SO_4

Extraction Date: __/__/__

Lot: 117041 / 317021

le rd	TLI / SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Digestion Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
	182-30-14FE 182-30-14FE D YCP-164	5/5	100	9/26/97 SRB					
	182-30-14G A B 182-30-14G AB D YCP-165	5/5		9/25/97 ME					
	182-30-15B YCP-170								
	182-30-15C YCP-171								
	LCS 1 LCS 1 D Lab Control Spike	N/A							
	MB2 MB2 D	N/A	100	9/26/97 SRB					
	LCS 2 LCS 2 D	N/A	100						
	182-30-11F MS 182-30-11F MSD	5/5							
	182-30-13G MS 182-30-13G MSD	5/5							
	182-30-1GAB MS 182-30-1GAB MSD	5/5	100	9/25/97 DSE					
	182-30-9CAB MS 182-30-9CAB MSD	5/5							
	182-58-1 MS 182-58-1 MSD	5/5							
	182-30-1F MS 182-30-1F MSD	5/5							

ments:

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

ject: 43159A

Client: Eastern Research Group (ERG02)

Sample Information

hod: 7470

Extraction Date: 9/30/97

vent/Acids(): HNO3/H2SO4

Lot: 117041/3/704

TLI / SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Digestive Date					
LCS3 LCS3D Lab Control Spike	5/5	100	9/30/97 MR					
182-30-4D MS 182-30-4D MSD	5/5	100	9/30/97 MR					
182-30-9E MS 182-30-9E MSD	5/5	100	9/30/97 MR					
182-30-7E MS 182-30-7E MSD	5/5	100	10/1/97 MR					
MB3 MB3D	5/5	100	9/30/97 MR					
MB4 MB4D	5/5	100	10/1/97 MR					
LCS4 LCS4D	5/5	100	10/1/97 MR					
182-30-7BD MS 182-30-7BD MSD	5/5	100	10/9/97 MR					
MB5 MB5D	5/5	100						
LCS5 LCS5D	5/5							

ents: See p. 4

* Corrected by 10-20-97

REV 07/26/93 (PSTMF 7)

MERCURY SPIKE LOG

DATE	PROJECT # SAMPLE IDs	ORIGINAL SPIKE CONC. (Hg)	STANDARD # WORKING STANDARD PREPARED FROM	SPIKE AMOUNT (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
9/24/97	43048	0.1 ppm	3-016-8	5	5	MR	DSE
	181-18-13B MS 181-18-13B MSD	↓	↓	↓	↓	↓	↓
9/25/97	43159A LCS LCS D	0.1 ppm	3-018-2	5	5	MR	DSE
	182-30-1G AB MS 182-30-1G AB MSD	↓	↓	↓	↓	↓	↓
	182-30-9C AB MS 182-30-9C AB MSD	↓	↓	↓	↓	↓	↓
	182-58-1 MS 182-58-1 MSD	↓	↓	↓	↓	↓	↓
	182-30-1F MS 182-30-1F MSD	↓	↓	↓	↓	↓	↓
	182-30-4D MS 182-30-4D MSD	↓	↓	↓	↓	↓	↓
9/26/97	43159A LCS2 LCS2 D	0.1 ppm	3-018-2	5	5	MR	SRB
	182-30-11F MS 182-30-11F MSD	↓	↓	↓	↓	↓	↓
	182-30-13G MS 182-30-13G MSD	↓	↓	↓	↓	↓	↓
9/29/97	43159A LCS3 LCS3D	0.1 ppm	3-018-2	5	5	DSE	SRB
	182-30-9E MS 182-30-9E MSD	↓	↓	↓	↓	↓	↓
	43231 LCS1 LCS1D	↓	↓	↓	↓	↓	↓
	183-3-3C MS 183-3-3C MSD	↓	↓	↓	↓	↓	↓
	183-3-2C MS 183-3-2C MSD	↓	↓	↓	↓	↓	↓
9/29/97	43231 LCS2 LCSD2	0.1 ppm	3-018-2	5	5	DSE	SF
	183-3-4C MS 183-3-4C MSD	↓	↓	↓	↓	↓	↓
	183-3-6C MS 183-3-6C MSD	↓	↓	↓	↓	↓	↓
	183-3-7E MS 183-3-7E MSD	↓	↓	↓	↓	↓	↓

MERCURY SPIKE LOG

DATE	PROJECT # SAMPLE IDs	ORIGINAL SPIKE CONC. (Hg)	STANDARD # WORKING STANDARD PREPARED FROM	SPIKE AMOUNT (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
9/30/97	43158-A LCS4 LCS4D	0.1 ppm	3-08-2	5	5	DSE	MR
	182-30-7E MS 182-30-7E MSD						
	43233-B LCS LCSD						
	183-5-1 MS 183-5-1 MSD						
	43231-LCS3 LCS3D						
	183-3-2E MS 183-3-2E MSD						
	183-3-8E MS 183-3-8E MSD						

MERCURY SPIKE LOG

DATE	PROJECT # SAMPLE IDs	ORIGINAL SPIKE CONC. (Hg)	STANDARD # WORKING STANDARD PREPARED FROM	SPIKE AMOUNT (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
10/8/97	43271 LCS1 LCSD	0.1ppm	3-019-6	5	5	DSE	SRB
	183-43-1C MS 183-43-1C MSD	↓	↓	↓	↓	↓	↓
	183-43-2C MS 183-43-2C MSD	↓	↓	↓	↓	↓	↓
	183-43-3C MS 183-43-3C MSD	↓	↓	↓	↓	↓	↓
	5 average						
10/8/97	43159 LCS4 LCS4D	0.1ppm	3-019-6	5	5	MR	DSE
	182-30-7BD MS 182-30-7BD MSD	↓	↓	↓	↓	↓	↓
	43271 LCS2 LCS2D	↓	↓	↓	↓	↓	↓
	183-43-5C MS 183-43-5C MSD	↓	↓	↓	↓	↓	↓
	183-43-7C MS 183-43-7C MSD	↓	↓	↓	↓	↓	↓

utoSampler Report Table: HA448 Sun 10-05-97 06:58:28 PM page 1

DKH 10/5/97

able Name: HA448 Autosampler Type: TYPE TJA
ample Positions: 146/192 QC Positions: 13/19 # Sets: 2
inse Station location is rack -1, pos. -1.

-- Racks ---

ack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	13	10
2	Sample (16mm)	Samples	2	1
3	Sample (16mm)	Samples	48	1
4	Sample (16mm)	Samples	48	1
5	Sample (16mm)	Samples	48	1

-- Sample Sets ---

et#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	43159A	TRIANGL2	36	2	1
2	Normal	No	431598	TRIANGL2	10	2	37

Co analyzed by ~~GFAA~~ for Front Half samples
DKH 10/6/97

-- Preparation Info ---

et#	Uptake	Uptake#2	Final	Dil.Factor

) Samples Prepared.

Dilutions for samples 4AB, 5AB, 6AB in file 100597.
DKH 10/6/97

ack #1

os	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	STD3	-NA-	2	Standard 1-60-5P
2	1	2	STD1-BLANK	-NA-	1	Standard
3	1	3	ICSAB	-NA-	3	QC Standard 1-60-7P
4	1	4	CHECK LO	-NA-	1	QC Standard
5	1	5	ICV/CCV	-NA-	6	QC Standard 1-60-6P
6	1	6	ICB/CCB	-NA-	6	QC Standard

...19 Not Used)

DKH 10/4/97

ck #2

s	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	43159A MB	1	-NA-	Sample
2	1	2	43159A LCS	1	-NA-	Sample
3	1	3	182-30-1AB	1	-NA-	Sample
4	1	4	*182-30-1AB PDS	1	-NA-	Sample
5	1	5	*182-30-1AB L	1	-NA-	Sample
6	1	6	*182-30-2AB	1	-NA-	Sample
7	1	7	*182-30-2AB DA	1	-NA-	Sample
8	1	8	*182-30-3AB	1	-NA-	Sample
9	1	9	°182-30-4AB	1	-NA-	Sample
0	1	10	~182-30-5AB	1	-NA-	Sample
1	1	11	~182-30-6AB	1	-NA-	Sample
2	1	12	~182-30-7AB	1	-NA-	Sample
3	2	1	182-30-8AB,10A	1	-NA-	Sample
4	2	2	~182-30-9AB	1	-NA-	Sample

* C Added in Front of AB
° F Added in Front of AB
~ Fe Added in Front of AB
~ [illegible] added in Front of AB

ack #2

os	Row	Col	Sample Name	Set #	#Used	Type
15	2	3	ø182-30-11AB	1	-NA-	Sample
16	2	4	ø182-30-12AB	1	-NA-	Sample
17	2	5	ø182-30-13AB	1	-NA-	Sample
18	2	6	ø182-30-14AB	1	-NA-	Sample
19	2	7	182-30-15B	1	-NA-	Sample
20	2	8	182-30-15C	1	-NA-	Sample
21	2	9	182-30-1C	1	-NA-	Sample
22	2	10	182-30-1C PDS	1	-NA-	Sample
23	2	11	182-30-1C L	1	-NA-	Sample
24	2	12	182-30-2C	1	-NA-	Sample
25	3	1	182-30-2C DA	1	-NA-	Sample
26	3	2	182-30-3C	1	-NA-	Sample
27	3	3	182-58-1	1	-NA-	Sample
28	3	4	182-58-2	1	-NA-	Sample
29	3	5	182-58-3	1	-NA-	Sample
30	3	6	182-30-7D 10-6-97 CC	1	-NA-	Sample
31	3	7	182-30-8CA	1	-NA-	Sample
32	3	8	182-30-9DB	1	-NA-	Sample
33	3	9	182-30-11D	1	-NA-	Sample
34	3	10	182-30-12D	1	-NA-	Sample
35	3	11	182-30-13ØD 10-6-97 CC	1	-NA-	Sample
36	3	12	182-30-14BC	1	-NA-	Sample
37	4	1	431598 MB	2	-NA-	Sample
38	4	2	431598 LCS	2	-NA-	Sample
39	4	3	182-30-16A	2	-NA-	Sample
40	4	4	182-30-16A PDS	2	-NA-	Sample
41	4	5	182-30-16A L	2	-NA-	Sample
42	4	6	182-30-16B	2	-NA-	Sample
43	4	7	182-30-16B DA	2	-NA-	Sample
44	4	8	182-30-16C	2	-NA-	Sample
45	4	9	182-30-16D	2	-NA-	Sample
46	4	10	182-30-16E	2	-NA-	Sample
47...48	Not Used)					

ack #3

os	Row	Col	Sample Name	Set #	#Used	Type
1...48	Not Used)					

ack #4

os	Row	Col	Sample Name	Set #	#Used	Type
1...48	Not Used)					

ø C added in Front of AB

ethod: TRIANGL2 Standard: STD1-BLANK

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Avge	.0000	.0029	-.0004	.0751	.0006	.0002	.0005
SDev	.0001	.0000	.0001	.0015	.0000	.0000	.0000
%RSD	273.8	.7839	18.23	2.007	.2751	1.797	3.527
#1	-.0000	.0029	-.0003	.0748	.0006	.0002	.0005
#2	-.0000	.0028	-.0004	.0767	.0006	.0002	.0005
#3	.0001	.0028	-.0004	.0737	.0006	.0002	.0005

Elem	Cd2265	Ce4186	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	-.0001	-.0000	-.0002	-.0001	.0028	.0001	3.937
SDev	.0001	.0001	.0000	.0000	.0000	.0000	.030
%RSD	79.87	260.4	26.15	21.81	1.255	52.99	.7726
#1	-.0001	.0000	-.0002	-.0002	.0029	.0000	3.904
#2	-.0001	-.0001	-.0002	-.0001	.0028	.0001	3.944
#3	-.0002	.0000	-.0001	-.0001	.0028	.0001	3.964

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	P_2149
Avge	.0729	.0001	.0000	.0000	.0035	-.0022	-.0010
SDev	.0006	.0000	.0000	.0000	.0021	.0002	.0000
%RSD	.7489	52.54	20.63	141.9	59.46	8.802	2.941
#1	.0723	.0000	.0000	.0000	.0035	-.0022	-.0010
#2	.0730	.0001	.0000	.0001	.0015	-.0023	-.0011
#3	.0733	.0001	.0000	.0000	.0057	-.0019	-.0011

Elem	2203-1	2203-2	Sb2068	1960-1	1960-2	Sn1899	Sr4215
Avge	.0011	.0001	.0005	-.0063	.0025	-.0006	.0003
SDev	.0001	.0001	.0001	.0010	.0001	.0001	.0000
%RSD	10.19	53.72	26.48	15.31	1.846	8.818	3.762
#1	.0011	.0000	.0005	-.0073	.0025	-.0007	.0003
#2	.0012	.0001	.0004	-.0060	.0026	-.0007	.0003
#3	.0010	.0001	.0007	-.0055	.0025	-.0006	.0003

Elem	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Avge	.0001	-.0005	-.0005	-.0000	.0659
SDev	.0001	.0000	.0000	.0000	.0086
%RSD	81.06	6.313	3.126	76.41	13.13
#1	.0000	-.0005	-.0005	-.0000	.0626
#2	.0001	-.0005	-.0005	-.0000	.0757
#3	.0002	-.0005	-.0005	-.0000	.0594

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	257206	15000	--	--	--	--	--
SDev	605.2008	.0000000	--	--	--	--	--
%RSD	.2352981	.0000000	--	--	--	--	--
#1	256522	15000	--	--	--	--	--
#2	257424	15000	--	--	--	--	--
#3	257672	15000	--	--	--	--	--

Method: TRIANGL2 Standard: STD3

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Avge	.4165	.0190	.0538	.2380	.3054	.2657	.0232
SDev	.0016	.0001	.0001	.0025	.0003	.0002	.0000
%RSD	.3769	.7924	.2500	1.066	.0883	.0756	.0409
#1	.4182	.0191	.0539	.2404	.3057	.2655	.0232
#2	.4161	.0189	.0536	.2384	.3054	.2659	.0232
#3	.4152	.0188	.0538	.2353	.3052	.2658	.0232

Elem	Cd2265	Ce4186	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	.9615	.1174	.1082	.1525	.1890	.0043	23.97
SDev	.0014	.0002	.0001	.0000	.0007	.0000	.07
%RSD	.1473	.1790	.1108	.0111	.3781	.1410	.2721
#1	.9610	.1172	.1082	.1525	.1898	.0043	24.03
#2	.9604	.1176	.1081	.1526	.1888	.0043	23.97
#3	.9631	.1173	.1083	.1525	.1884	.0044	23.90

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	P_2149
Avge	16.68	.0210	.1344	.0822	.2387	.3637	.0223
SDev	.05	.0001	.0000	.0001	.0033	.0004	.0001
%RSD	.2788	.2669	.0234	.1471	1.389	.1040	.6789
#1	16.73	.0211	.1344	.0821	.2413	.3633	.0222
#2	16.66	.0210	.1344	.0823	.2399	.3641	.0225
#3	16.64	.0210	.1343	.0823	.2350	.3636	.0224

Elem	2203-1	2203-2	Sb2068	1960-1	1960-2	Sn1899	Sr4215
Avge	.1888	.0926	.1259	.2829	.1667	.1229	.8782
SDev	.0005	.0005	.0002	.0008	.0002	.0006	.0021
%RSD	.2779	.5302	.1943	.2638	.1450	.4856	.2389
#1	.1893	.0922	.1259	.2824	.1666	.1223	.8803
#2	.1883	.0926	.1256	.2838	.1665	.1232	.8781
#3	.1889	.0931	.1261	.2825	.1670	.1234	.8761

Elem	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Avge	1.166	.0330	.0400	.1025	.5193
SDev	.001	.0005	.0000	.0001	.0032
%RSD	.0463	1.413	.0149	.1424	.6075
#1	1.166	.0325	.0400	.1023	.5157
#2	1.166	.0330	.0400	.1025	.5216
#3	1.165	.0334	.0400	.1026	.5207

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	256188	15000	--	--	--	--	--
SDev	998.1509	.0000000	--	--	--	--	--
%RSD	.3896161	.0000000	--	--	--	--	--
#1	255041	15000	--	--	--	--	--
#2	256667	15000	--	--	--	--	--
#3	256857	15000	--	--	--	--	--

ethod: TRIANGL2 Sample Name: STD3 Operator: DKH
un Time: 10/03/97 19:21 Filename: 100397
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	993.3	995.1	1003.	Q941.3	995.5	990.9
Dev	1.433	8.224	4.354	11.38	.6488	4.435
RSD	.1443	.8265	.4342	1.209	.0652	.4476

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	994.0	996.0	998.0	995.2	993.6	994.0
Dev	4.264	5.474	1.085	3.117	3.595	3.698
RSD	.429	.5497	.1087	.3132	.3618	.372

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
vge	991.3	9.996	1003.	991.8	993.3	996.9
)ev	2.797	.0473	6.717	1.452	2.997	2.934
RSD	.2821	.4735	.67	.1464	.3017	.2943

lems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
vge	9.982	994.9	992.0	994.3	995.8	996.6
)ev	.1187	3.388	8.847	.3084	4.006	2.815
RSD	1.189	.3405	.8919	.031	.4023	.2825

lems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	998.0	995.1	995.3	996.1	994.0	987.8
)ev	1.11	2.618	2.687	1.548	6.559	.1926
RSD	.1112	.2631	.27	.1554	.6599	.0195

lems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
nits	ppb	ppb	ppb	ppb	ppb
vge	991.2	1004.	993.8	997.4	9803.
)ev	1.98	9.415	2.758	7.286	50.66
RSD	.1997	.9377	.2776	.7305	.5168

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/03/97 19:31 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	500.6	496.8	508.7	372.8	496.4	494.1
SDev	.7135	5.225	2.859	3.999	.5362	1.251
%RSD	.1425	1.052	.5621	1.073	.108	.2532

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	498.1	499.1	495.2	497.1	497.1	496.8
SDev	.166	.6293	.3062	.7871	.3704	1.25
%RSD	.0333	.1261	.0618	.1583	.0745	.2515

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	494.8	4.969	478.4	499.8	496.4	497.1
SDev	2.083	.0268	2.839	4.109	.8808	2.648
%RSD	.421	.5391	.5934	.8221	.1774	.5326

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.880	497.3	499.0	496.1	497.0	499.7
SDev	.0967	1.004	1.89	2.495	2.307	1.26
%RSD	1.982	.2018	.3788	.5029	.4643	.2521

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	504.9	501.0	496.7	502.3	497.5	491.8
SDev	1.422	3.098	2.04	2.121	.387	.5338
%RSD	.2817	.6184	.4108	.4223	.0778	.1085

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	493.3	499.2	496.6	500.4	4531.
SDev	.6856	6.088	.9402	.9849	2.608
%RSD	.139	1.22	.1893	.1968	.0576

ethod: TRIANGL2 Sample Name: IC8/CC8 Operator: DKH
un Time: 10/03/97 19:36 Filename: 100397
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	.3970	3.804	2.106	-174.4	.4769	.4692
)ev	.4694	3.287	.506	7.919	.136	.1936
RSD	118.2	86.41	24.03	4.541	28.52	41.26

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	.4077	.4750	.3311	.2977	.6685	.5055
)ev	.4544	.1616	1.346	.2913	.0917	.4446
RSD	111.5	34.03	406.5	97.84	13.71	87.97

ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
its	ppb	ppm	ppb	ppb	ppb	ppb
ge	-1.705	.0111	.4711	1.094	.4808	1.222
ev	3.795	.0067	.132	1.858	.1394	.9819
SD	222.6	60.83	28.01	169.8	28.99	80.36

ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
its	ppm	ppb	ppb	ppb	ppb	ppb
ge	.0265	.8918	4.636	-.7727	.7222	-1.855
ev	.0376	.1534	4.307	1.948	1.634	.7767
SD	142.3	17.2	92.91	252.1	226.3	41.86

ems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	-.0893	-.9047	.2244	-.6332	.6275	.4652
ev	4.299	1.73	.8502	1.075	1.319	.1491
SD	481.4	191.2	378.9	169.8	210.1	32.04

ems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
ts	ppb	ppb	ppb	ppb	ppb
ge	.4958	Q6.632	.5560	.7527	Q-643.3
v	.0882	2.976	.4338	.1977	4.375
D	17.8	44.87	78.02	26.27	.6801

NIV DKH 101597

ethod: TRIANGL2 Sample Name: IC8/CC8 Operator: DKH
un Time: 10/03/97 19:42 Filename: 100397
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	.0708	6.587	.7789	-228.6	.1052	.1007
ev	.0299	.1853	1.674	2.594	.0338	.0512
SD	42.27	2.814	215	1.134	32.18	50.84

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	-.8309	.0160	-.2282	-.1451	.1157	-.0447
ev	.4382	.0054	1.336	.2897	.0679	.1732
SD	52.74	33.61	585.5	199.7	58.74	387.2

ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
its	ppb	ppm	ppb	ppb	ppb	ppb
ge	-4.621	-.0213	.0723	2.010	.1040	-.1275
ev	6.075	.018	.0106	5.191	.0572	.1436
SD	131.5	84.58	14.7	258.3	54.97	112.7

ms	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
ts	ppm	ppb	ppb	ppb	ppb	ppb
e	.0331	.6446	-.6361	-.4386	.0645	-2.196
v	.0624	.2068	4.803	1.132	1.217	1.314
D	188.8	32.08	755.1	258.2	1886	59.84

ms	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	-.4869	-1.302	-.1030	-1.031	.7219	.0976
v	2.908	1.04	.5671	1.162	.6405	.033
D	597.2	79.9	550.5	112.8	88.72	33.79

ms	Ti3349	Tl1908	V_2924	Zn2062	Si2881
ts	ppb	ppb	ppb	ppb	ppb
e	.0580	2.641	.0772	.1149	Q-660.3
v	.0282	2.089	.2254	.2657	21.38
D	48.56	79.09	292	231.2	3.237

thod: TRIANGL2 Sample Name: ICSAB Operator: DKH
n Time: 10/03/97 19:47 Filename: 100397
de: CONC Type: Q Corr. Factor: 1.00000
b ID.: - Cust. Smpl. ID.: Cust. ID.: 43159A

ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	538.5	504600.	529.6	341.3	515.7	484.6
ev	1.186	1694	2.156	7.962	.7927	2.881
SD	.2203	.3357-	.407	2.333	.1537	.5945

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
.ts	ppb	ppb	ppb	ppb	ppb	ppb
ge	454300.	473.3	497.7	469.6	475.2	542.5
ev	-2751	2.802	2.122	2.289	2.929	1.23
SD	.6056	.5922	.4262	.4874	.6163	.2267

ms	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
ts	ppb	ppm	ppb	ppb	ppb	ppb
e	175000.	Q25.43	626.7	533800.	454.8	495.3
v	840.6	.1016	2.697	1586	2.613	5.314
D	.4803	.3994	.4304	.2971	.5744	1.073

ms	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
ts	ppm	ppb	ppb	ppb	ppb	ppb
e	5.568	455.6	551.9	494.5	478.0	514.1
v	.1355	2.064	5.56	5.496	8.214	3.482
D	2.434	.4531	1.007	1.112	1.718	.6772

ns	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	540.0	520.7	483.5	527.1	513.1	504.3
v	10.25	9.589	3.753	3.481	4.63	1.029
D	1.899	1.842	.7761	.6603	.9023	.204

ıs	Ti3349	Tl1908	V_2924	Zn2062	Si2881
s	ppb	ppb	ppb	ppb	ppb
e	491.6	513.3	489.0	448.7	4664.
v	1.964	15.37	2.171	3.908	23.21
D	.3995	2.995	.4441	.8709	.4977

ethod: TRIANGL2 Sample Name: 43159A MB Operator: DKH
un Time: 10/03/97 20:03 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	L.9367	L.0700	L-.1132	L-.1859	L.4245	L:5921
ev	1.529	.0285	.1007	.2647	.0894	.0191
SD	163.3	40.69	88.94	142.3	21.05	3.227

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	6.549	L1.447	L.4592	L-.1855
ev	.5062	.8155	.5624	.9038
SD	7.73	56.36	122.5	487.2

thod: TRIANGL2 Sample Name: 43159A LCS Operator: DKH
n Time: 10/03/97 20:07 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ms	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ie	51.03	47.36	49.24	49.32	49.55	49.56
v	2.39	.2379	.3677	.6787	.2296	.2417
D	4.684	.5023	.7467	1.376	.4633	.4876

ms	Ni2316	Pb2203	Sb2068	Se1960
ts	ppb	ppb	ppb	ppb
e	56.73	50.52	48.63	48.82
v	.576	.4173	.3383	.3918
D	1.015	.8261	.6957	.8025

Method: TRIANGL2 Sample Name: 182-30-1A8 Operator: DKH
Run Time: 10/03/97 20:12 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15.05	L.0040	19.26	L-25.79	103.6	173.1
Dev	1.128	.0274	.417	.3777	.5179	.24
RSD	7.497	684.3	2.165	1.464	.5001	.1386

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	68.33	1199.	44.60	44.64
Dev	.0224	3.377	2.04	2.449
RSD	.0328	.2817	4.575	5.486

ethod: TRIANGL2 Sample Name: 182-30-1A8 PDS Operator: DKH
un Time: 10/03/97 20:17 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	60.32	46.22	66.29	23.37	154.0	220.6
)ev	1.16	.2802	.4352	.256	.2843	.965
ISD	1.922	.6062	.6566	1.095	.1846	.4375

.ems	Ni2316	Pb2203	Sb2068	Se1960
ıits	ppb	ppb	ppb	ppb
'ge	115.4	1231.	92.78	89.28
ev	.3889	6.978	1.558	1.61
ISD	.3371	.5669	1.679	1.804

Method: TRIANGL2 Sample Name: 182-30-1AB L Operator: DKH
Run Time: 10/03/97 20:21 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Sampl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	L3.769	L.0756	3.854	L-5.798	26.67	35.76
SDev	1.48	.0154	.1172	.0506	.395	.1046
%RSD	39.25	20.44	3.041	.8728	1.481	.2927

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	16.11	262.5	7.677	10.63
SDev	.2162	1.833	2.449	1.069
%RSD	1.342	.6983	31.9	10.05

ethod: TRIANGL2 Sample Name: 182-30-2AB Operator: DKH
in Time: 10/03/97 20:26 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	14.34	L.0861	2.094	L-54.74	158.3	180.9
ev	3.274	.0229	.4574	1.362	1.497	1.234
SD	22.83	26.56	21.84	2.489	.9462	.6826

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	115.4	1097.	85.64	80.20
ev	.4448	10.53	5.68	.3298
SD	.3853	.9596	6.632	.4113

Method: TRIANGL2 Sample Name: 182-30-2A8 DA Operator: DKH
Run Time: 10/03/97 20:31 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: - Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15.86	L.0629	2.353	L-54.60	159.2	181.5
SDev	2.433	.0129	.3813	1.003	.9901	.4898
%RSD	15.34	20.53	16.2	1.838	.622	.2699

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	115.9	1103.	85.81	82.21
SDev	.603	6.612	6.121	-1.698
%RSD	.5202	.5994	7.133	2.065

thod: TRIANGL2 Sample Name: 182-30-3AB Operator: DKH
n Time: 10/03/97 20:35 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
b ID.: Cust. Sampl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	11.77	L.0664	1.156	L-39.13	128.1	186.2
ev	2.038	.0107	.21	.4692	1.083	.9696
SD	17.31	16.2	18.16	1.199	.8458	.5206

ems	Ni2316	Pb2203	Sb2068	Se1960
ts	ppb	ppb	ppb	ppb
ge	85.06	1159.	63.69	63.61
v	.8859	9.405	2.296	1.568
SD	1.041	.8117	3.604	2.465

Method: TRIANGL2 Sample Name: 182-30-4AB Operator: DKH
Run Time: 10/03/97 20:40 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	218.9	L-12.10	744.7	37.10	2423.	H43330.
SDev	2.858	.1975	2.209	.4812	15.3	200.7
%RSD	1.306	1.632	.2967	1.297	.6314	.4631

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	431.9	H113500.	51.99	312.0
SDev	3.288	791.2	3.33	3.792
%RSD	.7612	.6972	6.405	1.215

FG

thod: TRIANGL2 Sample Name: 182-30-5AB Operator: DKH
n Time: 10/03/97 20:45 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ms	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	166.8	L-7.321	664.8	2.500	2027.	H35980.
v	2.779	.0351	4.395	.9524	17.67	337.7
D	1.666	.4796	.6611	38.09	.8719	.9385

ms	Ni2316	Pb2203	Sb2068	Se1960
ts	ppb	ppb	ppb	ppb
e	371.8	H130300.	77.87	183.5
v	1.865	1453	.8269	3.945
)	.5017	1.115	1.062	2.15

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/03/97 21:24 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	509.4	530.2	512.1	2536.	495.2	489.9
SDev	2.364	8.188	1.564	70.45	.2376	1.682
%RSD	.4641	1.544	.3055	2.778	.048	.3433

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	524.7	500.8	495.6	495.9	498.4	500.2
SDev	1.118	.8418	3.367	1.757	1.682	2.72
%RSD	.2131	.1681	.6793	.3543	.3374	.5438

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	539.6	5.176	494.4	508.2	491.0	492.7
SDev	4.476	.0729	6.665	1.746	.9999	1.315
%RSD	.8295	1.409	1.348	.3436	.2036	.2669

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	5.178	501.5	516.6	494.9	510.4	500.8
SDev	.1983	1.332	3.939	10.53	6.459	1.763
%RSD	3.83	.2656	.7624	2.128	1.265	.352

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	508.3	505.2	505.3	506.3	489.5	489.8
SDev	5.285	4.856	.8031	1.549	.4201	.321
%RSD	1.04	.9611	.1589	.306	.0858	.0655

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	489.4	493.9	494.0	499.4	Q21310.
SDev	1.127	13.83	1.521	1.832	3563
%RSD	.2302	2.801	.3078	.3669	16.72

thod: TRIANGL2 Sample Name: IC8/CC8 Operator: DKH
n Time: 10/03/97 21:31 Filename: 100397
de: CONC Type: Q Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	.1486	27.28	1.280	1878.	.2706	.3602
ev	.2797	5.255	1.623	238.3	.1073	.1497
SD	188.2	19.26	126.8	12.69	39.66	41.57

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	-3.644	.1289	-.5031	-.0575	.7033	-.4565
ev	.3399	.0548	1.05	.0959	.0891	.518
SD	9.328	42.49	208.7	166.7	12.67	113.5

ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
its	ppb	ppm	ppb	ppb	ppb	ppb
ge	-4.835	.0178	.2984	-1.411	.2543	.5901
ev	4.204	.0361	.0364	1.936	.1068	.4864
SD	86.95	203.3	12.21	137.2	42.01	82.43

ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
ts	ppm	ppb	ppb	ppb	ppb	ppb
ge	-.0057	1.316	.2764	.7651	-.8325	-.2528
v	.0811	.3908	1.696	.9715	.5993	1.29
D	1431	29.7	613.7	127	71.99	510.3

ms	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	3.492	-1.833	-.3005	-.0601	.7476	.2493
v	1.33	1.707	.5322	.7722	.5022	.1102
D	38.1	93.11	177.1	1286	67.18	44.21

ms	Ti3349	Tl1908	V_2924	Zn2062	Si2881
ts	ppb	ppb	ppb	ppb	ppb
e	.1976	4.809	.5010	.3149	Q6410.
v	.0511	1.899	.2315	.4032	1126
D	25.85	39.5	46.2	128.1	17.56

FC

Method: TRIANGL2 Sample Name: 182-30-6A8 10-20-97 Operator: DKH
Run Time: 10/03/97 21:39 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Sampl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	167.2	L-6.455	631.7	10.38	2067.	H38270.
SDev	1.79	.0817	.7905	.9523	.5973	52.44
%RSD	1.071	1.266	.1251	9.174	.0289	.137

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	411.6	H125200.	69.57	238.2
SDev	.6746	73.8	6.493	1.954
%RSD	.1639	.059	9.334	.8203

ethod: TRIANGL2 Sample Name: 182-30-7A8 Operator: DKH
un Time: 10/03/97 21:44 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
'ge	10.58	L.1588	L-7.411	L-42.61	125.6	211.2
)ev	.4986	.0144	.1883	.068	.7733	10.41
ISD	4.711	9.056	2.541	.1597	.6156	4.929

.ems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
'ge	89.24	170.3	70.27	63.84
ev	1.417	33.71	1.419	1.4
SD	1.588	19.79	2.019	2.193

Method: TRIANGL2 Sample Name: 182-30-8A8,10A Operator: DKH
Run Time: 10/03/97 21:49 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9.535	L.1004	L-13.90	L-47.37	131.5	56.28
SDev	4.031	.0641	1.073	2.51	1.882	2.542
%RSD	42.28	63.86	7.718	5.299	1.431	4.516

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	84.91	L-10.34	76.30	67.56
SDev	1.793	11.13	9.538	1.188
%RSD	2.112	107.7	12.5	1.759

Method: TRIANGL2 Sample Name: 182-30-9AB Operator: DKH
Run Time: 10/03/97 21:53 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9.968	L.0952	L-.0822	L-26.56	94.28	182.5
SDev	3.877	.007	.1529	.4487	1.116	.5817
%RSD	38.89	7.305	-186.1	1.689	1.184	.3187

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	70.14	256.9	45.04	40.31
SDev	.8167	3.042	1.36	2.289
%RSD	1.164	1.184	3.019	5.679

ethod: TRIANGL2 Sample Name: 182-30-11AB Operator: DKH
un Time: 10/03/97 21:58 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	11.58	L.1275	L-10.88	L-39.35	138.5	120.7
Dev	3.119	.0434	.2811	.6677	.9102	.7549
RSD	26.94	34.03	2.584	1.697	.6572	.6253

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	104.0	66.16	82.04	73.61
Dev	.4708	4.084	2.587	1.598
RSD	.4529	6.173	3.153	2.171

Method: TRIANGL2 Sample Name: 182-30-12AB Operator: DKH
Run Time: 10/03/97 22:03 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	11.16	L.1396	L-8.110	L-45.25	147.0	128.2
SDev	.6291	.0139	.2277	.2649	.7583	.8538
%RSD	5.637	9.988	2.807	.5854	.5157	.666

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	94.19	89.75	77.39	69.85
SDev	.4699	4.11	.6045	.72
%RSD	.4988	4.579	.7811	1.031

Method: TRIANGL2 Sample Name: 182-30-13A8 10-20-97 Operator: DKH
Run Time: 10/03/97 22:07 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10.28	L.0974	L-2.334	L-41.63	128.7	106.5
SDev	.6646	.0301	.1773	.1973	.064	.5183
%RSD	6.464	30.86	7.6	-.4739	.0498	.4868

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	84.91	212.3	68.24	63.19
SDev	1.511	5.273	1.275	2.615
%RSD	1.779	2.483	1.869	4.139

thod: TRIANGL2 Sample Name: 182-30-14AB Operator: DKH
n Time: 10/03/97 22:12 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	10.29	L.1264	L-12.34	L-50.98	143.2	34.03
ev	2.168	.0095	.2312	1.197	.1449	.0883
SD	21.08	7.523	1.874	2.348	.1012	.2596

ems	Ni2316	Pb2203	Sb2068	Se1960
ts	ppb	ppb	ppb	ppb
ge	98.80	L-14.56	85.38	77.12
v	.4249	3.415	2.687	2.084
D	.4301	23.46	3.147	2.702

ethod: TRIANGL2 Sample Name: 182-30-158 Operator: DKH
un Time: 10/03/97 22:17 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	L3.755	L.0742	L-.6749	L-2.167	8.115	5.123
Dev	2.362	.0111	.118	.0637	.0829	.0687
RSD	62.92	14.89	17.48	2.941	1.022	1.342

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	3.871	L1.675	L3.960	3.009
Dev	.9014	.1933	1.582	1.375
RSD	23.29	11.54	39.94	45.68

ıthod: TRIANGL2 Sample Name: 182-30-15C Operator: DKH
ın Time: 10/03/97 22:21 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	5.790	L.0253	L-1.526	L-5.312	16.22	5.310
ev	1.14	.0308	.1152	.2081	1.304	.0491
SD	19.69	121.6	7.55	3.918	8.04	.9252

ems	Ni2316	Pb2203	Sb2068	Se1960
ts	ppb	ppb	ppb	ppb
ge	7.916	10.82	5.370	6.344
v	.847	1.641	1.97	1.293
D	10.7	15.17	36.69	20.38

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/03/97 22:26 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	508.3	519.5	517.1	761.7	497.9	495.8
SDev	1.936	8.273	5.556	250.3	.4421	2.296
%RSD	.3808	1.593	1.075	32.87	.0888	.4632

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	501.4	504.5	500.5	498.2	508.1	498.2
SDev	.6434	1.112	1.909	1.513	1.142	1.642
%RSD	.1283	.2204	.3814	.3037	.2247	.3297

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	517.7	4.989	475.0	499.1	494.4	497.2
SDev	5.026	.0425	3.66	2.466	1.509	2.425
%RSD	.9707	.8516	.7705	.494	.3053	.4877

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.853	507.3	518.1	482.5	506.0	506.7
SDev	.1356	.5298	5.144	7.029	4.064	4.329
%RSD	2.795	.1044	.9929	1.457	.8031	.8543

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	514.8	508.7	498.2	510.8	486.7	494.0
SDev	1.897	1.797	.4628	1.392	3.112	.4232
%RSD	.3684	.3532	.0929	.2725	.6394	.0857

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	494.5	501.5	498.6	504.9	Q100300.
SDev	.952	.8328	.9264	1.729	4713
%RSD	.1925	.166	.1858	.3426	4.698

thod: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
n Time: 10/03/97 22:32 Filename: 100397
de: CONC Type: Q Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	.4700	23.78	2.090	472.7	.3960	.4810
ev	.4175	2.888	1.247	199	.1288	.1697
SD	88.83	12.14	59.67	42.1	32.53	35.27

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	-2.619	-.0875	-.2609	-.8217	Q4.039	-.5347
ev	.645	.0263	1.399	.1327	.8508	.2847
SD	24.63	30.02	536.2	16.15	21.07	53.26

ms	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
ts	ppb	ppm	ppb	ppb	ppb	ppb
e	6.274	.0266	.4229	.6329	.2941	.9741
v	7.322	.0211	.1064	2.662	.1239	.3036
D	116.7	79.43	25.16	420.6	42.12	31.16

ms	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
ts	ppm	ppb	ppb	ppb	ppb	ppb
e	.0595	2.998	6.616	1.609	-2.519	2.583
v	.0808	.6021	2.434	4.144	1.93	1.585
D	135.8	20.08	36.79	257.5	76.61	61.35

ns	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	7.403	-2.946	-1.144	.5006	-2.252	.3892
v	2.606	1.502	.3832	.2509	1.847	.1366
D	35.2	50.99	33.5	50.11	81.99	35.11

ıs	Ti3349	Tl1908	V_2924	Zn2062	Si2881
:s	ppb	ppb	ppb	ppb	ppb
e	.3941	Q5.775	1.151	.3840	Q59520
v	.0874	5.546	.4356	.2421	7965
D	22.19	96.04	37.86	63.05	13.38

N/V NKH 101597

Method: IRIANGL2 Sample Name: ICB/CCB Operator: DKH
Run Time: 10/03/97 22:48 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-.0430	25.21	3.202	1079.	.0110	.1166
SDev	.1251	2.992	.715	241.4	.0571	.0201
%RSD	290.7	11.87	22.33	22.38	518.2	17.23

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-3.794	-.3224	-1.053	-.6409	1.706	-.6297
SDev	1.063	.0462	2.205	.6975	.5107	.2624
%RSD	28.01	14.32	209.4	108.8	29.93	41.67

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	-2.620	.0150	.0442	-.0345	-.0656	.0055
SDev	10.42	.0296	.0637	3.439	.0499	.3345
%RSD	397.5	196.9	144.3	9969	76.05	6087

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	-.0009	1.665	7.358	.5261	-1.194	.3631
SDev	.028	.3302	8.552	3.875	2.573	1.975
%RSD	2960	19.84	116.2	736.5	215.5	543.8

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	4.411	-4.804	-.6214	-1.735	-.3350	-.0028
SDev	1.759	1.367	.8244	.444	1.034	.0222
%RSD	39.88	28.45	132.7	25.58	308.6	792.4

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	-.0153	.6357	.5765	-.2530	Q27420.
SDev	.1261	2.908	.8509	.1168	3886
%RSD	826.3	457.4	147.6	46.15	14.17

od: TRIANGL2 Sample Name: 182-30-1C Operator: DKH
Time: 10/03/97 22:54 Filename: 100397
: CONC Type: S Corr. Factor: 1.00000
ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

s	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
s	ppb	ppb	ppb	ppb	ppb	ppb
	13.81	L-.2566	L.6051	4.594	110.8	238.2
	3.001	.037	.3439	1.038	1.716	1.276
	21.73	14.43	56.83	22.6	1.549	.5357

s	Ni2316	Pb2203	Sb2068	Se1960
s	ppb	ppb	ppb	ppb
	20.12	38.59	L2.902	946.6
	1.66	.9481	3.519	3.281
	8.249	2.457	121.3	.3466

Method: TRIANGL2 Sample Name: 182-30-1C PDS Operator: DKH
Run Time: 10/03/97 22:59 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	63.27	48.63	49.17	53.78	158.3	285.0
SDev	1.056	.2346	.1974	.5552	.8157	1.091
%RSD	1.669	.4825	.4014	1.032	.5154	.3829

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	67.61	86.30	49.23	991.6
SDev	.4826	1.339	2.35	3.15
%RSD	.7138	1.551	4.773	.3177

:thod: TRIANGL2 Sample Name: 182-30-1C L Operator: DKH
in Time: 10/03/97 23:03 Filename: 100397
ide: CONC Type: S Corr. Factor: 1.00000
ib ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	L3.270	L.0350	L.1027	1.155	23.05	49.76
ev	1.243	.0155	.1118	.3366	.3263	.2091
SD	38.02	44.18	108.8	29.13	1.415	.4203

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	5.032	8.133	L.5325	182.7
ev	.3913	.6273	1.508	.9375
SD	7.777	7.714	283.2	.5133

Method: TRIANGL2 Sample Name: 182-30-2C Operator: DKH
Run Time: 10/03/97 23:08 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12.69	L-.1803	3.931	1.376	124.7	3102.
SDev	.9807	.016	.372	.6084	.86	12.61
%RSD	7.726	8.878	9.464	44.22	.6896	.4067

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	29.13	59.63	L.8637	897.3
SDev	1.12	.7071	1.369	5.086
%RSD	3.844	1.186	158.6	.5668

ethod: TRIANGL2 Sample Name: 182-30-2C DA Operator: DKH
un Time: 10/03/97 23:13 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	12.98	L-.2307	3.949	1.741	124.1	3087.
ev	1.28	.0071	.1737	.1731	.2327	4.928
SD	9.859	3.079	4.4	9.942	.1875	.1596

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	29.47	58.99	L.0549	890.6
ev	.5883	.7393	1.935	2.492
SD	1.997	1.253	3522	.2799

lethod: TRIANGL2 Sample Name: 182-30-3C Operator: DKH
lun Time: 10/03/97 23:17 Filename: 100397
lode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	5.383	L-.0818	2.746	L.3438	91.34	577.8
Dev	2.25	.0167	.1433	.4288	.7583	2.364
RSD	41.79	20.36	5.218	124.7	.8301	.4092

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	26.34	65.35	L.4047	691.5
Dev	1.122	1.133	.8382	3.714
RSD	4.261	1.733	207.1	.5371

ethod: TRIANGL2 Sample Name: 182-58-1 Operator: DKH
un Time: 10/03/97 23:22 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Sampl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
'ge	35.80	L-1.062	176.9	97.46	354.6	7449.
ev	1.332	.0144	.9607	1.261	3.353	54.38
SD	3.722	1.353	.5431	1.294	.9457	.73

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	88.76	33200.	L1.574	236.2
ev	.8547	378.8	1.501	3.014
SD	.9629	1.141	95.34	1.276

ethod: TRIANGL2 Sample Name: 182-58-2 Operator: DKH
un Time: 10/03/97 23:27 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
vge	48.15	L.0090	236.8	11.55	307.5	7231.
)ev	.2847	.0217	.4589	.2637	.9373	19.68
RSD	.5913	242.1	.1937	2.283	.3048	.2722

.ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	96.44	41240.	L2.464	376.0
)ev	.1126	242.1	1.189	1.382
SD	.1168	.587	48.24	.3676

hod: TRIANGL2 Sample Name: 182-58-3 Operator: DKH
Time: 10/03/97 23:31 Filename: 100397
e: CONC Type: S Corr. Factor: 1.00000
ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ms	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	47.92	L.0428	194.7	19.37	349.7	7793.
v	1.173	.0167	1.117	.0792	1.945	36.59
)	2.449	39.06	.5737	.4088	.5561	.4696

ms	Ni2316	Pb2203	Sb2068	Se1960
:s	ppb	ppb	ppb	ppb
e	117.7	42770.	L2.149	474.6
v	.6635	231.9	.9202	1.611
)	.5639	.5421	42.83	.3396

Method: TRIANGL2 Sample Name: 182-30-7B Operator: DKH
Run Time: 10/03/97 23:36 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	L-5.030	L.0839	1.189	L-.8965	10.98	745.0
SDev	.7436	.0063	.1207	.109	.0951	1.403
%RSD	14.78	7.565	10.15	12.16	.8664	.1884

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	4.392	89.83	L1.230	L1.500
SDev	.3222	16.85	.1771	1.665
%RSD	7.335	18.76	14.39	111

ethod: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
un Time: 10/03/97 23:41 Filename: 100397
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	509.8	516.8	517.1	2060.	497.7	505.3
ev	.244	7.984	3.395	104.9	.4479	1.996
SD	.0479	1.545	.6565	5.094	.09	.3951

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	533.6	513.2	499.6	505.7	507.0	495.0
ev	16.98	1.454	1.795	.6317	1.758	1.737
SD	3.182	.2832	.3594	.1249	.3467	.3508

ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
its	ppb	ppm	ppb	ppb	ppb	ppb
ge	542.6	4.983	473.4	510.1	499.3	501.0
ev	22.76	.0308	4.951	2.693	.8384	.8339
SD	4.195	.6176	1.046	.5279	.1679	.1665

ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
ts	ppm	ppb	ppb	ppb	ppb	ppb
ge	4.882	511.7	518.8	501.7	526.4	493.5
v	.1548	.7753	3.289	4.481	3.276	3.237
D	3.17	.1515	.6339	.8931	.6223	.6558

ms	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	514.2	511.4	518.2	512.3	495.6	489.8
v	1.606	4.881	3.677	2.911	.8979	.3055
D	.3123	.9544	.7095	.5681	.1812	.0624

ms	Ti3349	Tl1908	V_2924	Zn2062	Si2881
ts	ppb	ppb	ppb	ppb	ppb
e	494.9	508.1	501.6	514.3	98730.
v	1.034	4.624	1.856	2.396	119.9
D	.2089	.9101	.37	.4658	1.374

Method: TRIANGL2 Sample Name: IC8/CC8 Operator: DKH
Run Time: 10/03/97 23:46 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.3114	20.94	1.982	1671.	.4861	.5498
SDev	.2353	3.318	.689	15.72	.1393	.1966
%RSD	75.55	15.84	34.76	.9409	28.65	35.76

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.8970	.4430	.0410	.2451	.9523	-.8137
SDev	1.862	.2061	.8429	.1228	.0684	.157
%RSD	207.6	46.52	2057	50.1	7.181	19.3

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	1.764	.0911	.6892	.2347	.7389	1.448
SDev	4.214	.0166	.1421	2.083	.2812	.5437
%RSD	238.9	18.2	20.61	887.5	38.06	37.56

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	-.0321	1.777	2.986	.5832	.9779	.2350
SDev	.0401	.2014	4.044	2.057	1.267	1.414
%RSD	124.9	11.34	135.4	352.8	129.6	601.6

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	4.653	-2.635	.8465	-.2079	1.549	.4630
SDev	1.04	.7367	1.411	.7489	.5665	.1683
%RSD	22.34	27.96	166.7	360.1	36.56	36.35

Elems	Ti3349	Tl1908	V_2924	Zn2062	*Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	.4873	05.049	1.469	.6616	Q2900.
SDev	.1015	1.094	.0821	.2506	376.9
%RSD	20.83	18.7	5.588	37.88	13

NV MKH 10/5/97

thod: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
n Time: 10/03/97 23:57 Filename: 100397
de: CONC Type: Q Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	.0307	23.20	-.3650	1279.	.0192	.1134
ev	.2022	2.911	.9912	25.62	.0591	.0426
D	658	12.55	271.6	2.003	307.1	37.55

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	-3.208	-.0765	.1627	.0398	.1894	-1.317
v	.9379	.2552	.8517	.2174	.1861	.1638
D	29.24	333.5	523.5	546.3	98.3	12.44

ms	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
ts	ppb	ppm	ppb	ppb	ppb	ppb
e	-4.629	.0719	.2088	-1.300	.0091	-.0174
v	6.884	.0224	.0387	3.062	.0171	.7067
)	148.7	31.16	18.55	235.5	188.5	4063

as	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
:s	ppm	ppb	ppb	ppb	ppb	ppb
!	.0047	.9382	3.381	1.010	-1.259	.1297
	.0184	.7454	6.828	2.653	.9694	1.109
)	390.4	79.45	202	262.6	77.01	854.9

s	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
s	ppb	ppb	ppb	ppb	ppb	ppb
	4.108	-3.345	-.5031	-.8628	.3621	.0064
	2.438	2.667	.3003	.9704	.7746	.0131
	59.34	79.74	59.68	112.5	213.9	204.6

s	Ti3349	Tl1908	V_2924	Zn2062	*Si2881
s	ppb	ppb	ppb	ppb	ppb
	-.0558	2.281	.9595	.3540	Q4294.
	.044	2.561	.4795	.122	943.5
	78.83	112.3	49.98	34.47	21.97

thod: TRIANGL2 Sample Name: 182-30-8CA Operator: DKH
Time: 10/04/97 00:04 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ms	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	L-5.746	L.0700	L-.2699	L-1.808	13.90	27.04
v	1.234	.0499	.1088	.3745	.4578	.1618
D	21.47	71.31	40.32	20.72	3.292	.5984

ms	Ni2316	Pb2203	Sb2068	Se1960
ts	ppb	ppb	ppb	ppb
e	L1.452	10.13	L2.187	L-1.647
v	.7878	.9918	1.043	.9552
D	54.27	9.794	47.69	58.01

ethod: TRIANGL2 Sample Name: 182-30-9D8 Operator: DKH
un Time: 10/04/97 00:09 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	L-4.036	L.0694	3.323	L-.1141	11.37	2856.
Dev	1.145	.0237	.0968	.4941	.4215	7.724
RSD	28.37	34.19	2.915	432.9	3.708	.2704

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	6.990	1300.	L.7074	5.248
Dev	.6492	9.357	1.39	1.458
RSD	9.287	.7198	196.5	27.78

Method: TRIANGL2 Sample Name: 182-30-11D Operator: DKH
Run Time: 10/04/97 00:13 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	L-6.007	L.0644	L.5700	L-1.286	12.08	107.0
SDev	1.402	.0229	.0568	.1111	.6479	.2145
%RSD	23.34	35.55	9.972	8.643	5.364	.2005

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	7.792	50.40	L-.4183	L-.9156
SDev	.4631	1.282	1.251	2.023
%RSD	5.943	2.544	299.1	221

thod: TRIANGL2 Sample Name: 182-30-12D Operator: DKH
n Time: 10/04/97 00:18 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	L-5.585	L.0361	1.788	L-.6129	59.94	2210.
ev	3.109	.0265	.114	.2583	.4768	.6815
SD	55.68	73.23	6.379	42.14	.7955	.0308

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	69.53	39.56	L2.951	L-.6559
ev	.6118	1.271	.5936	1.136
SD	.88	3.214	20.12	173.1

Method: TRIANGL2 Sample Name: 182-30-13BD Operator: DKH
Run Time: 10/04/97 00:23 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: - Cust. ID.: 43159A

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	L-2.486	L.0515	1.810	L.4544	85.82	961.8
SDev	.8879	.0092	.0527	.351	.3539	3.115
%RSD	35.71	17.9	2.913	77.23	.4124	.3238

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	106.1	40.03	L-.7590	L.3204
SDev	.7478	1.914	.2712	1.497
%RSD	.7046	4.781	35.73	467.2

thod: TRIANGL2 Sample Name: 182-30-14BC Operator: DKH
n Time: 10/04/97 00:27 Filename: 100397
de: CONC Type: S Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

ems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	L-2.809	L.0835	L.1456	L-.6699	4.712	15.17
ev	1.086	.0156	.1438	.3453	.0878	.3786
SD	38.65	18.72	98.81	51.55	1.864	2.495

ems	Ni2316	Pb2203	Sb2068	Se1960
its	ppb	ppb	ppb	ppb
ge	L.4489	11.97	L-.6042	L-1.485
ev	.1782	.9304	1.341	1.066
SD	39.69	7.77	221.9	71.75

ethod: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
un Time: 10/04/97 00:44 Filename: 100397
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	Ag32B0	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	508.2	521.0	518.0	589.2	496.1	500.9
Dev	.3706	5.74	1.718	5.892	1.065	4.288
RSD	.0729	1.102	.3316	1	.2146	.8561

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	498.0	508.1	494.9	501.0	501.2	496.2
Dev	3.153	3.827	3.136	3.039	3.703	1.62
RSD	.6331	.7533	.6336	.6065	.7388	.3265

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
vge	501.0	4.942	474.8	501.2	495.2	496.2
Dev	7.211	.0181	3.127	3.391	3.069	4.009
RSD	1.439	.3656	.6586	.6767	.6198	.8079

lems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
vge	4.853	505.5	521.2	491.1	514.3	488.0
Dev	.0743	3.201	5.935	.7056	5.313	4.642
RSD	1.531	.6331	1.139	.1437	1.033	.9513

lems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	518.1	513.4	506.6	515.0	489.4	488.8
Dev	2.469	4.235	3.778	2.769	3.196	1.14
RSD	.4766	.8249	.7457	.5376	.653	.2332

lems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
nits	ppb	ppb	ppb	ppb	ppb
vge	493.2	504.6	498.1	506.2	5032.
Dev	2.647	6.149	3.475	5.271	66.56
RSD	.5367	1.219	.6976	1.041	1.323

hod: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
ı Time: 10/04/97 00:49 Filename: 100397
e: CONC Type: Q Corr. Factor: 1.00000
ı ID.: Cust. Sampl. ID.: Cust. ID.: 43159A

ms	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	.4676	24.45	1.327	30.67	.4992	.5798
v	.3998	4.293	.7063	4.552	.094	.1473
D	85.49	17.56	53.23	14.84	18.82	25.4

ms	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	-2.419	.4600	-.1950	.6703	.6418	-.5379
v	.4539	.1478	.9893	.0431	.1187	.2206
D	18.76	32.12	507.3	6.43	18.5	41.02

ms	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
ts	ppb	ppm	ppb	ppb	ppb	ppb
e	1.474	.0931	.6785	2.058	.4741	1.498
v	5.144	.022	.07	2.257	.1062	.6762
D	348.9	23.63	10.32	109.7	22.4	45.14

ms	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
ts	ppm	ppb	ppb	ppb	ppb	ppb
e	.0831	1.560	7.318	.0892	-1.074	3.589
v	.1408	.1298	2.333	2.374	1.223	1.992
D	169.3	8.32	31.88	2660	113.9	55.51

ms	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
ts	ppb	ppb	ppb	ppb	ppb	ppb
e	3.256	-3.708	-.6864	-1.389	1.787	.4811
v	1.923	1.497	.8071	.797	1.266	.1049
D	59.07	40.35	117.6	57.37	70.88	21.8

ms	Ti3349	Tl1908	V_2924	Zn2062	*Si2881
ts	ppb	ppb	ppb	ppb	ppb
e	.4955	4.448	1.468	.8561	Q-141.6
v	.0862	4.721	.1929	.0993	31.26
D	17.39	106.1	13.14	11.6	22.07

Method: TRIANGL2 Sample Name: ICSAB Operator: DKH
Run Time: 10/04/97 00:55 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	544.8	505800.	533.8	553.5	514.3	489.3
SDev	1.251	3758	4.029	6.369	.9676	2.806
%RSD	.2296	.743	.7547	1.151	.1881	.5734

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	457000.	480.4	500.6	475.1	480.9	542.7
SDev	3026	1.509	1.317	1.811	2.907	3.67
%RSD	.6621	.3141	.2631	.3811	.6045	.6762

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	177800.	Q25.13	615.8	539900.	455.3	498.7
SDev	563	.1375	4.351	94.57	2.066	1.471
%RSD	.3167	.5471	.7065	.0175	.4539	.295

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	5.530	461.6	554.8	494.2	488.7	514.8
SDev	.0715	1.506	16.23	1.475	8.632	3.078
%RSD	1.294	.3262	2.926	.2985	1.766	.5979

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	548.9	529.2	490.6	535.8	504.1	504.8
SDev	7.083	5.996	5.299	3.02	4.475	.6384
%RSD	1.29	1.133	1.08	.5637	.8878	.1265

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	493.4	518.2	492.8	453.8	5057.
SDev	1.042	9.822	2.03	5.004	84.31
%RSD	.2112	1.895	.412	1.103	1.667

utoSampler Report Table: HA449 Mon 10-06-97 02:42:47 AM page 1

able Name: HA449 Autosampler Type: TYPE TJA
ample Positions: 171/192 QC Positions: 13/19 # Sets: 3
inse Station location is rack -1, pos. -1.

-- Racks ---

ack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	13	10
2	Sample (16mm)	Samples	27	1
3	Sample (16mm)	Samples	48	1
4	Sample (16mm)	Samples	48	1
5	Sample (16mm)	Samples	48	1

-- Sample Sets ---

et#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	43287A	TRIANGL2	10	2	1
2	Normal	No	43287E	TRIANGL2	8	2	11
3	Normal	No	43159A	TRIANGL2	3	2	19

Dilutions!

DKH 10/6/97

-- Preparation Info ---

et#	Uptake	Uptake#2	Final	Dil.Factor

) Samples Prepared.

ack #1

os	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	STD3	-NA-	2	Standard 1-60-5P
2	1	2	STD1-BLANK	-NA-	1	Standard
3	1	3	ICSAB	-NA-	4	QC Standard 1-60-7P
4	1	4	CHECK LO	-NA-	1	QC Standard
5	1	5	ICV/CCV	-NA-	4	QC Standard 1-60-6P
6	1	6	ICB/CCB	-NA-	4	QC Standard
7...19	Not Used)					

Dilutions for MW & PD
10-6-97

DKH
10/5/97

ack #2

os	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	43287A MB	1	-NA-	Sample
2	1	2	43287A LCS	1	-NA-	Sample
3	1	3	183-59-1	1	-NA-	Sample
4	1	4	183-59-1 D	1	-NA-	Sample
5	1	5	183-59-2A-C	1	-NA-	Sample
6	1	6	183-59-3	1	-NA-	Sample
7	1	7	183-59-3 MS	1	-NA-	Sample
8	1	8	183-59-3 MSD	1	-NA-	Sample
9	1	9	183-59-3 PDS	1	-NA-	Sample
0	1	10	183-59-3 L	1	-NA-	Sample
.1	1	11	43287E MB	2	-NA-	Sample
.2	1	12	43287E LCS	2	-NA-	Sample
.3	2	1	183-59-4A	2	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
14	2	2	183-59-4A D	2	-NA-	Sample
15	2	3	183-59-4A MS	2	-NA-	Sample
16	2	4	183-59-4A MSD	2	-NA-	Sample
17	2	5	183-59-4A PDS	2	-NA-	Sample
18	2	6	183-59-4A L	2	-NA-	Sample
19	2	7	182-30-4AB X10	3	-NA-	Sample
20	2	8	182-30-5AB X10	3	-NA-	Sample
21	2	9	182-30-6AB X10	3	-NA-	Sample
(22...48	Not Used)					

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...48	Not Used)					

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...48	Not Used)					

Rack #5

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...48	Not Used)					

thod: TRIANGL2 Sample Name: STD1-BLANK Operator:
n Time: 10/05/97 20:39 Filename: 100597
de: IR Type: X Corr. Factor: 1.00000
b ID.: Cust. Smpl. ID.: Cust. ID.:

ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
its	count	count	count	count	count	count
ge	.00002	.00387	-.00023	.02206	.0006	.00047
ev	.00011	.00009	.00004	.00089	.00001	0
SD	563.426	2.52544	20.8632	4.07692	1.68582	1.95036

ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
its	count	count	count	count	count	count
ge	.00043	-.00013	-.00013	-.00012	-.00008	.00189
ev	.00001	.00009	.0002	.00003	.00003	.00001
SD	4.25429	70.3826	152.38	26.2113	43.8662	1.05434

ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
its	count	count	count	count	count	count
ge	.00002	3.83064	.07435	.00004	.00002	0
ev	.00002	.04123	.00068	.00002	0	.00003
SD	93.3868	1.07635	.92019	57.6182	37.0984	636.322

ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
its	count	count	count	count	count	count
ge	.00255	-.00125	-.00073	.00133	-.00005	.00025
ev	.00181	.00006	.00005	.00023	.00007	.00004
SD	70.8362	5.01478	6.99547	17.3465	140.76	15.8494

ems	1960-1	1960-2	Sn1899	Sr4215	Ti3349	Tl1908
its	count	count	count	count	count	count
ge	-.00374	.00153	-.0003	.00029	-.00001	-.0004
ev	.00017	.00012	.00009	.00001	.00003	.00002
SD	4.6237	8.20747	30.1705	4.01458	251.289	7.31095

ems	V_2924	Zn2062	Si2881
its	count	count	count
ge	-.00027	.00001	.07488
ev	.00001	.00001	.00734
SD	4.11306	88.4421	9.81227

ethod: TRIANGL2 Sample Name: STD3 Operator:
un Time: 10/05/97 20:44 Filename: 100597
ode: IR Type: X Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.:

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	count	count	count	count	count	count
vge	.30372	.01542	.03954	.14577	.22132	.18651
Dev	.00116	.00018	.00006	.00049	.00013	.00091
RSD	.38469	1.1931	.15215	.34291	.0625	.49026

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	count	count	count	count	count	count
vge	.01724	.70253	.08565	.07732	.1117	.13701
Dev	.00006	.00313	.00023	.00038	.00051	.00075
RSD	.40299	.44577	.27504	.4929	.4573	.54971

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	count	count	count	count	count	count
vge	.00316	22.4733	15.2067	.01536	.09731	.059
Dev	.00003	.12177	.12005	.00004	.0004	.00038
RSD	1.19666	.54185	.7895	.28016	.41265	.64583

lems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	count	count	count	count	count	count
vge	.20364	.26237	.01676	.13041	.06877	.09177
Dev	.00291	.00075	.00005	.00039	.0009	.00031
RSD	1.42934	.28813	.31786	.30212	1.31917	.33858

lems	1960-1	1960-2	Sn1899	Sr4215	Ti3349	Tl1908
nits	count	count	count	count	count	count
vge	.20013	.12439	.08381	.64978	.86268	.02351
Dev	.00169	.00091	.00031	.00082	.00211	.0011
RSD	.84668	.73244	.37173	.12678	.24554	4.68825

lems	V_2924	Zn2062	Si2881	Pb2203	Se1960
nits	count	count	count		
vge	.02875	.07171	.41743		
Dev	.00009	.00048	.00053		
RSD	.32783	.67735	.1279		

ethod: TRIANGL2 Sample Name: STD3 Operator: DKH
un Time: 10/05/97 20:48 Filename: 100597
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43287A

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
/ge	998.9	1002.	1001.	979.1	1000.	994.6
)ev	2.502	15.66	3.907	3.975	1.496	6.219
RSD	.2505	1.563	.3905	.406	.1495	.6253

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
/ge	997.5	998.9	1000.	999.3	998.5	1000.
)ev	5.834	6.146	4.324	5.337	6.208	4.963
RSD	.5848	.6153	.4322	.5341	.6218	.4961

.ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
'ge	1001.	10.01	1001.	996.9	998.7	1004.
)ev	11.43	.0673	8.642	2.196	5.369	5.405
SD	1.143	.672	.8636	.2202	.5375	.5381

.ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
'ge	9.945	999.8	994.6	1000.	999.9	997.5
ev	.1003	4.885	3.836	2.268	13.15	2.235
SD	1.009	.4886	.3857	.2267	1.315	.224

ems	1960-1	1960-2	Sn1899	Sr4215	Ti3349	Tl1908
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	1001.	998.7	1000.	993.5	996.5	1027.
ev	4.501	7.345	6.821	1.764	3.639	27.16
SD	.4496	.7354	.6818	.1776	.3652	2.646

ems	V_2924	Zn2062	Si2881	Pb2203	Se1960
its	ppb	ppb	ppb	ppb	ppb
ge	998.8	999.4	9875.	1000.	999.5
ev	4.132	10.27	32.64	8.057	4.206
SD	.4137	1.028	.3306	.8056	.4209

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/06/97 00:49 Filename: 100597
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43287E

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	514.2	465.5	523.7	371.7	510.6	513.2
SDev	3.659	15.88	3.013	2.308	1.211	1.23
%RSD	.7117	3.411	.5753	.621	.2371	.2397

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	507.1	505.5	501.9	519.6	504.9	509.5
SDev	.72	1.322	1.618	.5622	.2025	4.312
%RSD	.142	.2615	.3223	.1082	.0401	.8464

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	510.0	5.220	501.2	510.6	509.6	506.3
SDev	5.74	.0147	1.702	3.107	.7164	1.684
%RSD	1.125	.2814	.3396	.6084	.1406	.3326

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	5.183	503.7	508.6	524.6	502.4	509.9
SDev	.1019	1.288	1.646	4.515	2.573	1.007
%RSD	1.967	.2557	.3236	.8608	.5121	.1974

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	534.0	518.6	509.8	523.7	534.9	495.8
SDev	8.604	3.668	.7062	3.128	1.409	.8505
%RSD	1.611	.7074	.1385	.5973	.2634	.1715

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	495.3	513.6	508.3	522.9	03317.
SDev	.445	20.09	.244	2.143	49.75
%RSD	.0898	3.911	.048	.4099	1.5

ethod: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
un Time: 10/06/97 01:00 Filename: 100597
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43287E

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	.0728	Q-63.45	1.716	-152.2	.0897	-.6948
Dev	.2579	9.305	2.124	.8616	.0436	.0765
RSD	354.3	14.67	123.8	.5662	48.61	11.01

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	5.167	-.0027	1.002	.4021	-.2107	1.120
Dev	.8695	.0646	2.054	.1827	.3179	.4253
RSD	16.83	2405	205	45.43	150.9	37.98

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
vge	-6.526	.0186	.0969	-.3542	.0578	.8170
Dev	4.326	.0304	.06	3.201	.0511	.2532
RSD	66.29	163.9	61.88	903.6	88.36	30.99

ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
vge	-.0807	1.058	6.139	-4.035	1.168	1.015
ev	.0692	.8997	2.367	2.312	.346	1.53
SD	85.81	85.02	38.56	57.3	29.62	150.8

ems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	.0512	-2.291	-.5644	-1.511	-1.364	.0496
ev	2.459	.8208	.5898	.5204	2.126	.0126
SD	4808	35.82	104.5	34.44	155.8	25.49

ems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
its	ppb	ppb	ppb	ppb	ppb
ge	.1260	Q5.327	-1.062	-.2780	Q-1760.
ev	.1046	2.336	.5266	.1073	7.005
SD	83	43.86	49.6	38.58	.3981

N/V
mcrt 10/6/97

ethod: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
un Time: 10/06/97 01:35 Filename: 100597
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43287E

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	.2549	Q-50.91	.3651	-154.0	.0346	-.6850
Dev	.0922	9.438	1.899	3.503	.0949	.0581
RSD	36.17	18.54	520.1	2.275	274.3	8.484

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	3.159	-.1202	.5775	-.0699	-.3972	1.643
Dev	1.431	.1561	2.984	.7117	.3612	.3603
RSD	45.29	129.9	516.7	1018	90.94	21.93

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
vge	-1.106	-.0127	-.0426	-1.274	-.0230	.4920
Dev	8.081	.0307	.0674	6.145	.0475	.5719
RSD	731	242.5	158.4	482.3	206.9	116.2

lems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
vge	.0906	.0077	-.9336	-2.039	1.006	-.8875
Dev	.0529	.8674	1.879	5.303	.9217	1.059
RSD	58.35	11300	201.3	260.1	91.61	119.3

lems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	-2.125	-1.969	-.0078	-2.021	-1.887	-.0014
Dev	1.013	3.448	1.589	2.012	.5425	.0371
RSD	47.66	175.1	20390	99.58	28.75	2686

ems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
nits	ppb	ppb	ppb	ppb	ppb
ge	.1491	4.793	-1.462	-.6902	Q-1764.
ev	.1421	3.685	.9502	.4019	6.243
SD	95.27	76.87	65	58.24	.3539

ethod: TRIANGL2 Sample Name: ICSA8 Operator: DKH
un Time: 10/06/97 01:41 Filename: 100597
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43287E

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	534.4	512400.	523.5	366.1	513.3	491.4
Dev	3.845	6230	2.221	.6211	2.304	2.326
RSD	.7195	1.216	.4242	.1697	.4488	.4733

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	446900.	466.6	492.5	478.8	471.4	538.9
Dev	1610	2.119	.6333	1.868	1.099	5.828
RSD	.3602	.4541	.1286	.3902	.2331	1.081

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
vge	175000.	Q25.64	627.2	530300.	457.0	492.8
Dev	365.9	.1885	4.733	1366	1.625	3.144
RSD	.2091	.7351	.7547	.2576	.3555	.6379

lems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
vge	5.942	451.7	547.4	524.4	468.8	511.8
Dev	.2139	1.713	21.63	6.302	9.702	6.462
RSD	3.6	.3793	3.951	1.202	2.069	1.263

ems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	561.6	520.2	487.3	534.0	531.1	498.4
Dev	13.78	7.225	4.388	1.857	7.535	1.9
RSD	2.454	1.389	.9004	.3477	1.419	.3811

ems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
nits	ppb	ppb	ppb	ppb	ppb
vge	482.6	497.0	488.9	458.6	Q3335.
Dev	.3954	27.91	1.566	4.587	40.01
RSD	.0819	5.616	.3204	1	1.2

F 9-10-97 cc

ethod: TRIANGL2 Sample Name: 182-30-4A8 X10 Operator: DKH
un Time: 10/06/97 01:52 Filename: 100597
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Pb, Mn only 9-10-6-97

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	23.45	L-2.197	85.65	5.389	290.9	6269.
Dev	1.705	.0415	.4863	.4276	1.111	18.49
RSD	7.27	1.89	.5678	7.934	.382	.295

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	54.38	14800.	5.608	51.11
Dev	1.348	57.21	.8882	3.053
RSD	2.48	.3865	15.84	5.974

FC ~~CF~~ 10-6-97CC

ethod: TRIANGL2 Sample Name: 182-30-5AB X10 10-7-97CC Operator: DKH
un Time: 10/06/97 01:56 Filename: 100597
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Pb - Mn Only 10-6-97

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	19.25	L-1.694	76.49	1.850	238.5	4896.
Dev	1.565	.0374	.3244	.4449	.9006	1.622
RSD	8.131	2.208	.4241	24.05	.3776	.0331

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	45.51	16750.	7.792	33.50
Dev	.5131	37.6	.61	1.318
RSD	1.127	.2245	7.829	3.934

ethod: TRIANGL2 Sample Name: 182-30-6A8 X10 Operator: DKH 10-6-97cc
un Time: 10/06/97 02:01 Filename: 100597
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Pb & Mn Only 10-6-97

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	19.48	L-1.565	70.96	2.575	243.0	5239.
Dev	2.827	.0065	.935	.437	4.867	93.24
RSD	14.51	.4134	1.318	16.97	2.003	1.78

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	50.43	16030.	8.120	41.09
Dev	1.151	288.5	1.263	3.16
RSD	2.282	1.8	15.56	7.691

ethod: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
un Time: 10/06/97 02:10 Filename: 100597
ode: CONC Type: Q Corr. Factor: 1.00000
ıb ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

.ems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
ıits	ppb	ppb	ppb	ppb	ppb	ppb
'ge	509.4	Q445.2	516.3	387.7	505.6	511.7
)ev	.7594	13.62	3.44	6.329	1.121	5.791
!SD	.1491	3.059	.6662	1.632	.2217	1.132

.ems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
ıits	ppb	ppb	ppb	ppb	ppb	ppb
'ge	543.3	502.6	498.6	515.4	501.5	504.1
ıev	9.626	5.61	3.52	4.686	5.342	2.69
!SD	1.772	1.116	.7059	.9093	1.065	.5337

ems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
ıits	ppb	ppm	ppb	ppb	ppb	ppb
ge	548.8	5.208	498.5	510.0	505.3	503.3
ıev	6.356	.0146	1.034	4.297	4.499	4.463
SD	1.158	.2798	.2073	.8426	.8903	.8867

ems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
its	ppm	ppb	ppb	ppb	ppb	ppb
ge	5.258	503.5	506.1	527.2	505.6	506.2
ev	.1924	5.007	12.01	3.709	7.994	4.775
SD	3.66	.9946	2.372	.7036	1.581	.9432

ems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	534.4	512.5	512.8	519.8	530.9	489.9
ev	2.385	5.353	4.099	2.88	5.877	1.759
SD	.4463	1.045	.7993	.5541	1.107	.3591

ems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
its	ppb	ppb	ppb	ppb	ppb
ge	490.7	514.9	504.4	520.6	Q3945.
ev	3.468	11.21	3.891	7.289	61.93
SD	.7066	2.177	.7715	1.4	1.57

Method: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
Run Time: 10/06/97 02:15 Filename: 100597
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.5749	Q-63.82	.3657	-136.9	.3795	-.4787
SDev	.4107	6.783	1.668	3.799	.0519	.101
%RSD	71.44	10.63	456	2.774	13.67	21.1

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	13.31	.4885	1.703	.3038	.0423	1.460
SDev	2.049	.0586	.5006	.2791	.4756	.525
%RSD	15.4	11.99	29.4	91.89	1125	35.95

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	8.455	.0203	.3686	1.612	.6411	Q2.150
SDev	.7985	.0328	.0728	1.768	.183	.6868
%RSD	9.444	161.7	19.75	109.7	28.55	31.94

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	.0995	.4490	3.567	-2.036	3.364	1.317
SDev	.073	.1087	2.12	2.848	.8472	2.218
%RSD	73.43	24.22	59.44	139.9	25.19	168.4

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-1.385	-.3538	1.566	-.6972	.2725	.3301
SDev	2.82	1.234	.3929	1.749	1.082	.0719
%RSD	203.6	348.8	25.1	250.9	397	21.78

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	.3958	Q15.64	-.6701	.2672	Q-1362.
SDev	.0524	4.009	.379	.1075	16.44
%RSD	13.24	25.64	56.55	40.24	1.207

ethod: TRIANGL2 Sample Name: ICSAB Operator: DKH
un Time: 10/06/97 02:22 Filename: 100597
ode: CONC Type: Q Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

lems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	531.5	510100.	520.9	378.9	513.3	490.6
Dev	1.162	4342	2.38	6.889	.3917	4.976
RSD	.2187	.8513	.4569	1.818	.0763	1.014

lems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	444600.	467.7	493.2	478.4	471.2	537.6
Dev	4574	4.699	2.276	4	4.901	4.298
RSD	1.029	1.005	.4615	.836	1.04	.7996

lems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
nits	ppb	ppm	ppb	ppb	ppb	ppb
vge	174300.	Q25.71	629.3	528100.	454.9	492.5
Dev	1346	.0458	1.309	1795	3.951	6.28
RSD	.772	.178	.208	.3399	.8686	1.275

lems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
nits	ppm	ppb	ppb	ppb	ppb	ppb
vge	5.842	452.8	535.7	526.8	466.7	509.4
Dev	.2118	4.146	9.465	5.451	15.62	5.083
RSD	3.625	.9156	1.767	1.035	3.346	.9979

lems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	565.3	511.6	486.7	529.5	531.8	496.2
Dev	18.22	15.96	8.638	4.932	9.622	.6731
RSD	3.224	3.12	1.775	.9315	1.809	.1356

lems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
nits	ppb	ppb	ppb	ppb	ppb
vge	481.4	505.8	488.7	458.4	Q3698.
Dev	2.676	22.27	3.739	9.543	29.3
RSD	.5559	4.403	.765	2.082	.7923

Autosampler Loading Map

Element File: CO.GEL ID/Weight File: EB163.IDW DKH 10/6/97

Loc.	Concentration	Solutions
0		Calib. Blank / Diluent / ICB / CCB
1	50.0 ug/L	Stock / Recovery Stock 1-60-8P
2	100.0 ug/L	Stock 1-60-9P
4		ICV=30ug/L 1-60-10P
5		CCV=60ug/L 1-60-11P
6		CHECK LO
7		43159A MB
8		43159A LCS
9		*182-30-1AB
10		*182-30-1AB L
11		*182-30-2AB
12		*182-30-3AB
13		°182-30-4AB X10
14		✓182-30-5AB
15		✓182-30-6AB
16		⊘182-30-7AB
17		182-30-8AB,10A
18		⊘182-30-9AB
19		⊘182-30-11AB
20		⊘182-30-12AB
21		⊘182-30-13AB
22		⊘182-30-14AB
23		182-30-15B
24		182-30-15C
40		Modifier 1

* = G Added in Front of AB
° = F Added in Front of AB
✓ = FG Added in Front of AB
⊘ = C Added in Front of AB

DKH 10/5/97

SOP No. E010302
DKH 10/6/97

lement File: CO.GEL
lement: Co
rint Data: Main+Suppl.
rint: Calib. Curve+Elem. Params.

Analyst: HOLSTE
Peak Storage: 1 Repl./Sample

NSTRUMENT: 4100 ZL
avelength: 240.7 Peak
ignal Type: Single Beam
ead Time: 3.0
ample Replicates: 2
tandard Replicates: 2

Technique: HGA
Slit: 0.20 Low
Signal Measurement: Peak Area
Read Delay: 0.0
Spike Replicates: Same as Sample

Version: 7.30
BOC Time: 2

ALIBRATION:

Solutions	ID	Conc	Location	Volume	Diluent Volume	Modifier #1	Modifier #2
alib. Blank	STD BLANK	----------	0	10	10	5	
tandard 1	STD 1=25ug/L	25.0	1	5	15	5	
tandard 2	STD 2=50ug/L	50.0	1	10	10	5	
tandard 3	STD 3=100ug/L	100.0	2	10	10	5	
eslope Std.	Reslope 50ug/L	50.0	1	10	10	5	
amples	----------	----------	--------	10	10	5	

Diluent Location: 0
Modifier #1 Location: 40
Modifier #2 Location:
Calibration Units: ug/L
Sample Units: ug/L
Calibration Type: Nonlinear

---

urnace Time/Temperature Program:

tep	Temp	Ramp	Hold	Gas Flow	Read	Gas Type
1	110	1	20	250		Norm
2	130	1	25	250		Norm
3	1400	5	20	250		Norm
4	2400	0	4	0	*	Norm
5	2500	1	5	250		Norm

njection Temp: 20
Pipette Speed: 100%
Extraction System: On

EQUENCE:

tep	Action and Parameters
1	Pipet diluent + modifier 1 + spike + sample/std
2	Run HGA steps 1 to End

HECKS:
ecalibration Type: Autozero Only
ocations: None

onc. Above Calibration Action: Dilute & Reanalyze After 1 Rep
lternate Sample Volumes (uL): 5,2,1
un Alternate Volume Blanks: No

f %RSD > 20.0 and Concentration > 5 then Retry 1 times
heck %RSD on: Samples + Standards + Spikes + QC Samples

ecovery Measurements:
uL of 50 ug/L Standard at Location 1 Gives 25.0 ug/L
easure Recovery on Samples: 9-10
dd to QC Samples: Yes
% Recovery Limits: 75 to 125

#|	A/S Loc.	QC Sample ID	Conc. Limits Lower	Upper	After Calib	Periodic Check	At End	Count As Sample
1	4	ICV=30ug/L	27.0	33.0	X			
2	0	ICB	-2.0	2.0	X			
3	5	CCV=60ug/L	48.0	72.0		X	X	
4	0	CCB	-2.0	2.0		X	X	

Run Periodic QC Samples: Every 10
Out of Limit Action: Print Message Only

Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

ement File: CO.GEL　Element: Co　Wavelength: 240.7
ate: 10/05/97　Time: 19:12　Slit: 0.20 L
ata File: EB163.DAT　ID/Wt File: UNTITLED　Lamp Current: 30
echnique: HGA　Calib. Type: Nonlinear　Energy: 44

ID: STD BLANK　Seq. No.: 00001　A/S Pos.: 0　Date: 10/05/97

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 1　Time: 19:14
ak Area (A-s): 0.017　Peak Height (A): 0.073
ank Corrected Pk Area (A-s): 0.013
ncentration (ug/L): 5.0

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 2 (Peak Stored)　Time: 19:17
ak Area (A-s): 0.007　Peak Height (A): 0.020
ank Corrected Pk Area (A-s): 0.004
ncentration (ug/L): 1.4

an Conc (ug/L): 3.2　SD: 2.55　RSD(%): 80.14

to-zero performed.

ID: STD BLANK　Seq. No.: 00003　A/S Pos.: 0　Date: 10/05/97

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 1　Time: 19:19
ak Area (A-s): 0.007　Peak Height (A): 0.019
ank Corrected Pk Area (A-s): -0.005
ncentration (ug/L): -1.7

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 2 (Peak Stored)　Time: 19:22
ak Area (A-s): 0.004　Peak Height (A): 0.019
ank Corrected Pk Area (A-s): -0.008
ncentration (ug/L): -2.9

an Conc (ug/L): -2.3　SD: 0.84　RSD(%): 37.12

to-zero performed.

ID: STD BLANK　Seq. No.: 00005　A/S Pos.: 0　Date: 10/05/97

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 1　Time: 19:24
ak Area (A-s): 0.004　Peak Height (A): 0.017
ank Corrected Pk Area (A-s): -0.001
ncentration (ug/L): -0.5

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 2 (Peak Stored)　Time: 19:27
ak Area (A-s): 0.006　Peak Height (A): 0.019
ank Corrected Pk Area (A-s): 0.000
ncentration (ug/L): 0.2

Auto-zero performed.

~~~~~~

Co ID: STD 1=25ug/L Seq. No.: 00006 A/S Pos.: 1 Date: 10/05/9

uL dispensed: 15 from 0, 5 from 40, 5 from 1
Replicate 1 Time: 19:29
Peak Area (A-s): 0.081 Peak Height (A): 0.108
Blank Corrected Pk Area (A-s): 0.075
Concentration (ug/L): 28.0

uL dispensed: 15 from 0, 5 from 40, 5 from 1
Replicate 2 (Peak Stored) Time: 19:31
Peak Area (A-s): 0.082 Peak Height (A): 0.113
Blank Corrected Pk Area (A-s): 0.077
Concentration (ug/L): 28.5

Mean Conc (ug/L): 28.3 SD: 0.34 RSD(%): 1.21

Standard number 1 applied. [25.0]
Correlation coefficient: 1.00000 Slope: 0.0030

~~~~~~

Co ID: STD 2=50ug/L Seq. No.: 00007 A/S Pos.: 1 Date: 10/05/9

uL dispensed: 10 from 0, 5 from 40, 10 from 1
Replicate 1 Time: 19:34
Peak Area (A-s): 0.154 Peak Height (A): 0.200
Blank Corrected Pk Area (A-s): 0.149
Concentration (ug/L): 48.9

uL dispensed: 10 from 0, 5 from 40, 10 from 1
Replicate 2 (Peak Stored) Time: 19:36
Peak Area (A-s): 0.155 Peak Height (A): 0.194
Blank Corrected Pk Area (A-s): 0.149
Concentration (ug/L): 49.1

Mean Conc (ug/L): 49.0 SD: 0.13 RSD(%): 0.27

Standard number 2 applied. [50.0]
Correlation coefficient: 1.00000 Slope: 0.0031

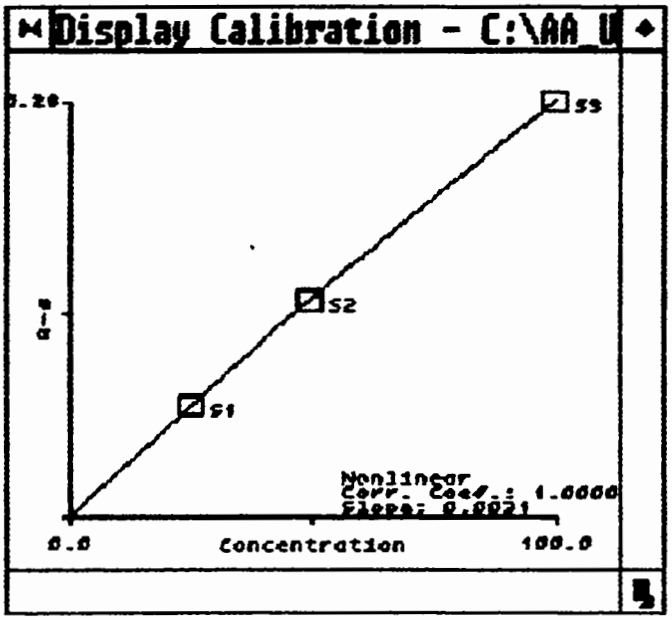
~~~~~~

Co ID: STD 3=100ug/L Seq. No.: 00008 A/S Pos.: 2 Date: 10/05/9

uL dispensed: 10 from 0, 5 from 40, 10 from 2
Replicate 1 Time: 19:39
Peak Area (A-s): 0.290 Peak Height (A): 0.341
Blank Corrected Pk Area (A-s): 0.285
Concentration (ug/L): 99.0

uL dispensed: 10 from 0, 5 from 40, 10 from 2
Replicate 2 (Peak Stored) Time: 19:41
Peak Area (A-s): 0.291 Peak Height (A): 0.343
Blank Corrected Pk Area (A-s): 0.285
Concentration (ug/L): 99.2
~~~~~~

tandard number 3 applied. [100.0]
orrelation coefficient: 1.00000 Slope: 0.0031



```
lement File: CO.GEL          Element: Co                    Wavelength: 240.7
ate: 10/05/97                Time: 20:13                    Slit: 0.20 L
ata File: EB163.DAT          ID/Wt File: EB163.IDW          Lamp Current: 30
echnique: HGA                Calib. Type: Nonlinear         Energy: 43
-------------------------------------------------------------------------------
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
o    ID: ICV=30ug/L          Seq. No.: 00009    A/S Pos.: 4     Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 4
eplicate  1                              Time: 20:15
eak Area (A-s): 0.097                    Peak Height (A): 0.128
lank Corrected Pk Area (A-s): 0.091
oncentration (ug/L  ): 30.1

L dispensed: 10 from 0, 5 from 40, 10 from 4
eplicate  2 (Peak Stored)                Time: 20:18
eak Area (A-s): 0.096                    Peak Height (A): 0.131
lank Corrected Pk Area (A-s): 0.091
oncentration (ug/L  ): 30.0

ean Conc  (ug/L  ):        30.1         SD: 0.08                  RSD(%): 0.26

C sample is within range 27.0 - 33.0

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
o    ID: ICB                 Seq. No.: 00010    A/S Pos.: 0     Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 0
eplicate  1                              Time: 20:20
eak Area (A-s): 0.007                    Peak Height (A): 0.018
lank Corrected Pk Area (A-s): 0.002
oncentration (ug/L  ): 0.6

L dispensed: 10 from 0, 5 from 40, 10 from 0
eplicate  2 (Peak Stored)                Time: 20:23
eak Area (A-s): 0.008                    Peak Height (A): 0.023
lank Corrected Pk Area (A-s): 0.002
oncentration (ug/L  ): 0.8

ean Conc  (ug/L  ):         0.7         SD: 0.07                  RSD(%): 10.54

C sample is within range -2.0 - 2.0

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o    ID: CHECK LO            Seq. No.: 00011    A/S Pos.: 6     Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 6
eplicate  1                              Time: 20:25
eak Area (A-s): 0.021                    Peak Height (A): 0.038
lank Corrected Pk Area (A-s): 0.016
oncentration (ug/L  ): 5.1

L dispensed: 10 from 0, 5 from 40, 10 from 6
eplicate  2 (Peak Stored)                Time: 20:28
eak Area (A-s): 0.023                    Peak Height (A): 0.037
lank Corrected Pk Area (A-s): 0.017
oncentration (ug/L  ): 5.7
```

ean Conc (ug/L): 0.4 SD: 0.42 RSD(%): 7.75

~~~~~~

o ID: 43159A MB Seq. No.: 00012 A/S Pos.: 7 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 7
eplicate 1 Time: 20:30
eak Area (A-s): 0.007 Peak Height (A): 0.017
lank Corrected Pk Area (A-s): 0.002
oncentration (ug/L): 0.6

L dispensed: 10 from 0, 5 from 40, 10 from 7
eplicate 2 (Peak Stored) Time: 20:33
eak Area (A-s): 0.006 Peak Height (A): 0.015
lank Corrected Pk Area (A-s): 0.000
oncentration (ug/L): 0.1

ean Conc (ug/L): 0.4 SD: 0.36 RSD(%): 95.88

~~~~~~

o ID: 43159A LCS Seq. No.: 00013 A/S Pos.: 8 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 8
eplicate 1 Time: 20:35
eak Area (A-s): 0.146 Peak Height (A): 0.180
lank Corrected Pk Area (A-s): 0.141
oncentration (ug/L): 47.0

L dispensed: 10 from 0, 5 from 40, 10 from 8
eplicate 2 (Peak Stored) Time: 20:38
eak Area (A-s): 0.162 Peak Height (A): 0.182
lank Corrected Pk Area (A-s): 0.156
oncentration (ug/L): 52.5

ean Conc (ug/L): 49.7 SD: 3.86 RSD(%): 7.77

~~~~~~

o ID: 182-30-1AB Seq. No.: 00014 A/S Pos.: 9 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 9
eplicate 1 Time: 20:41
eak Area (A-s): 0.026 Peak Height (A): 0.036
lank Corrected Pk Area (A-s): 0.020
oncentration (ug/L): 6.6

dispensed: 10 from 0, 5 from 40, 10 from 9
eplicate 2 (Peak Stored) Time: 20:43
eak Area (A-s): 0.024 Peak Height (A): 0.039
lank Corrected Pk Area (A-s): 0.019
oncentration (ug/L): 6.2

ean Conc (ug/L): 6.4 SD: 0.32 RSD(%): 4.98

~~~~~~

o ID: 182-30-1AB PDS Seq. No.: 00015 A/S Pos.: 9 Date: 10/05/97

dispensed: 5 from 0, 5 from 40, 5 from 1, 10 from 9
eplicate 1 Time: 20:46
eak Area (A-s): 0.090 Peak Height (A): 0.114

Blank Corrected Pk Area (A-s): 0.084
Concentration (ug/L): 27.8

uL dispensed: 5 from 0, 5 from 40, 5 from 1, 10 from 9
Replicate 2 (Peak Stored) Time: 20:48
Peak Area (A-s): 0.092 Peak Height (A): 0.116
Blank Corrected Pk Area (A-s): 0.087
Concentration (ug/L): 28.7

Mean Conc (ug/L): 28.3 SD: 0.63 RSD(%): 2.22

Recovery is 87.5% 6 10-7-97 CE

~~~~~~

Co ID: 182-30-1AB L 10-20-97 CE Seq. No.: 00016 A/S Pos.: 10 Date: 10/05/97

uL dispensed: 10 from 0, 5 from 40, 10 from 10
Replicate 1 Time: 20:51
Peak Area (A-s): 0.011 Peak Height (A): 0.022
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.7

uL dispensed: 10 from 0, 5 from 40, 10 from 10
Replicate 2 (Peak Stored) Time: 20:53
Peak Area (A-s): 0.010 Peak Height (A): 0.022
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.6

Mean Conc (ug/L): 1.6 SD: 0.12 RSD(%): 7.10

~~~~~~

Co ID: 182-30-1AB L NR Seq. No.: 00017 A/S Pos.: 10 Date: 10/05/97
10-7-97

uL dispensed: 5 from 0, 5 from 40, 5 from 1, 10 from 10
Replicate 1 Time: 20:56
Peak Area (A-s): 0.076 Peak Height (A): 0.099
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 23.2

uL dispensed: 5 from 0, 5 from 40, 5 from 1, 10 from 10
Replicate 2 (Peak Stored) Time: 20:59
Peak Area (A-s): 0.075 Peak Height (A): 0.095
Blank Corrected Pk Area (A-s): 0.070
Concentration (ug/L): 22.9

Mean Conc (ug/L): 23.0 SD: 0.22 RSD(%): 0.97

Recovery is 85.5%

~~~~~~

Co ID: 182-30-2AB 10-20-97 CE Seq. No.: 00018 A/S Pos.: 11 Date: 10/05/97

uL dispensed: 10 from 0, 5 from 40, 10 from 11
Replicate 1 Time: 21:01
Peak Area (A-s): 0.021 Peak Height (A): 0.031
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 5.2

uL dispensed: 10 from 0, 5 from 40, 10 from 11
~~~~~~

'eak Area (A-s): 0.019 Peak Height (A): 0.028
3lank Corrected Pk Area (A-s): 0.014
Concentration (ug/L): 4.4

lean Conc (ug/L): 4.8 SD: 0.54 RSD(%): 11.13

~~~~~~

:o ID: 182-30-3AB Seq. No.: 00019 A/S Pos.: 12 Date: 10/05/97

iL dispensed: 10 from 0, 5 from 40, 10 from 12
'eplicate 1 Time: 21:06
'eak Area (A-s): 0.018 Peak Height (A): 0.028
lank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 4.1

L dispensed: 10 from 0, 5 from 40, 10 from 12
'eplicate 2 (Peak Stored) Time: 21:09
'eak Area (A-s): 0.018 Peak Height (A): 0.029
lank Corrected Pk Area (A-s): 0.012
oncentration (ug/L): 4.0

ean Conc (ug/L): 4.1 SD: 0.07 RSD(%): 1.81

~~~~~~

o ID: 182-30-4AB ~~Seq. No.: 00020~~ A/S Pos.: 13 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 13
ample abs. is greater than that of the largest standard.
eplicate 1 Time: 21:11
eak Area (A-s): 0.491 Peak Height (A): 0.529
lank Corrected Pk Area (A-s): 0.486
oncentration (ug/L): 190.0

~~~~~~

o ID: 182-30-4AB Seq. No.: 00021 A/S Pos.: 13 Date: 10/05/97

L dispensed: 15 from 0, 5 from 40, 5 from 13
eplicate 1 Time: 21:13
eak Area (A-s): 0.306 Peak Height (A): 0.441
lank Corrected Pk Area (A-s): 0.301
oncentration (ug/L): 106.4 Corrected Conc (ug/L): 212.8

L dispensed: 15 from 0, 5 from 40, 5 from 13
eplicate 2 (Peak Stored) Time: 21:16
eak Area (A-s): 0.306 Peak Height (A): 0.318
lank Corrected Pk Area (A-s): 0.300
oncentration (ug/L): 106.0 Corrected Conc (ug/L): 212.0

ean Conc (ug/L): 106.2 SD: 0.25 RSD(%): 0.24
orrected Conc ~~(ug/L): 212.4~~

Needs dilution
AKH 10/5/97

~~~~~~

o ID: CCV=60ug/L Seq. No.: 00022 A/S Pos.: 5 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 5
eplicate 1 Time: 21:18
eak Area (A-s): 0.164 Peak Height (A): 0.207
lank Corrected Pk Area (A-s): 0.159

uL dispensed: 10 from 0, 5 from 40, 10 from 5
Replicate 2 (Peak Stored) Time: 21:21
Peak Area (A-s): 0.168 Peak Height (A): 0.207
Blank Corrected Pk Area (A-s): 0.163
Concentration (ug/L): 54.9

Mean Conc (ug/L): 54.1 SD: 1.10 RSD(%): 2.04

QC sample is within range 48.0 - 72.0

~~~~~~

Co ID: CCB Seq. No.: 00023 A/S Pos.: 0 Date: 10/05/97

uL dispensed: 10 from 0, 5 from 40, 10 from 0
Replicate 1 Time: 21:23
Peak Area (A-s): 0.008 Peak Height (A): 0.021
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.0

uL dispensed: 10 from 0, 5 from 40, 10 from 0
Replicate 2 (Peak Stored) Time: 21:26
Peak Area (A-s): 0.007 Peak Height (A): 0.022
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.6

Mean Conc (ug/L): 0.8 SD: 0.26 RSD(%): 31.65

QC sample is within range -2.0 - 2.0

~~~~~~

Co ID: 182-30-5AB (FG) 10-20-97 EC Seq. No.: 00024 A/S Pos.: 14 Date: 10/05/97

uL dispensed: 10 from 0, 5 from 40, 10 from 14
Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 21:28
Peak Area (A-s): 0.392 Peak Height (A): 0.390
Blank Corrected Pk Area (A-s): 0.387
Concentration (ug/L): 142.3

~~~~~~

Co ID: 182-30-5AB (FG) x2 10-7-97 EC Seq. No.: 00025 A/S Pos.: 14 Date: 10/05/97

uL dispensed: 15 from 0, 5 from 40, 5 from 14
Replicate 1 Time: 21:30
Peak Area (A-s): 0.249 Peak Height (A): 0.320
Blank Corrected Pk Area (A-s): 0.244
Concentration (ug/L): 84.3 Corrected Conc (ug/L): 168.6

uL dispensed: 15 from 0, 5 from 40, 5 from 14
Replicate 2 (Peak Stored) Time: 21:33
Peak Area (A-s): 0.239 Peak Height (A): 0.293
Blank Corrected Pk Area (A-s): 0.234
Concentration (ug/L): 80.4 Corrected Conc (ug/L): 160.8

Mean Conc (ug/L): 82.3 SD: 2.75 RSD(%): 3.34
Corrected Conc (ug/L): 164.7
~~~~~~

o ID: 182-30-6AB Seq. No.: 00026 A/S Pos.: 15 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 15
ample abs. is greater than that of the largest standard.
eplicate 1 Time: 21:35
eak Area (A-s): 0.445 Peak Height (A): 0.441
lank Corrected Pk Area (A-s): 0.439
oncentration (ug/L): 166.4

~~~~~~

o ID: 182-30-6AB x2 Seq. No.: 00027 A/S Pos.: 15 Date: 10/05/97

L dispensed: 15 from 0, 5 from 40, 5 from 15
eplicate 1 Time: 21:38
eak Area (A-s): 0.276 Peak Height (A): 0.369
lank Corrected Pk Area (A-s): 0.270
oncentration (ug/L): 94.3 Corrected Conc (ug/L): 188.6

L dispensed: 15 from 0, 5 from 40, 5 from 15
eplicate 2 (Peak Stored) Time: 21:40
eak Area (A-s): 0.270 Peak Height (A): 0.326
lank Corrected Pk Area (A-s): 0.265
oncentration (ug/L): 92.1 Corrected Conc (ug/L): 184.3

ean Conc (ug/L): 93.2 SD: 1.52 RSD(%): 1.63
orrected Conc (ug/L): 186.4

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o ID: 182-30-7AB Seq. No.: 00028 A/S Pos.: 16 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 16
eplicate 1 Time: 21:42
eak Area (A-s): 0.012 Peak Height (A): 0.025
lank Corrected Pk Area (A-s): 0.007
oncentration (ug/L): 2.3

L dispensed: 10 from 0, 5 from 40, 10 from 16
eplicate 2 (Peak Stored) Time: 21:45
eak Area (A-s): 0.011 Peak Height (A): 0.021
lank Corrected Pk Area (A-s): 0.006
oncentration (ug/L): 1.9

ean Conc (ug/L): 2.1 SD: 0.25 RSD(%): 11.82

~~~~~~

o ID: 182-30-8AB, 10A Seq. No.: 00029 A/S Pos.: 17 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 17
eplicate 1 Time: 21:47
eak Area (A-s): 0.015 Peak Height (A): 0.028
lank Corrected Pk Area (A-s): 0.009
oncentration (ug/L): 3.0

L dispensed: 10 from 0, 5 from 40, 10 from 17
eplicate 2 (Peak Stored) Time: 21:50
eak Area (A-s): 0.016 Peak Height (A): 0.027
lank Corrected Pk Area (A-s): 0.011
oncentration (ug/L): 3.6
~~~~~~

Co ID: 182-30-9AB Seq. No.: 00030 A/S Pos.: 18 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 18
Replicate 1 Time: 21:52
Peak Area (A-s): 0.016 Peak Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 3.3

µL dispensed: 10 from 0, 5 from 40, 10 from 18
Replicate 2 (Peak Stored) Time: 21:54
Peak Area (A-s): 0.013 Peak Height (A): 0.031
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 2.5

Mean Conc (ug/L): 2.9 SD: 0.62 RSD(%): 21.15

Co ID: 182-30-11AB Seq. No.: 00031 A/S Pos.: 19 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 19
Replicate 1 Time: 21:57
Peak Area (A-s): 0.042 Peak Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.036
Concentration (ug/L): 11.8

µL dispensed: 10 from 0, 5 from 40, 10 from 19
Replicate 2 (Peak Stored) Time: 21:59
Peak Area (A-s): 0.039 Peak Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 10.8

Mean Conc (ug/L): 11.3 SD: 0.70 RSD(%): 6.17

Co ID: 182-30-12AB Seq. No.: 00032 A/S Pos.: 20 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 20
Replicate 1 Time: 22:02
Peak Area (A-s): 0.013 Peak Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 2.3

µL dispensed: 10 from 0, 5 from 40, 10 from 20
Replicate 2 (Peak Stored) Time: 22:04
Peak Area (A-s): 0.015 Peak Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 3.0

Mean Conc (ug/L): 2.7 SD: 0.51 RSD(%): 19.04

Co ID: 182-30-13AB Seq. No.: 00033 A/S Pos.: 21 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 21
Replicate 1 Time: 22:06
Peak Area (A-s): 0.013 Peak Height (A): 0.020

oncentration (ug/L): 2.3

dispensed: 10 from 0, 5 from 40, 10 from 21
eplicate 2 (Peak Stored) Time: 22:09
eak Area (A-s): 0.013 Peak Height (A): 0.021
lank Corrected Pk Area (A-s): 0.008
oncentration (ug/L): 2.5

ean Conc (ug/L): 2.4 SD: 0.10 RSD(%): 3.98

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o ID: CCV=60ug/L Seq. No.: 00034 A/S Pos.: 5 Date: 10/05/97

dispensed: 10 from 0, 5 from 40, 10 from 5
eplicate 1 Time: 22:11
eak Area (A-s): 0.170 Peak Height (A): 0.211
lank Corrected Pk Area (A-s): 0.164
oncentration (ug/L): 55.3

dispensed: 10 from 0, 5 from 40, 10 from 5
eplicate 2 (Peak Stored) Time: 22:14
eak Area (A-s): 0.167 Peak Height (A): 0.202
lank Corrected Pk Area (A-s): 0.162
oncentration (ug/L): 54.5

ean Conc (ug/L): 54.9 SD: 0.58 RSD(%): 1.05

C sample is within range 48.0 - 72.0

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o ID: CCB Seq. No.: 00035 A/S Pos.: 0 Date: 10/05/97

dispensed: 10 from 0, 5 from 40, 10 from 0
eplicate 1 Time: 22:16
eak Area (A-s): 0.010 Peak Height (A): 0.019
lank Corrected Pk Area (A-s): 0.005
oncentration (ug/L): 1.6

L dispensed: 10 from 0, 5 from 40, 10 from 0
eplicate 2 (Peak Stored) Time: 22:19
eak Area (A-s): 0.008 Peak Height (A): 0.030
lank Corrected Pk Area (A-s): 0.003
oncentration (ug/L): 1.0

ean Conc (ug/L): 1.3 SD: 0.45 RSD(%): 35.75

C sample is within range -2.0 - 2.0

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o ID: 182-30-14AB Seq. No.: 00036 A/S Pos.: 22 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 22
eplicate 1 Time: 22:21
eak Area (A-s): 0.012 Peak Height (A): 0.025
lank Corrected Pk Area (A-s): 0.006
oncentration (ug/L): 2.1

L dispensed: 10 from 0, 5 from 40, 10 from 22
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Peak Area (A-s): 0.013 Peak Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 2.4

Mean Conc (ug/L): 2.2 SD: 0.24 RSD(%): 10.93

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Co ID: 182-30-15B Seq. No.: 00037 A/S Pos.: 23 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 23
Replicate 1 Time: 22:26
Peak Area (A-s): 0.007 Peak Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.7

µL dispensed: 10 from 0, 5 from 40, 10 from 23
Replicate 2 (Peak Stored) Time: 22:29
Peak Area (A-s): 0.009 Peak Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.1

Mean Conc (ug/L): 0.9 SD: 0.31 RSD(%): 33.87

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Co ID: 182-30-15C Seq. No.: 00038 A/S Pos.: 24 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 24
Replicate 1 Time: 22:31
Peak Area (A-s): 0.010 Peak Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.5

µL dispensed: 10 from 0, 5 from 40, 10 from 24
Replicate 2 (Peak Stored) Time: 22:34
Peak Area (A-s): 0.007 Peak Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.6

Mean Conc (ug/L): 1.1 SD: 0.61 RSD(%): 57.63

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Co ID: CCV=60ug/L Seq. No.: 00039 A/S Pos.: 5 Date: 10/05/9

µL dispensed: 10 from 0, 5 from 40, 10 from 5
Replicate 1 Time: 22:36
Peak Area (A-s): 0.208 Peak Height (A): 0.254
Blank Corrected Pk Area (A-s): 0.203
Concentration (ug/L): 69.2

µL dispensed: 10 from 0, 5 from 40, 10 from 5
Replicate 2 (Peak Stored) Time: 22:39
Peak Area (A-s): 0.174 Peak Height (A): 0.207
Blank Corrected Pk Area (A-s): 0.169
Concentration (ug/L): 57.0

Mean Conc (ug/L): 63.0 SD: 8.64 RSD(%): 13.70

QC sample is within range 48.0 - 72.0
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o ID: CCB Seq. No.: 00040 A/S Pos.: 0 Date: 10/05/97

L dispensed: 10 from 0, 5 from 40, 10 from 0
eplicate 1 Time: 22:41
eak Area (A-s): 0.017 Peak Height (A): 0.025
lank Corrected Pk Area (A-s): 0.012
oncentration (ug/L): 3.9

. dispensed: 10 from 0, 5 from 40, 10 from 0
eplicate 2 (Peak Stored) Time: 22:44
eak Area (A-s): 0.010 Peak Height (A): 0.025
lank Corrected Pk Area (A-s): 0.004
oncentration (ug/L): 1.4

ean Conc (ug/L): 2.6 SD: 1.79 RSD(%): 67.71

: sample is out of range -2.0 - 2.0

NIV Reanalyzed mlct 10/5/97

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) ID: CCB Seq. No.: 00041 A/S Pos.: 0 Date: 10/05/97

. dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 1 Time: 23:10
ak Area (A-s): 0.007 Peak Height (A): 0.017
ank Corrected Pk Area (A-s): 0.001
ncentration (ug/L): 0.4

dispensed: 10 from 0, 5 from 40, 10 from 0
plicate 2 (Peak Stored) Time: 23:12
ak Area (A-s): 0.007 Peak Height (A): 0.018
ank Corrected Pk Area (A-s): 0.002
ncentration (ug/L): 0.6

an Conc (ug/L): 0.5 SD: 0.12 RSD(%): 24.71

sample is within range -2.0 - 2.0

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ID: CHECK LO Seq. No.: 00042 A/S Pos.: 6 Date: 10/05/97

dispensed: 10 from 0, 5 from 40, 10 from 6
plicate 1 Time: 23:15
ak Area (A-s): 0.021 Peak Height (A): 0.039
ank Corrected Pk Area (A-s): 0.015
ncentration (ug/L): 5.0

Co   ID: 182-30-4AB X10   Seq. No.: 00043   A/S Pos.: 13   Date: 10/05/9

uL dispensed: 10 from 0, 5 from 40, 10 from 13
Replicate 1   Time: 23:54
Peak Area (A-s): 0.090   Peak Height (A): 0.151
Blank Corrected Pk Area (A-s): 0.085
Concentration (ug/L): 27.9

uL dispensed: 10 from 0, 5 from 40, 10 from 13
Replicate 2 (Peak Stored)   Time: 23:57
Peak Area (A-s): 0.101   Peak Height (A): 0.184
Blank Corrected Pk Area (A-s): 0.095
Concentration (ug/L): 31.5

Mean Conc (ug/L): 29.7   SD: 2.55   RSD(%): 8.59

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Co   ID: CCV=60ug/L   Seq. No.: 00044   A/S Pos.: 5   Date: 10/05/97

uL dispensed: 10 from 0, 5 from 40, 10 from 5
Replicate 1   Time: 23:59
Peak Area (A-s): 0.162   Peak Height (A): 0.205
Blank Corrected Pk Area (A-s): 0.157
Concentration (ug/L): 52.7

uL dispensed: 10 from 0, 5 from 40, 10 from 5
Replicate 2 (Peak Stored)   Time: 00:02
Peak Area (A-s): 0.163   Peak Height (A): 0.208
Blank Corrected Pk Area (A-s): 0.157
Concentration (ug/L): 52.9

Mean Conc (ug/L): 52.8   SD: 0.13   RSD(%): 0.25

QC sample is within range 48.0 - 72.0

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Co   ID: CCB   Seq. No.: 00045   A/S Pos.: 0   Date: 10/06/97

uL dispensed: 10 from 0, 5 from 40, 10 from 0
Replicate 1   Time: 00:04
Peak Area (A-s): 0.007   Peak Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.6

uL dispensed: 10 from 0, 5 from 40, 10 from 0
Replicate 2 (Peak Stored)   Time: 00:07
Peak Area (A-s): 0.008   Peak Height (A): 0.020
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.0

Mean Conc (ug/L): 0.8   SD: 0.23   RSD(%): 28.84

QC sample is within range -2.0 - 2.0

/Weight File: ABS10.IDW Analyst: RICHARDS
mple Volume: 100 mL Nominal Weight: 1.0 g

t|g

Loc.	Sample ID	Weight	Dilution
0	STD BLK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43159A MB1		
11	43159A MB1 D		
12	43159A LCS1		
13	43159A LCS1 D 10-7-97 CC		
14	182-30-1GAB		
15	182-30-1GAB D		
16	182-30-1GAB MS		
17	182-30-1GAB MSD		
18	CCV1=6.0ug/L		
19	CCB1		
20	182-30-2GAB		
21	182-30-2GAB D		
22	182-30-3GAB		
23	182-30-3GAB D		
24	182-30-4FAB		
25	182-30-4FAB D		
26	182-30-5FGAB		
27	182-30-5FGAB D		
28	182-30-6FGAB		
29	182-30-6FGAB D		
30	CCV2=6.0ug/L		
31	CCB2		
32	182-30-7CAB		
33	182-30-7CAB D		
34	182-30-~~8B10:1GA~~ 8AB,10A 10-6-97 CC		
35	182-30-~~8B10:1GA~~D 8AB,10A D		
36	182-30-9CAB		
37	182-30-9CAB D		
38	182-30-9CAB MS		
39	182-30-9CAB MSD		
40	182-30-11CAB		
41	182-30-11CAB D		
42	CCV3=6.0ug/L		
43	CCB3		
44	182-30-12CAB		
45	182-30-12CAB D		
46	182-30-13CAB		
47	182-30-13CAB D		
48	182-30-14GAB		
49	182-30-14GAB D		
50	182-30-1C		
51	182-30-1C D		
52	182-30-2C		
53	182-30-2C D		

3-018-3 9/26/97 MR

3-018-4 9/26/97 MR

3-018-4 9/26/97 MR

3-018-4 9/26/97 MR

3-018-4 9/26/97 MR

Loc.	Sample ID	Weight	Dilution	
54	CCV4=6.0ug/L		3-018-4	9/26/97 MR
55	CCB4			
56	182-30-3C			
57	182-30-3C D			
58	182-58-1			
59	182-58-1 D			
60	182-58-1 MS			
61	182-58-1 MSD			
62	182-58-2			
63	182-58-2 D			
64	182-58-3			
65	182-58-3 D			
66	CCV5=6.0ug/L		3-018-4	9/26/97 MR
67	CCB5			
68	182-30-11D			
69	182-30-11D D			
70	182-30-12D			
71	182-30-12D D			
72	182-30-13D			
73	182-30-13D D			
74	182-30-1D			
75	182-30-1D D			
76	182-30-1E			
77	182-30-1E D			
78	CCV6=6.0ug/L		3-018-4	9/26/97 MR
79	CCB6			
80	182-30-1F			
81	182-30-1F D			
82	182-30-1F MS			
83	182-30-1F MSD			
84	182-30-2D			
85	182-30-2D D			
86	182-30-2E			
87	182-30-2E D			
88	182-30-2F			
89	182-30-2F D			
90	CCV7=6.0ug/L		3-018-4	9/26/97 MR
91	CCB7			
92	182-30-3D			
93	182-30-3D D			
94	182-30-3E			
95	182-30-3E D			
96	182-30-3F			
97	182-30-3F D			
98	182-30-4C			
99	182-30-4C D			
100	182-30-4D			
101	182-30-4D D			
102	CCV8=6.0ug/L			
103	CCB8			
104	182-30-4D MS			
105	182-30-4D MSD			
106	182-30-4E			
107	182-30-4E D			
108	182-30-5C			
109	182-30-5C D			

Loc.	Sample ID	Weight	Dilution
110	182-30-5D		
111	182-30-5D D		
112	182-30-5E		
113	182-30-5E D		
114	CCV9=6.0ug/L	3-018-4	9/26/97 mR
115	CCB9		
116	182-30-6C		
117	182-30-6C D		
118	182-30-6D		
119	182-30-6D D		
120	182-30-6E		
121	182-30-6E D		
122	182-30-11E		
123	182-30-11E D		
124	CCV10=6.0ug/L	3-018-4	9/26/97 mR
125	CCB10		
126	43159A MB2		
127	43159A MB2 D		
128	43159A LCS2	10-7-97 cc	
129	43159A LCS2 D	10-7-97 cc	
130	182-30-11F		
131	182-30-11F D		
132	182-30-11F MS		
133	182-30-11F MSD		
134	CCV1=6.0ug/L	3-018-4	9/26/97 mR
135	CCB1		
136	182-30-11G		
137	182-30-11G D		
138	182-30-12E		
139	182-30-12E D		
140	182-30-12F		
141	182-30-12F D		
142	182-30-12G		
143	182-30-12G D		
144	182-30-13E		
145	182-30-13E D		
146	CCV2=6.0ug/L	3-018-4	9/26/97 mR
147	CCB2		
148	182-30-13F		
149	182-30-13F D		
150	182-30-13G		
151	182-30-13G D		
152	182-30-8A		
153	182-30-8A D		
154	182-30-8D-15C		
155	182-30-8D-15C D		
156	182-30-14E		
157	182-30-14E D		
158	CCV3=6.0ug/L	3-018-4	9/26/97 mR
159	CCB3		
160	182-30-7F		
161	182-30-7F D		
162	182-30-8DE15C		
163	182-30-8DE15C D		
164	182-30-9FG15B		
165	182-30-9FG15B D		

.oc.	Sample ID	Weight	Dilution
66	182-30-7FG		
67	182-30-7FG D		
68	182-30-14EF		
69	182-30-14EF D		
70	CCV4=6.0ug/L	3-018-4	9/26/97 ME
71	CCB4		
72	182-30-13G MS		
73	182-30-13G MSD		
74	182-30-9F15B		
75	182-30-9F15B D		
76	CCV5=6.0ug/L	3-018-4	9/26/97 ME
77	CCB5		

Element File: HG_.ME
Element: Hg2
Print Data: Main+Suppl.
Print: Calib. Curve
Remarks:
STANDARDS= 3-018-3
QC= 3-018-4

Analyst: RICHARDS
Peak Storage: None

MR 9/26/97 Hg

INSTRUMENT: 5100
Wavelength: 253.7 Peak
Signal Type: AA
Read Time: 30.0
Sample Replicates: 1
Standard Replicates: 1

Technique: MHS
Slit: 0.7 Low
Signal Measurement: Peak Height (5)
Read Delay: 1.0

Version: 7.01
BOC Time: 2

FLAME:
Flame Type: Air
Oxidant Flow: 10.0 L/min

Flame Sensor: On
Fuel Flow: 2.0 L/min

CALIBRATION:

Solutions	ID	Conc
Calib. Blank	STD BLK	----------
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L
Calibration Type: Linear

Sample Units: ug/L

QC:
Matrix Check Calculations:
Difference for Dupls: No Locations:
Recovery for Spike: No Locations: Conc:

Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 09/26/97 Time: 09:35 Slit: 0.7 L
Data File: AB810.DAT ID/Wt File: AB810.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 72
Remark 1: STANDARDS= 3-018-3
Remark 2: QC= 3-018-4

Hg2 ID: STD BLK Seq. No.: 00003 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 09:36
Peak Area (A-s): -0.005 Peak Height (A): -0.001
Blank Corrected Pk Height (A): -0.001
Concentration (ug/L): -0.022

Auto-zero performed.

Hg2 ID: STD1=0.2ug/L Seq. No.: 00004 A/S Pos.: -- Date: 09/26/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:38
Peak Area (A-s): 0.170 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007
Concentration (ug/L): 0.222

Standard number 1 applied. [0.200]
Correlation coefficient: 1.00000 Slope: 0.0351

Hg2 ID: STD2=0.5ug/L Seq. No.: 00005 A/S Pos.: -- Date: 09/26/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:39
Peak Area (A-s): 0.431 Peak Height (A): 0.018
Blank Corrected Pk Height (A): 0.018
Concentration (ug/L): 0.511

Standard number 2 applied. [0.500]
Correlation coefficient: 0.99981 Slope: 0.0358

Hg2 ID: STD3=1.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 09/26/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:40
Peak Area (A-s): 0.856 Peak Height (A): 0.036
Blank Corrected Pk Height (A): 0.036
Concentration (ug/L): 1.017

Standard number 3 applied. [1.000]
Correlation coefficient: 0.99988 Slope: 0.0363

Hg2 ID: STD4=2.0ug/L Seq. No.: 00007 A/S Pos.: -- Date: 09/26/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:42

eak Area (A-s): 1.748 Peak Height (A): 0.075
lank Corrected Pk Height (A): 0.075
oncentration (ug/L): 2.054

tandard number 4 applied. [2.000]
orrelation coefficient: 0.99979 Slope: 0.0370

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g2 ID: STD5=5.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 09/26/97

ample abs. is greater than that of the largest standard.
eplicate 1 Time: 09:43
eak Area (A-s): 4.485 Peak Height (A): 0.199
lank Corrected Pk Height (A): 0.199
oncentration (ug/L): 5.372

andard number 5 applied. [5.000]
orrelation coefficient: 0.99927 Slope: 0.0393

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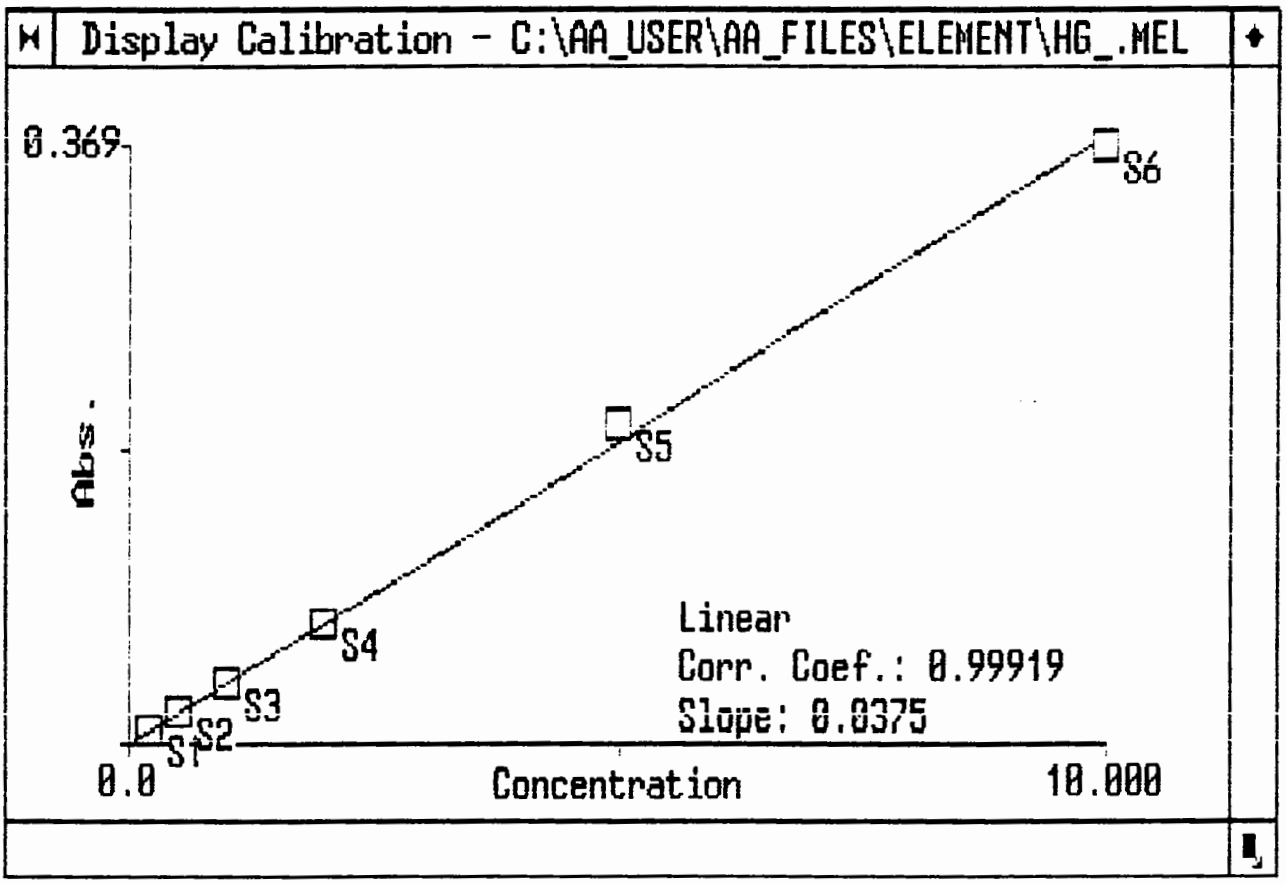
2 ID: STD6=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 09/26/97

mple abs. is greater than that of the largest standard
plicate 1 Time: 09:44
ak Area (A-s): 8.597 Peak Height (A): 0.369
ank Corrected Pk Height (A): 0.369
ncentration (ug/L): 9.391

andard number 6 applied. [10.000]
rrelation coefficient: 0.99919 Slope: 0.0375

Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 09/26/97 Time: 09:45 Slit: 0.7 L
Data File: AB810.DAT ID/Wt File: AB810.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 72
Remark 1: STANDARDS= 3-018-3
Remark 2: QC= 3-018-4



g2 ID: ICV=4.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 09:48
eak Area (A-s): 3.485 Peak Height (A): 0.148
Lank Corrected Pk Height (A): 0.148
oncentration (ug/L): 3.954

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12 ID: ICB Seq. No.: 00011 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 09:49
eak Area (A-s): 0.016 Peak Height (A): 0.001
.ank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.016

---

2 ID: CHECK LO Seq. No.: 00012 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 09:50
ak Area (A-s): 0.187 Peak Height (A): 0.007
ank Corrected Pk Height (A): 0.007
ncentration (ug/L): 0.193

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2 ID: 43159A MB1 Seq. No.: 00013 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 09:51
ak Area (A-s): 0.007 Peak Height (A): 0.000
ank Corrected Pk Height (A): 0.000
ncentration (ug/L): 0.000

---

2 ID: 43159A MB1 D Seq. No.: 00014 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 09:52
ak Area (A-s): 0.002 Peak Height (A): 0.000
ank Corrected Pk Height (A): 0.000
ncentration (ug/L): 0.000

ID: 43159A LCS1 Seq. No.: 00015 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 09:53
.k Area (A-s): 4.235 Peak Height (A): 0.178
.nk Corrected Pk Height (A): 0.178
centration (ug/L): 4.756

ID: 43159ALCS1 D Seq. No.: 00016 A/S Pos.: -- Date: 09/26/97
10-1-97 ec

licate 1 Time: 09:55
k Area (A-s): 4.435 Peak Height (A): 0.189
nk Corrected Pk Height (A): 0.189
centration (ug/L): 5.032

ID: 182-30-1GAB Seq. No.: 00017 A/S Pos.: -- Date: 09/26/97

[redacted]eplicate 1 Time: 09:56
Peak Area (A-s): 0.056 Peak Height (A): 0.002
[redacted]ank Corrected Pk Height (A): 0.002
[redacted]ncentration (ug/L): 0.053

[redacted]2 ID: 182-30-1GAB D Seq. No.: 00018 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 09:57
[redacted]ak Area (A-s): 0.041 Peak Height (A): 0.002
[redacted]ank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.040

[redacted]

Hg2 ID: 182-30-1GAB MS Seq. No.: 00019 A/S Pos.: -- Date: 09/26/97

[redacted]plicate 1 Time: 09:58
[redacted]ak Area (A-s): 4.386 Peak Height (A): 0.186
Blank Corrected Pk Height (A): 0.186
[redacted]ncentration (ug/L): 4.960

[redacted]2 ID: 182-30-1GAB MSD Seq. No.: 00020 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:00
Peak Area (A-s): 4.104 Peak Height (A): 0.172
[redacted]ank Corrected Pk Height (A): 0.172
Concentration (ug/L): 4.588

[redacted]2 ID: CCV1=6.0ug/L Seq. No.: 00021 A/S Pos.: -- Date: 09/26/97

[redacted]plicate 1 Time: 10:00
[redacted]ak Area (A-s): 4.916 Peak Height (A): 0.214
Blank Corrected Pk Height (A): 0.214
Concentration (ug/L): 5.708

[redacted]

Hg2 ID: CCB1 Seq. No.: 00022 A/S Pos.: -- Date: 09/26/97

[redacted]plicate 1 Time: 10:02
Peak Area (A-s): 0.029 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
[redacted]ncentration (ug/L): 0.016

H[redacted]2 ID: 182-30-2GAB Seq. No.: 00023 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:03
P[redacted]ak Area (A-s): 0.023 Peak Height (A): 0.001
B[redacted]ank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.013

[redacted]

Hg2 ID: 182-30-2GAB D Seq. No.: 00024 A/S Pos.: -- Date: 09/26/97

R[redacted]plicate 1 Time: 10:04
P[redacted]k Area (A-s): 0.020 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001

[redacted]

:oncentration (ug/L): 0.016

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lg2 ID: 182-30-3GAB Seq. No.: 00025 A/S Pos.: -- Date: 09/26/97

:eplicate 1 Time: 10:05
eak Area (A-s): 0.023 Peak Height (A): 0.001
:lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.024

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g2 ID: 182-30-3GAB D Seq. No.: 00026 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 10:06
eak Area (A-s): 0.018 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.019

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g2 ID: 182-30-4FAB Seq. No.: 00027 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 10:07
eak Area (A-s): 0.597 Peak Height (A): 0.025
lank Corrected Pk Height (A): 0.025
oncentration (ug/L): 0.663

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:2 ID: 182-30-4FAB D Seq. No.: 00028 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 10:08
ak Area (A-s): 0.597 Peak Height (A): 0.025
ank Corrected Pk Height (A): 0.025
ncentration (ug/L): 0.660

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2 ID: 182-30-5FGAB Seq. No.: 00029 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 10:10
ak Area (A-s): 0.197 Peak Height (A): 0.008
ank Corrected Pk Height (A): 0.008
ncentration (ug/L): 0.211

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2 ID: 182-30-5FGAB D Seq. No.: 00030 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 10:11
ak Area (A-s): 0.191 Peak Height (A): 0.008
ank Corrected Pk Height (A): 0.008
ncentration (ug/L): 0.211

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? ID: 182-30-6FGAB Seq. No.: 00031 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 10:13
k Area (A-s): 0.177 Peak Height (A): 0.007
nk Corrected Pk Height (A): 0.007
centration (ug/L): 0.193
~~~~~~

Hg2 ID: 182-30-6FGAB D Seq. No.: 00032 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:14
Peak Area (A-s): 0.166 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007
Concentration (ug/L): 0.184

Hg2 ID: CCV2=6.0ug/L Seq. No.: 00033 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:15
Peak Area (A-s): 5.032 Peak Height (A): 0.221
Blank Corrected Pk Height (A): 0.221
Concentration (ug/L): 5.890

Hg2 ID: CCB2 Seq. No.: 00034 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:19
Peak Area (A-s): 0.007 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: 182-30-7CAB Seq. No.: 00035 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:21
Peak Area (A-s): 0.006 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg2 ID: 182-30-7CAB D Seq. No.: 00036 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:22
Peak Area (A-s): 0.003 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg2 ID: 182-30-~~8B10A8A~~ 8A8,10A Seq. No.: 00037 A/S Pos.: -- Date: 09/26/97
10-7-97 CC

Replicate 1 Time: 10:23
Peak Area (A-s): 0.003 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.008

Hg2 ID: 182-30-~~8B10A8 D~~ 8A8,10A Seq. No.: 00038 A/S Pos.: -- Date: 09/26/97
10-7-97 CC

Replicate 1 Time: 10:24
Peak Area (A-s): 0.003 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

Hg2 ID: 182-30-9CAB Seq. No.: 00039 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:25
Peak Area (A-s): 0.010 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.011

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Hg2 ID: 182-30-9CAB D Seq. No.: 00040 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:26
Peak Area (A-s): 0.011 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

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Hg2 ID: 182-30-9CAB MS Seq. No.: 00041 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:27
Peak Area (A-s): 0.010 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.013

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Hg2 ID: 182-30-9CAB MS Seq. No.: 00042 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:38
Peak Area (A-s): 4.427 Peak Height (A): 0.189
Blank Corrected Pk Height (A): 0.189
Concentration (ug/L): 5.034

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Hg2 ID: 182-30-9CAB MSD Seq. No.: 00043 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:39
Peak Area (A-s): 4.434 Peak Height (A): 0.194
Blank Corrected Pk Height (A): 0.194
Concentration (ug/L): 5.176

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Hg2 ID: 182-30-11CAB Seq. No.: 00044 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:40
Peak Area (A-s): 0.022 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

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Hg2 ID: 182-30-11CAB D Seq. No.: 00045 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:41
Peak Area (A-s): 0.012 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

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Hg2 ID: CCV3=6.0ug/L Seq. No.: 00046 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:42
Peak Area (A-s): 4.902 Peak Height (A): 0.213
Blank Corrected Pk Height (A): 0.213
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Concentration (ug/L): 5.668

Hg ID: CCB3 Seq. No.: 00047 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:43
Peak Area (A-s): 0.022 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.021

Hg2 ID: 182-30-12CAB Seq. No.: 00048 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:44
Peak Area (A-s): 0.013 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.008

Hg ID: 182-30-12CAB D Seq. No.: 00049 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:45
Peak Area (A-s): 0.012 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.013

Hg2 ID: 182-30-13CAB Seq. No.: 00050 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:47
Peak Area (A-s): 0.007 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 182-30-13CAB D Seq. No.: 00051 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:47
Peak Area (A-s): 0.007 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg ID: 182-30-14GAB Seq. No.: 00052 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:49
Peak Area (A-s): 0.007 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.011

Hg2 ID: 182-30-14GAB D Seq. No.: 00053 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:50
Peak Area (A-s): 0.004 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: 182-30-1C Seq. No.: 00054 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:51
Peak Area (A-s): 0.887 Peak Height (A): 0.037
Blank Corrected Pk Height (A): 0.037
Concentration (ug/L): 0.995

Hg2 ID: 182-30-1C D Seq. No.: 00055 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:52
Peak Area (A-s): 0.909 Peak Height (A): 0.038
Blank Corrected Pk Height (A): 0.038
Concentration (ug/L): 1.003

Hg2 ID: 182-30-2C Seq. No.: 00056 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:53
Peak Area (A-s): 0.837 Peak Height (A): 0.035
Blank Corrected Pk Height (A): 0.035
Concentration (ug/L): 0.941

Hg2 ID: 182-30-2C D Seq. No.: 00057 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:54
Peak Area (A-s): 0.765 Peak Height (A): 0.032
Blank Corrected Pk Height (A): 0.032
Concentration (ug/L): 0.845

Hg2 ID: CCV4=6.0ug/L Seq. No.: 00058 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:55
Peak Area (A-s): 4.943 Peak Height (A): 0.211
Blank Corrected Pk Height (A): 0.211
Concentration (ug/L): 5.625

Hg2 ID: CCB4 Seq. No.: 00059 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:56
Peak Area (A-s): 0.027 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.029

Hg2 ID: 182-30-3C Seq. No.: 00060 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 10:58
Peak Area (A-s): 0.909 Peak Height (A): 0.038
Blank Corrected Pk Height (A): 0.038
Concentration (ug/L): 1.021

Hg2 ID: 182-30-3C D Seq. No.: 00061 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:05
eak Area (A-s): 0.857 Peak Height (A): 0.038
lank Corrected Pk Height (A): 0.038
oncentration (ug/L): 1.024

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g1 ID: 182-58-1 Seq. No.: 00062 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:06
ea Area (A-s): 0.203 Peak Height (A): 0.008
lank Corrected Pk Height (A): 0.008
oncentration (ug/L): 0.222

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g2 ID: 182-58-1 D Seq. No.: 00063 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:07
eak Area (A-s): 0.197 Peak Height (A): 0.008
lank Corrected Pk Height (A): 0.008
oncentration (ug/L): 0.211

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g1 ID: 182-58-1 MS Seq. No.: 00064 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:09
ea Area (A-s): 4.503 Peak Height (A): 0.194
lank Corrected Pk Height (A): 0.194
oncentration (ug/L): 5.176

---

g2 ID: 182-58-1 MSD Seq. No.: 00065 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:10
ea Area (A-s): 4.313 Peak Height (A): 0.185
lank Corrected Pk Height (A): 0.185
oncentration (ug/L): 4.920

---

g2 ID: 182-58-2 Seq. No.: 00066 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:11
eak Area (A-s): 0.237 Peak Height (A): 0.010
lank Corrected Pk Height (A): 0.010
oncentration (ug/L): 0.257

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g2 ID: 182-58-2 D Seq. No.: 00067 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:12
ea Area (A-s): 0.216 Peak Height (A): 0.009
lank Corrected Pk Height (A): 0.009
oncentration (ug/L): 0.235

---

2 ID: 182-58-3 Seq. No.: 00068 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 11:14
ea Area (A-s): 0.425 Peak Height (A): 0.018
ank Corrected Pk Height (A): 0.018

Concentration (ug/L): 0.471

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Hg2 ID: 182-58-3 D Seq. No.: 00069 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:15
Peak Area (A-s): 0.394 Peak Height (A): 0.016
Blank Corrected Pk Height (A): 0.016
Concentration (ug/L): 0.436

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Hg2 ID: CCV5=6.0ug/L Seq. No.: 00070 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:16
Peak Area (A-s): 4.782 Peak Height (A): 0.203
Blank Corrected Pk Height (A): 0.203
Concentration (ug/L): 5.417

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Hg2 ID: CCB5 Seq. No.: 00071 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:17
Peak Area (A-s): 0.026 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.040

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Hg2 ID: 182-30-11D Seq. No.: 00072 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:19
Peak Area (A-s): 0.050 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.051

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Hg2 ID: 182-30-11D D Seq. No.: 00073 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:20
Peak Area (A-s): 0.034 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.035

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Hg2 ID: 182-30-12D Seq. No.: 00074 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:22
Peak Area (A-s): 0.037 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.040

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Hg2 ID: 182-30-12D D Seq. No.: 00075 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:23
Peak Area (A-s): 0.041 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.043
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Hg2 ID: 182-30-13D Seq. No.: 00076 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:24
Peak Area (A-s): 0.040 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.045

Hg ID: 182-30-13D D Seq. No.: 00077 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:25
Peak Area (A-s): 0.038 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.035

Hg2 ID: 182-30-1D Seq. No.: 00078 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:26
Peak Area (A-s): 0.014 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

g2 ID: 182-30-1D D Seq. No.: 00079 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:27
eak Area (A-s): 0.012 Peak Height (A): 0.000
lank Corrected Pk Height (A): 0.000
oncentration (ug/L): 0.008

g2 ID: 182-30-1E Seq. No.: 00080 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:29
eak Area (A-s): 2.001 Peak Height (A): 0.083
lank Corrected Pk Height (A): 0.083
oncentration (ug/L): 2.224

g2 ID: 182-30-1E D Seq. No.: 00081 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:30
eak Area (A-s): 2.022 Peak Height (A): 0.085
lank Corrected Pk Height (A): 0.085
oncentration (ug/L): 2.267

2 ID: CCV6=6.0ug/L Seq. No.: 00082 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 11:31
ak Area (A-s): 4.945 Peak Height (A): 0.208
ank Corrected Pk Height (A): 0.208
ncentration (ug/L): 5.548

2 ID: CCB6 Seq. No.: 00083 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:32
Peak Area (A-s): 0.027 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

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g2 ID: 182-30-1F Seq. No.: 00084 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:33
eak Area (A-s): 0.050 Peak Height (A): 0.002
lank Corrected Pk Height (A): 0.002
oncentration (ug/L): 0.048

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g2 ID: 182-30-1F D Seq. No.: 00085 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:36
eak Area (A-s): 0.039 Peak Height (A): 0.002
lank Corrected Pk Height (A): 0.002
ncentration (ug/L): 0.043

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2 ID: 182-30-1F MS Seq. No.: 00086 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 11:37
ak Area (A-s): 4.169 Peak Height (A): 0.173
ank Corrected Pk Height (A): 0.173
ncentration (ug/L): 4.604

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2 ID: 182-30-1F MSD Seq. No.: 00087 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 11:38
ak Area (A-s): 4.088 Peak Height (A): 0.171
ank Corrected Pk Height (A): 0.171
ncentration (ug/L): 4.559

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ID: 182-30-2D Seq. No.: 00088 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 11:39
k Area (A-s): 0.031 Peak Height (A): 0.001
nk Corrected Pk Height (A): 0.001
centration (ug/L): 0.024

~~~~~~

ID: 182-30-2D D Seq. No.: 00089 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 11:40
k Area (A-s): 0.018 Peak Height (A): 0.000
nk Corrected Pk Height (A): 0.000
centration (ug/L): 0.011

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ID: 182-30-2E Seq. No.: 00090 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 11:41
Area (A-s): 1.750 Peak Height (A): 0.075
k Corrected Pk Height (A): 0.075
~~~~~~

tration (ug/L): 1.987

ID: 182-30-2E D Seq. No.: 00091 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 11:43
rea (A-s): 1.713 Peak Height (A): 0.072
Corrected Pk Height (A): 0.072
entration (ug/L): 1.928

ID: 182-30-2F Seq. No.: 00092 A/S Pos.: -- Date: 09/26/97

ate 1 Time: 11:44
Area (A-s): 0.037 Peak Height (A): 0.001
k Corrected Pk Height (A): 0.001
ration (ug/L): 0.032

D: 182-30-2F D Seq. No.: 00093 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 11:45
ea (A-s): 0.028 Peak Height (A): 0.001
k Corrected Pk Height (A): 0.001
entration (ug/L): 0.019

D: CCV7=6.0ug/L Seq. No.: 00094 A/S Pos.: -- Date: 09/26/97

e 1 Time: 11:46
ea (A-s): 4.723 Peak Height (A): 0.201
Corrected Pk Height (A): 0.201
ration (ug/L): 5.355

ID: CCB7 Seq. No.: 00095 A/S Pos.: -- Date: 09/26/97

e 1 Time: 11:47
Area (A-s): 0.023 Peak Height (A): 0.001
rrected Pk Height (A): 0.001
ation (ug/L): 0.016

: 182-30-3D Seq. No.: 00096 A/S Pos.: -- Date: 09/26/97

cate 1 Time: 11:48
a (A-s): 0.045 Peak Height (A): 0.002
rrected Pk Height (A): 0.002
tration (ug/L): 0.048

ID: 182-30-3D D Seq. No.: 00097 A/S Pos.: -- Date: 09/26/97

e 1 Time: 11:49
(A-s): 0.042 Peak Height (A): 0.002
Corrected Pk Height (A): 0.002
tion (ug/L): 0.045

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Hg2 ID: 182-30-3E Seq. No.: 00098 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:50
Peak Area (A-s): 1.414 Peak Height (A): 0.060
Blank Corrected Pk Height (A): 0.060
Concentration (ug/L): 1.591

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Hg2 ID: 182-30-3E D Seq. No.: 00099 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:51
Peak Area (A-s): 1.366 Peak Height (A): 0.057
Blank Corrected Pk Height (A): 0.057
Concentration (ug/L): 1.524

~~~~~~

Hg2 ID: 182-30-3F Seq. No.: 00100 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:52
Peak Area (A-s): 0.034 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.032

~~~~~~

Hg2 ID: 182-30-3F D Seq. No.: 00101 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:53
Peak Area (A-s): 0.029 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

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g2 ID: 182-30-4C Seq. No.: 00102 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 11:54
eak Area (A-s): 0.026 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.021

~~~~~~

2 ID: 182-30-4C D Seq. No.: 00103 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 11:55
ak Area (A-s): 0.029 Peak Height (A): 0.001
ank Corrected Pk Height (A): 0.001
ncentration (ug/L): 0.024

~~~~~~

2 ID: 182-30-4D Seq. No.: 00104 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 11:56
ak Area (A-s): 1.575 Peak Height (A): 0.066
ank Corrected Pk Height (A): 0.066
ncentration (ug/L): 1.754

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ID: 182-30-4D D Seq. No.: 00105 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:57
Peak Area (A-s): 1.470 Peak Height (A): 0.062
Blank Corrected Pk Height (A): 0.062
Concentration (ug/L): 1.644

Hg ID: CCV8=6.0ug/L Seq. No.: 00106 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 11:59
Peak Area (A-s): 4.704 Peak Height (A): 0.200
Blank Corrected Pk Height (A): 0.200
Concentration (ug/L): 5.329

Hg2 ID: CCB8 Seq. No.: 00107 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:00
Peak Area (A-s): 0.023 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.024

Hg2 ID: 182-30-4D MS Seq. No.: 00108 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:01
Peak Area (A-s): 5.684 Peak Height (A): 0.236
Blank Corrected Pk Height (A): 0.236
Concentration (ug/L): 6.294

Hg2 ID: 182-30-4D MSD Seq. No.: 00109 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:02
Peak Area (A-s): 5.438 Peak Height (A): 0.227
Blank Corrected Pk Height (A): 0.227
Concentration (ug/L): 6.058

Hg2 ID: 182-30-4E Seq. No.: 00110 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:04
Peak Area (A-s): 0.053 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.043

Hg2 ID: 182-30-4E D Seq. No.: 00111 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:05
Peak Area (A-s): 0.033 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.032

Hg2 ID: 182-30-5C Seq. No.: 00112 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:06
Peak Area (A-s): 0.023 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001

Concentration (ug/L): 0.027

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Hg2 ID: 182-30-5C D Seq. No.: 00113 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 12:07
Peak Area (A-s): 0.027 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

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g2 ID: 182-30-5D Seq. No.: 00114 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 12:08
eak Area (A-s): 1.233 Peak Height (A): 0.052
lank Corrected Pk Height (A): 0.052
oncentration (ug/L): 1.382

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g2 ID: 182-30-5D D Seq. No.: 00115 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 12:09
eak Area (A-s): 1.154 Peak Height (A): 0.047
lank Corrected Pk Height (A): 0.047
ncentration (ug/L): 1.257

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2 ID: 182-30-5E Seq. No.: 00116 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 12:10
ak Area (A-s): 0.031 Peak Height (A): 0.001
ank Corrected Pk Height (A): 0.001
ncentration (ug/L): 0.021

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2 ID: 182-30-5E D Seq. No.: 00117 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 12:12
ak Area (A-s): 0.024 Peak Height (A): 0.001
ank Corrected Pk Height (A): 0.001
centration (ug/L): 0.029

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ID: CCV9=6.0ug/L Seq. No.: 00118 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 12:13
k Area (A-s): 4.922 Peak Height (A): 0.212
nk Corrected Pk Height (A): 0.212
centration (ug/L): 5.663

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ID: CCB9 Seq. No.: 00119 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 12:15
Area (A-s): 0.016 Peak Height (A): 0.000
nk Corrected Pk Height (A): 0.000
centration (ug/L): 0.011
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g2 ID: 182-30-6C Seq. No.: 00120 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 12:16
eak Area (A-s): 0.016 Peak Height (A): 0.000
lank Corrected Pk Height (A): 0.000
oncentration (ug/L): 0.008

g2 ID: 182-30-6C D Seq. No.: 00121 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 12:17
ea Area (A-s): 0.015 Peak Height (A): 0.001
la k Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.013

g2 ID: 182-30-6D Seq. No.: 00122 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 12:18
ea Area (A-s): 1.167 Peak Height (A): 0.049
lank Corrected Pk Height (A): 0.049
oncentration (ug/L): 1.299

g2 ID: 182-30-6D D Seq. No.: 00123 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 12:19
eak Area (A-s): 1.120 Peak Height (A): 0.046
.a k Corrected Pk Height (A): 0.046
oncentration (ug/L): 1.238

2 ID: 182-30-6E Seq. No.: 00124 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 12:20
a Area (A-s): 0.055 Peak Height (A): 0.002
ank Corrected Pk Height (A): 0.002
ncentration (ug/L): 0.059

2 ID: 182-30-6E D Seq. No.: 00125 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 12:21
ak Area (A-s): 0.053 Peak Height (A): 0.002
ank Corrected Pk Height (A): 0.002
ncentration (ug/L): 0.056

2 ID: 182-30-11E Seq. No.: 00126 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 12:22
ak Area (A-s): 0.012 Peak Height (A): 0.000
an Corrected Pk Height (A): 0.000
ncentration (ug/L): 0.005

2 ID: 182-30-11E D Seq. No.: 00127 A/S Pos.: -- Date: 09/26/97

.icate 1 Time: 12:23
. Area (A-s): 0.014 Peak Height (A): 0.000
ık Corrected Pk Height (A): 0.000
:entration (ug/L): 0.011

ID: CCV10=6.0ug/L Seq. No.: 00128 A/S Pos.: -- Date: 09/26/97

.icate 1 Time: 12:24
Area (A-s): 4.989 Peak Height (A): 0.213
ıK Corrected Pk Height (A): 0.213
entration (ug/L): 5.679

ID: CCB10 Seq. No.: 00129 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 12:25
Area (A-s): 0.030 Peak Height (A): 0.001
k Corrected Pk Height (A): 0.001
entration (ug/L): 0.021

ID: 43159A MB2 Seq. No.: 00130 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:00
Area (A-s): 0.006 Peak Height (A): 0.000
k Corrected Pk Height (A): 0.000
entration (ug/L): 0.003

ID: 43159A MB2 D Seq. No.: 00131 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:01
Area (A-s): 0.006 Peak Height (A): 0.000
k Corrected Pk Height (A): 0.000
entration (ug/L): 0.000

ID: 43159A LCS2 10-7-97 EE Seq. No.: 00132 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:03
Area (A-s): 4.558 Peak Height (A): 0.193
< Corrected Pk Height (A): 0.193
entration (ug/L): 5.139

ID: 43159A LCS2 D 10-7-97 EE Seq. No.: 00133 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:03
Area (A-s): 4.661 Peak Height (A): 0.198
< Corrected Pk Height (A): 0.198
entration (ug/L): 5.280

ID: 182-30-11F Seq. No.: 00134 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:04
Area (A-s): 0.081 Peak Height (A): 0.003
< Corrected Pk Height (A): 0.003

c[redacted]ntration (ug/L): 0.075

[redacted]ID: 182-30-11F D Seq. No.: 00135 A/S Pos.: -- Date: 09/26/97

l[redacted]cate 1 Time: 14:05
k[redacted]rea (A-s): 0.060 Peak Height (A): 0.002
nK Corrected Pk Height (A): 0.002
c[redacted]ntration (ug/L): 0.064

ID: 182-30-11F MS Seq. No.: 00136 A/S Pos.: -- Date: 09/26/97

l[redacted]cate 1 Time: 14:06
k Area (A-s): 4.683 Peak Height (A): 0.201
n[redacted]Corrected Pk Height (A): 0.201
c[redacted]tration (ug/L): 5.361

[redacted]ID: 182-30-11F MSD Seq. No.: 00137 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 14:07
k[redacted]rea (A-s): 4.696 Peak Height (A): 0.200
n[redacted]Corrected Pk Height (A): 0.200
centration (ug/L): 5.329

ID: CCV1=6.0ug/L Seq. No.: 00138 A/S Pos.: -- Date: 09/26/97

l[redacted]ate 1 Time: 14:08
k[redacted]rea (A-s): 5.292 Peak Height (A): 0.222
nk Corrected Pk Height (A): 0.222
c[redacted]tration (ug/L): 5.909

[redacted]ID: CCB1 Seq. No.: 00139 A/S Pos.: -- Date: 09/26/97

li[redacted]cate 1 Time: 14:10
k Area (A-s): 0.031 Peak Height (A): 0.001
n[redacted]Corrected Pk Height (A): 0.001
c[redacted]tration (ug/L): 0.021

[redacted]ID: 182-30-11G Seq. No.: 00140 A/S Pos.: -- Date: 09/26/97

li[redacted]ate 1 Time: 14:11
< [redacted]rea (A-s): 0.016 Peak Height (A): 0.000
nk Corrected Pk Height (A): 0.000
centration (ug/L): 0.008

ID: 182-30-11G D Seq. No.: 00141 A/S Pos.: -- Date: 09/26/97

li[redacted]ate 1 Time: 14:12
< Area (A-s): 0.023 Peak Height (A): 0.001
nk Corrected Pk Height (A): 0.001
ce[redacted]tration (ug/L): 0.019

[redacted]

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2 ID: 182-30-12E Seq. No.: 00142 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 14:13
ak Area (A-s): 0.010 Peak Height (A): 0.000
ank Corrected Pk Height (A): 0.000
ncentration (ug/L): 0.008

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2 ID: 182-30-12E D Seq. No.: 00143 A/S Pos.: -- Date: 09/26/97

plicate 1 Time: 14:14
ak Area (A-s): 0.008 Peak Height (A): 0.000
ank Corrected Pk Height (A): 0.000
ncentration (ug/L): 0.008

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ID: 182-30-12F Seq. No.: 00144 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 14:15
k Area (A-s): 0.064 Peak Height (A): 0.002
nk Corrected Pk Height (A): 0.002
centration (ug/L): 0.064

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ID: 182-30-12F D Seq. No.: 00145 A/S Pos.: -- Date: 09/26/97

licate 1 Time: 14:15
k Area (A-s): 0.060 Peak Height (A): 0.002
nk Corrected Pk Height (A): 0.002
centration (ug/L): 0.061

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ID: 182-30-12G Seq. No.: 00146 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:16
Area (A-s): 0.009 Peak Height (A): 0.001
k Corrected Pk Height (A): 0.001
entration (ug/L): 0.019

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ID: 182-30-12G D Seq. No.: 00147 A/S Pos.: -- Date: 09/26/97

icate 1 Time: 14:17
Area (A-s): 0.007 Peak Height (A): 0.000
k Corrected Pk Height (A): 0.000
entration (ug/L): 0.005

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ID: 182-30-13E Seq. No.: 00148 A/S Pos.: -- Date: 09/26/97

cate 1 Time: 14:19
Area (A-s): 0.004 Peak Height (A): 0.000
Corrected Pk Height (A): 0.000
ntration (ug/L): 0.008

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ID: 182-30-13E D Seq. No.: 00149 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:19
Peak Area (A-s): 0.006 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg ID: CCV2=6.0ug/L Seq. No.: 00150 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:20
Peak Area (A-s): 5.128 Peak Height (A): 0.218
Blank Corrected Pk Height (A): 0.218
Concentration (ug/L): 5.815

Hg2 ID: CCB2 Seq. No.: 00151 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:21
Peak Area (A-s): 0.026 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg ID: 182-30-13F Seq. No.: 00152 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:22
Peak Area (A-s): 0.091 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.094

Hg ID: 182-30-13F D Seq. No.: 00153 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:24
Peak Area (A-s): 0.089 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.094

Hg2 ID: 182-30-13G Seq. No.: 00154 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:25
Peak Area (A-s): 0.004 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg ID: 182-30-13G D Seq. No.: 00155 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:25
Peak Area (A-s): 0.002 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 182-30-8A Seq. No.: 00156 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:26
Peak Area (A-s): 0.002 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001

Concentration (ug/L): 0.019

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Hg2 ID: 182-30-8A D Seq. No.: 00157 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:28
Peak Area (A-s): 0.001 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

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Hg2 ID: 182-30-8D-15C Seq. No.: 00158 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:29
Peak Area (A-s): -0.002 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

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Hg2 ID: 182-30-8D-15C D Seq. No.: 00159 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:30
Peak Area (A-s): 0.003 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.008

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Hg2 ID: 182-30-14E Seq. No.: 00160 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:31
Peak Area (A-s): 0.002 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

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Hg2 ID: 182-30-14E D Seq. No.: 00161 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:32
Peak Area (A-s): 0.005 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

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Hg2 ID: CCV3=6.0ug/L Seq. No.: 00162 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:33
Peak Area (A-s): 5.247 Peak Height (A): 0.228
Blank Corrected Pk Height (A): 0.228
Concentration (ug/L): 6.083

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Hg2 ID: CCB3 Seq. No.: 00163 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:34
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.032
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g2 ID: 182-30-7F Seq. No.: 00164 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 14:35
eak Area (A-s): 0.014 Peak Height (A): 0.000
lank Corrected Pk Height (A): 0.000
oncentration (ug/L): 0.005

g ID: 182-30-7F D Seq. No.: 00165 A/S Pos.: -- Date: 09/26/97

eplicate 1 Time: 14:36
e Area (A-s): 0.016 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.013

g2 ID: 182-30-8DE15C Seq. No.: 00166 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:37
Peak Area (A-s): 0.000 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.005

g ID: 182-30-8DE15C D Seq. No.: 00167 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:40
Peak Area (A-s): -0.000 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.008

g ID: 182-30-9FG15B Seq. No.: 00168 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:41
Peak Area (A-s): -0.004 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 182-30-9FG15B D Seq. No.: 00169 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:42
Peak Area (A-s): -0.001 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg ID: 182-30-7FG Seq. No.: 00170 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:43
Peak Area (A-s): -0.001 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.005

Hg2 ID: 182-30-7FG D Seq. No.: 00171 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:44
:ak Area (A-s): -0.001 Peak Height (A): -0.000
.ank Corrected Pk Height (A): -0.000
ncentration (ug/L): -0.003

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i2 ID: 182-30-14EF Seq. No.: 00172 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:45
:ak Area (A-s): -0.011 Peak Height (A): -0.001
.ank Corrected Pk Height (A): -0.001
ncentration (ug/L): -0.013

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i2 ID: 182-30-14EF D Seq. No.: 00173 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:46
:ak Area (A-s): -0.016 Peak Height (A): -0.001
.ank Corrected Pk Height (A): -0.001
ncentration (ug/L): -0.013

~~~~~~

i2 ID: CCV4=6.0ug/L Seq. No.: 00174 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:46
:ak Area (A-s): 5.195 Peak Height (A): 0.228
.ank Corrected Pk Height (A): 0.228
ncentration (ug/L): 6.064

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i2 ID: CCB4 Seq. No.: 00175 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:47
:ak Area (A-s): 0.020 Peak Height (A): 0.001
.ank Corrected Pk Height (A): 0.001
ncentration (ug/L): 0.032

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i2 ID: 182-30-13G MS Seq. No.: 00176 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:48
:ak Area (A-s): 4.457 Peak Height (A): 0.193
.ank Corrected Pk Height (A): 0.193
ncentration (ug/L): 5.139

~~~~~~

i2 ID: 182-30-13G MSD Seq. No.: 00177 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:49
:ak Area (A-s): 4.561 Peak Height (A): 0.191
.ank Corrected Pk Height (A): 0.191
ncentration (ug/L): 5.096

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i2 ID: 182-30-9F15B Seq. No.: 00178 A/S Pos.: -- Date: 09/26/97

:plicate 1 Time: 14:50
:ak Area (A-s): 0.030 Peak Height (A): 0.001
.ank Corrected Pk Height (A): 0.001
~~~~~~

Concentration (ug/L): 0.029

Hg2 ID: 182-30-9F15B D Seq. No.: 00179 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:51
Peak Area (A-s): 0.014 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.008

Hg2 ID: CCV5=6.0ug/L Seq. No.: 00180 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:52
Peak Area (A-s): 5.285 Peak Height (A): 0.228
Blank Corrected Pk Height (A): 0.228
Concentration (ug/L): 6.069

Hg2 ID: CCB5 Seq. No.: 00181 A/S Pos.: -- Date: 09/26/97

Replicate 1 Time: 14:53
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.024

Hg

ID/Weight File: A8811.IDW
Sample Volume: 100 mL

Analyst: RICHARDS
Nominal Weight: 1.0 g

Loc.	Sample ID	Weight	Dilution
0	STD BLK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43159A MB3		
11	43159A MB3 D		
12	43159A LCS3		
13	43159A LCS3 D		
14	43159A LCS3 DD		
15	182-30-9E		
16	182-30-9E D		
17	182-30-9E MS		
18	182-30-9E MSD		
19	182-30-7E		
20	182-30-7E D		
21	CCV1=6.0ug/L		
22	CCB1		
23	182-30-14D		
24	182-30-14D D		
25	182-30-15B		
26	182-30-15B D		
27	182-30-15C		
28	182-30-15C D		
29	CCV2=6.0ug/L		
30	CCB2		
31	43231 MB1		
32	43231 MB1 D		
33	43231 LCS1		
34	43231 LCS1 D		
35	183-3-2C		
36	183-3-2C D		
37	183-3-2C MS		
38	183-3-2C MSD		
39	183-3-1B		
40	183-3-1B D		
41	CCV1=6.0ug/L		
42	CCB1		
43	183-3-1C		
44	183-3-1C D		
45	183-3-1D		
46	183-3-1D DX10		
47	183-3-1D DDX10		
48	183-3-1E		
49	183-36-1E D		
50	183-3-2B		
51	183-3-2B D		
52	183-3-2D		
53	183-3-2D D		

STD1–STD6: 3-018-7 9/30/97 ME

ICV: 3-018-8 9/30/97 ME

43159A MB3 – 182-30-9E MS: re-prep see data on 10/1/97

182-30-7E, 182-30-7E D: To be re-prep 9/30/97 ME

CCV1: 3-018-8 9/30/97 ME

CCV1: 3-018-8 9/30/97 ME

183-3-1D DX10, 183-3-1D DDX10: To be re-prep 9/30/97 ME

Loc.	Sample ID	Weight	Dilution
[redacted]	CCV2=6.0ug/L	3-018-8	9/30/97 mr
55	CCB2		
[redacted]	183-3-2E	To be reprep. 9/30/97 mr	
[redacted]	183-3-2E D		
58	183-3-3C		
[redacted]	183-3-3C DX5		
[redacted]	183-3-3C DDX5		
61	183-3-3C MSX5		
62	183-3-3C MSDX5		
[redacted]	183-3-2F	To be reprep 9/30/97 mr	
[redacted]	183-3-2F D		
65	CCV3=6.0ug/L	3-018-8	9/30/97 mr
[redacted]	CCB3		
[redacted]	183-3-3B		
68	183-3-3B D		
[redacted]	183-3-3D		
[redacted]	183-3-3D D		
71	183-3-3E	To be reprep 9/30/97 mr	
72	183-3-3E D		
[redacted]	183-3-3F	To be reprep 9/30/97 mr	
[redacted]	183-3-3F D		
75	CCV4=6.0ug/L	3-018-8	9/30/97 mr
[redacted]	CCB4		
[redacted]	43231 MB2		
78	43231 MB2 D		
[redacted]	43231 LCS		
[redacted]	43231 LCS D		
81	183-3-4B		
[redacted]	183-3-4B D		
[redacted]	183-3-4C		
[redacted]	183-3-4C D		
85	183-3-4C MSX2		
[redacted]	183-3-4C MSDX2		
[redacted]	CCV1=6.0ug/L	3-018-8	9/30/97 mr
88	CCB1		
[redacted]	183-3-4D		
[redacted]	183-3-4D D		
91	183-3-4E		
[redacted]	183-3-4E D		
[redacted]	183-3-4F		
[redacted]	183-3-4F D		
95	183-3-5B		
[redacted]	183-3-5B D		
[redacted]	183-3-5C		
98	183-3-5C D		
[redacted]	CCV2=6.0ug/L	3-018-8	9/30/97 mr
[redacted]	CCB2		
101	183-3-5D		
102	183-3-5D D		
[redacted]	183-3-5E		
[redacted]	183-3-5E D		
105	183-3-6C		
[redacted]	183-3-6C DX5		
[redacted]	183-3-6C DDX5		
108	183-3-6C MSX5		
[redacted]	183-3-6C MSDX5		

Loc.	Sample ID	Weight	Dilution
110	183-3-6B		
111	183-3-6B D		
112	CCV3=6.0ug/L	3-018-8	9/30/97 - WR
113	CCB3		
114	183-3-6D		
115	183-3-6D D		
116	183-3-6E		
117	183-3-6E D		
118	183-3-6F		
119	183-3-6F D		
120	183-3-7B		
121	183-3-7B D		
122	183-3-7C		
123	183-3-7C DX5		
124	183-3-7C DDX5		
125	CCV4=6.0ug/L	3-018-8	9/30/97 WR
126	CCB4		
127	183-3-7D		
128	183-3-7D D		
129	183-3-7E		
130	183-3-7E D		
131	183-3-7E MS		
132	183-3-7E MSD		
133	183-3-7F		
134	183-3-7F D		
135	183-3-8B		
136	183-3-8B D		
137	CCV5=6.0ug/L	3-018-8	9/30/97 WR
138	CCB5		
139	183-3-8C		
140	183-3-8C DX5		
141	183-3-8C DDX5		
142	183-3-8D	To be	
143	183-3-8D D	Reprep. 9/30/97 WR.	
144	183-3-8E		
145	183-3-8E D		
146	183-3-8F		
147	183-3-8F D		
148	CCV6=6.0ug/L		
149	CCB6		

.ement File: HG_.MEL
.ement: Hg2 Analyst: RICHARDS
'i Data: Main+Suppl. Peak Storage: None
'int: Calib. Curve
:marks:
ST NDARDS= 3-018-7
XO 3-018-8.

Hg
9/30/97 MR.

NSTRUMENT: 5100 Technique: MHS Version: 7.01
av length: 253.7 Peak Slit: 0.7 Low
.gnal Type: AA Signal Measurement: Peak Height (5)
ead Time: 30.0 Read Delay: 1.0 BOC Time: 2
ample Replicates: 1
tandard Replicates: 1

.A E:
la e Type: Air Flame Sensor: On
xidant Flow: 10.0 L/min Fuel Flow: 2.0 L/min

AL BRATION:

Solutions	ID	Conc
a . Blank	STD BLK	----------
tandard 1	STD 1	0.200
tandard 2	STD 2	0.500
tandard 3	STD 3	1.000
tandard 4	STD 4	2.000
tandard 5	STD 5	5.000
tandard 6	STD 6	10.000

Calibration Units: ug/L Sample Units: ug/L
Calibration Type: Linear

:
atrix Check Calculations:
Difference for Dupls: No Locations:
Recovery for Spike: No Locations: Conc:

```
---------------------------------------------------------------------------
lement File: HG_.MEL          Element: Hg2                Wavelength: 253.7
ate: 09/30/97                 Time: 09:27                 Slit: 0.7 L
ata File: AB811.DAT           ID/Wt File: AB811.IDW       Lamp Current: 0
echnique: MHS                 Calib. Type: Linear         Energy: 72
emark 1: STANDARDS= 3-018-7
emark 2: QC= 3-018-8
---------------------------------------------------------------------------
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
g2   ID: STD BLK              Seq. No.: 00003    A/S Pos.: --    Date: 09/30/97

eplicate  1                             Time: 09:28
eak Area (A-s): 0.002                   Peak Height (A): -0.001
lank Corrected Pk Height (A): -0.001
oncentration (ug/L  ): -0.026

uto-zero performed.
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
g2   ID: STD1=0.2ug/L         Seq. No.: 00004    A/S Pos.: --    Date: 09/30/97

eplicate  1                             Time: 09:29
eak Area (A-s): 0.148                   Peak Height (A): 0.006
lank Corrected Pk Height (A): 0.006
oncentration (ug/L  ): 0.160

tandard number 1 applied.  [0.200]
orrelation coefficient: 1.00000         Slope: 0.0281
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
g2   ID: STD2=0.5ug/L         Seq. No.: 00005    A/S Pos.: --    Date: 09/30/97

ample abs. is greater than that of the largest standard.
eplicate  1                             Time: 09:31
eak Area (A-s): 0.403                   Peak Height (A): 0.016
lank Corrected Pk Height (A): 0.016
oncentration (ug/L  ): 0.579

tandard number 2 applied.  [0.500]
orrelation coefficient: 0.99265         Slope: 0.0320
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
g2   ID: STD3=1.0ug/L         Seq. No.: 00006    A/S Pos.: --    Date: 09/30/97

ample abs. is greater than that of the largest standard.
eplicate  1                             Time: 09:32
eak Area (A-s): 0.915                   Peak Height (A): 0.037
lank Corrected Pk Height (A): 0.037
oncentration (ug/L  ): 1.164

tandard number 3 applied.  [1.000]
orrelation coefficient: 0.99169         Slope: 0.0362
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
g2   ID: STD4=2.0ug/L         Seq. No.: 00007    A/S Pos.: --    Date: 09/30/97

ample abs. is greater than that of the largest standard.
eplicate  1                             Time: 09:33
eak Area (A-s): 1.749                   Peak Height (A): 0.070
```

[redacted]
ank Corrected Pk Height (A): 0.070
ncentration (ug/L): 1.941

an[redacted]ard number 4 applied. [2.000]
rrelation coefficient: 0.99832 Slope: 0.0354

[redacted]~~~~~~

2 ID: STD5=5.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 09/30/97

mp[redacted]e abs. is greater than that of the largest standard.
plicate 1 Time: 09:35
ak Area (A-s): 4.656 Peak Height (A): 0.189
an[redacted] Corrected Pk Height (A): 0.189
ncentration (ug/L): 5.331

an[redacted]ard number 5 applied. [5.000]
r[redacted]lation coefficient: 0.99922 Slope: 0.0373

~~~~~~

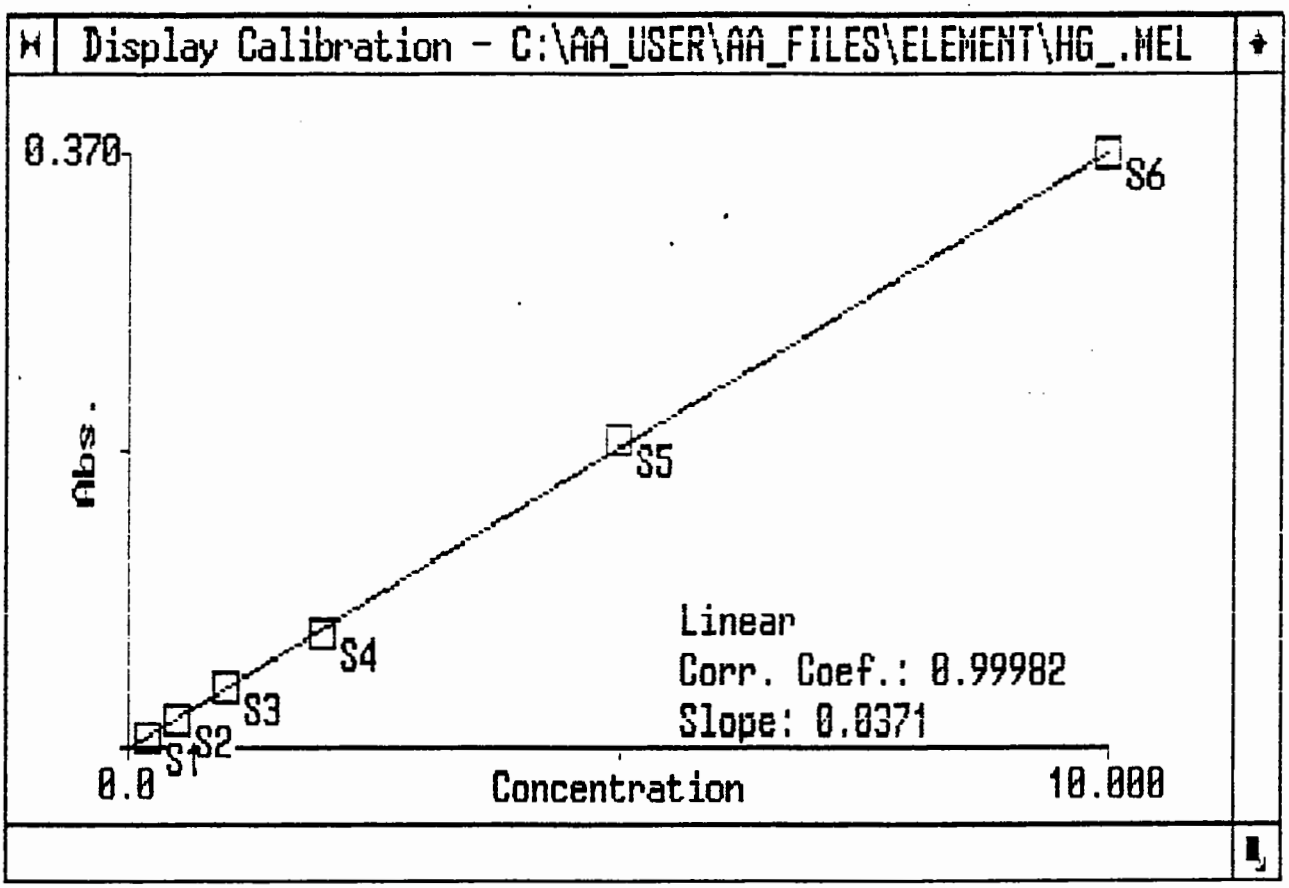
2[redacted] ID: STD6=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 09/30/97

mple abs. is greater than that of the largest standard.
p[redacted]cate 1 Time: 09:36
ak Area (A-s): 9.123 Peak Height (A): 0.370
ank Corrected Pk Height (A): 0.370
n[redacted]ntration (ug/L): 9.902

andard number 6 applied. [10.000]
r[redacted]lation coefficient: 0.99982 Slope: 0.0371
~~~~~~

Element File: HG_.MEL	Element: Hg2	Wavelength: 253.7
Date: 09/30/97	Time: 09:36	Slit: 0.7 L
Data File: AB811.DAT	ID/Wt File: AB811.IDW	Lamp Current: 0
Technique: MHS	Calib. Type: Linear	Energy: 72

Remark 1: STANDARDS= 3-018-7
Remark 2: QC= 3-018-8



Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 09/30/97 Time: 09:38 Slit: 0.7 L
Data File: AB811.DAT ID/Wt File: AB811.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 72
Remark 1: STANDARDS= 3-018-7
Remark 2: QC= 3-018-8

Hg2 ID: ICV=4.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 09:39
Peak Area (A-s): 3.815 Peak Height (A): 0.157
Blank Corrected Pk Height (A): 0.157
Concentration (ug/L): 4.229

Hg2 ID: ICB Seq. No.: 00011 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 09:41
Peak Area (A-s): 0.015 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.014

Hg2 ID: CHECK LO Seq. No.: 00012 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 09:42
Peak Area (A-s): 0.194 Peak Height (A): 0.008
Blank Corrected Pk Height (A): 0.008
Concentration (ug/L): 0.208

Hg2 ID: 43159A MB3 Seq. No.: 00013 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 09:46
Peak Area (A-s): 0.009 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.014

Hg2 ID: 43159A MB3 D Seq. No.: 00014 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 09:47
Peak Area (A-s): 0.018 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.038

Hg2 ID: 43159A LCS3 Seq. No.: 00015 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 09:48
Peak Area (A-s): 3.251 Peak Height (A): 0.132
Blank Corrected Pk Height (A): 0.132
Concentration (ug/L): 3.574

Delete 9/30/97 MR

Hg2 ID: 43159A LCS3 Seq. No.: 00016 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:04
Peak Area (A-s): 3.207 Peak Height (A): 0.134
Blank Corrected Pk Height (A): 0.134
~~Concentration (ug/L): 3.614~~

Delete 9/20/97 m.

Hg2 ID: 43159A LCS3 Seq. No.: 00017 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:11
Peak Area (A-s): 5.789 Peak Height (A): 0.238
Blank Corrected Pk Height (A): 0.238
Concentration (ug/L): 6.436

See re-runs below

Hg2 ID: 43159A LCS3 Seq. No.: 00018 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:13
Peak Area (A-s): 4.965 Peak Height (A): 0.205
Blank Corrected Pk Height (A): 0.205
Concentration (ug/L): 5.534

Hg2 ID: 43159A LCS3 D Seq. No.: 00019 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:19
Peak Area (A-s): 5.027 Peak Height (A): 0.213
Blank Corrected Pk Height (A): 0.213
Concentration (ug/L): 5.753

Hg2 ID: 182-30-9E Seq. No.: 00020 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:21
Peak Area (A-s): 0.100 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.111

Hg2 ID: 182-30-9E D Seq. No.: 00021 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:22
Peak Area (A-s): 0.086 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.100

Hg2 ID: 182-30-9E MS Seq. No.: 00022 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:23
Peak Area (A-s): 4.535 Peak Height (A): 0.190
Blank Corrected Pk Height (A): 0.190
Concentration (ug/L): 5.131

Hg2 ID: 182-30-9E MSD Seq. No.: 00023 A/S Pos.: -- Date: 09/30/97

Replicate 1 Time: 10:24
Peak Area (A-s): 4.407 Peak Height (A): 0.183
Blank Corrected Pk Height (A): 0.183

oncentration (ug/L): 4.944

---

g2 ID: 182-30-7E Seq. No.: 00024 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:25
eak Area (A-s): 0.183 Peak Height (A): 0.007
lank Corrected Pk Height (A): 0.007
oncentration (ug/L): 0.200

---

g2 ID: 182-30-7E D Seq. No.: 00025 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:26
eak Area (A-s): 3.280 Peak Height (A): 0.138
lank Corrected Pk Height (A): 0.138
oncentration (ug/L): 3.736

---

g2 ID: CCV1=6.0ug/L Seq. No.: 00026 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:30
eak Area (A-s): 5.025 Peak Height (A): 0.210
lank Corrected Pk Height (A): 0.210
oncentration (ug/L): 5.664

---

g2 ID: CCB1 Seq. No.: 00027 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:31
eak Area (A-s): 0.039 Peak Height (A): 0.002
lank Corrected Pk Height (A): 0.002
oncentration (ug/L): 0.062

---

g2 ID: 182-30-14D Seq. No.: 00028 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:32
eak Area (A-s): 0.049 Peak Height (A): 0.002
lank Corrected Pk Height (A): 0.002
oncentration (ug/L): 0.060

---

g2 ID: 182-30-14D D Seq. No.: 00029 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:33
eak Area (A-s): 0.023 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.024

---

g2 ID: 182-30-15B Seq. No.: 00030 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:34
eak Area (A-s): 0.020 Peak Height (A): 0.002
lank Corrected Pk Height (A): 0.002
oncentration (ug/L): 0.043

~~~~~~

2 ID: 182-30-15B D Seq. No.: 00031 A/S Pos.: -- Date: 09/30/97

plicate 1 Time: 10:40
ak Area (A-s): 0.017 Peak Height (A): 0.001
ank Corrected Pk Height (A): 0.001
ncentration (ug/L): 0.024

~~~~~~

2 ID: 182-30-15C Seq. No.: 00032 A/S Pos.: -- Date: 09/30/97

plicate 1 Time: 10:42
ak Area (A-s): 0.022 Peak Height (A): 0.001
ank Corrected Pk Height (A): 0.001
ncentration (ug/L): 0.035

~~~~~~

2 ID: 182-30-15C D Seq. No.: 00033 A/S Pos.: -- Date: 09/30/97

plicate 1 Time: 10:43
ak Area (A-s): 0.045 Peak Height (A): 0.002
ank Corrected Pk Height (A): 0.002
ncentration (ug/L): 0.057

~~~~~~

g2 ID: CCV2=6.0ug/L Seq. No.: 00034 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:44
eak Area (A-s): 4.570 Peak Height (A): 0.191
lank Corrected Pk Height (A): 0.191
oncentration (ug/L): 5.150

~~~~~~

g2 ID: CCB2 Seq. No.: 00035 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:45
eak Area (A-s): 0.035 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.038

~~~~~~

g2 ID: 43231 MB1 Seq. No.: 00036 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:46
eak Area (A-s): 0.028 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.030

~~~~~~

g2 ID: 43231 MB1 D Seq. No.: 00037 A/S Pos.: -- Date: 09/30/97

eplicate 1 Time: 10:47
eak Area (A-s): 0.025 Peak Height (A): 0.001
lank Corrected Pk Height (A): 0.001
oncentration (ug/L): 0.027

~~~~~~

g2 ID: 43231 LCS1 Seq. No.: 00038 A/S Pos.: -- Date: 09/30/97

ID/Weight File: A8812.IDW Analyst: RICHARDS
Sample Volume: 100 mL Nominal Weight: 1.0 g

tlg

Loc.	Sample ID	Weight	Dilution
0	STD BLK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43159A MB4		
11	43159A MB4 D		
12	43159A LCS4		
13	43159A LCS4 D		
14	182-30-7E		
15	182-30-7E D		
16	182-30-7E MS		
17	182-30-7E MSD		
18	182-30-9E		
19	182-30-9E D		
20	CCV1=6.0ug/L		
21	CCB1		
22	43233B MB		
23	43233B MB D		
24	43233 LCS		
25	43233 LCS D		
26	183-5-1		
27	183-5-1 D		
28	183-5-1 MS		
29	183-5-1 MSD		
30	TCLP BLK		
31	TCLP BLK D		
32	CCV1=6.0ug/L		
33	CCB1		
34	43231 MB3		
35	43231 MB3 D		
36	43231 LCS3		
37	43231 LCS3 D		
38	183-3-1D		
39	183-3-1D D		
40	183-3-2E		
41	183-3-2E D		
42	183-3-2E MS		
43	183-3-2E MSD		
44	CCV1=6.0ug/L		
45	CCB1		
46	183-3-2F		
47	183-3-2F D		
48	183-3-3E		
49	183-3-3E D		
50	183-3-3F		
51	183-3-3F D		
52	183-3-1EF		
53	183-3-1EF D		

3-019-1 mR 10/1/97

3-019-2 mR 10/1/97

3-019-2 mR 10/1/97

3-019-2 mR 10/1/97

3-019-2 mR 10/1/97

Loc.	Sample ID	Weight	Dilution
54	183-3-5EF		
55	183-3-5EF D		
56	CCV2=6.0ug/L	3-019-2	mr 10/1/97
57	CCB2		
58	183-3-6F		
59	183-3-6F D		
60	183-3-8C		
61	183-3-8C DX2		
62	183-3-8C DDX2		
63	183-3-8D		
64	183-3-8D D		
65	183-3-8E		
66	183-3-8E D		
67	183-3-8E MS		
68	183-3-8E MSD		
69	CCV3=6.0ug/L	3-019-2	mr 10/1/97
70	CCB3		
71	183-3-8F		
72	183-3-8F D		
73	CCV4=6.0ug/L	3-019-2	mr 10/1/97
74	CCB4		

Hg
10/1/97 MC

Element File: HG_.MEL
Element: Hg2
Point Data: Main+Suppl.
Point: Calib. Curve
Remarks:
STANDARDS= 3-019-1
QC= 3-019-2

Analyst: RICHARDS
Peak Storage: None

INSTRUMENT: 5100
Wavelength: 253.7 Peak
Signal Type: AA
Read Time: 30.0
Sample Replicates: 1
Standard Replicates: 1

Technique: MHS
Slit: 0.7 Low
Signal Measurement: Peak Height (S)
Read Delay: 1.0

Version: 7.01
BOC Time: 2

FLAME:
Flame Type: Air
Oxidant Flow: 10.0 L/min

Flame Sensor: On
Fuel Flow: 2.0 L/min

CALIBRATION:

Solutions	ID	Conc
Calib. Blank	STD BLK	----------
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L
Calibration Type: Linear

Sample Units: ug/L

QC:
Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/01/97 Time: 09:25 Slit: 0.7 L
Data File: AB812.DAT ID/Wt File: AB812.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 72
Remark 1: STANDARDS= 3-019-I
Remark 2: QC= 3-019-2

Hg2 ID: STD BLK Seq. No.: 00003 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:27
Peak Area (A-s): -0.004 Peak Height (A): -0.001
Blank Corrected Pk Height (A): -0.001

Auto-zero performed.

Hg2 ID: STD1=0.2ug/L Seq. No.: 00004 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:28
Peak Area (A-s): 0.162 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007

Standard number 1 applied. [0.200]
Correlation coefficient: 1.00000 Slope: 0.0331

Hg2 ID: STD2=0.5ug/L Seq. No.: 00005 A/S Pos.: -- Date: 10/01/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:29
Peak Area (A-s): 0.407 Peak Height (A): 0.017
Blank Corrected Pk Height (A): 0.017
Concentration (ug/L): 0.503

Standard number 2 applied. [0.500]
Correlation coefficient: 0.99999 Slope: 0.0333

Hg2 ID: STD3=1.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 10/01/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:30
Peak Area (A-s): 0.854 Peak Height (A): 0.036
Blank Corrected Pk Height (A): 0.036
Concentration (ug/L): 1.085

Standard number 3 applied. [1.000]
Correlation coefficient: 0.99780 Slope: 0.0355

Hg2 ID: STD4=2.0ug/L Seq. No.: 00007 A/S Pos.: -- Date: 10/01/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:32
Peak Area (A-s): 1.759 Peak Height (A): 0.075
Blank Corrected Pk Height (A): 0.075
Concentration (ug/L): 2.101

Standard number 4 applied. [2.000]
Correlation coefficient: 0.99899 Slope: 0.0369

Hg2 ID: STD5=5.0ug/ Seq. No.: 00008 A/S Pos.: -- Date: 10/01/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:33
Peak Area (A-s): 4.364 Peak Height (A): 0.188
Blank Corrected Pk Height (A): 0.188
Concentration (ug/L): 5.095

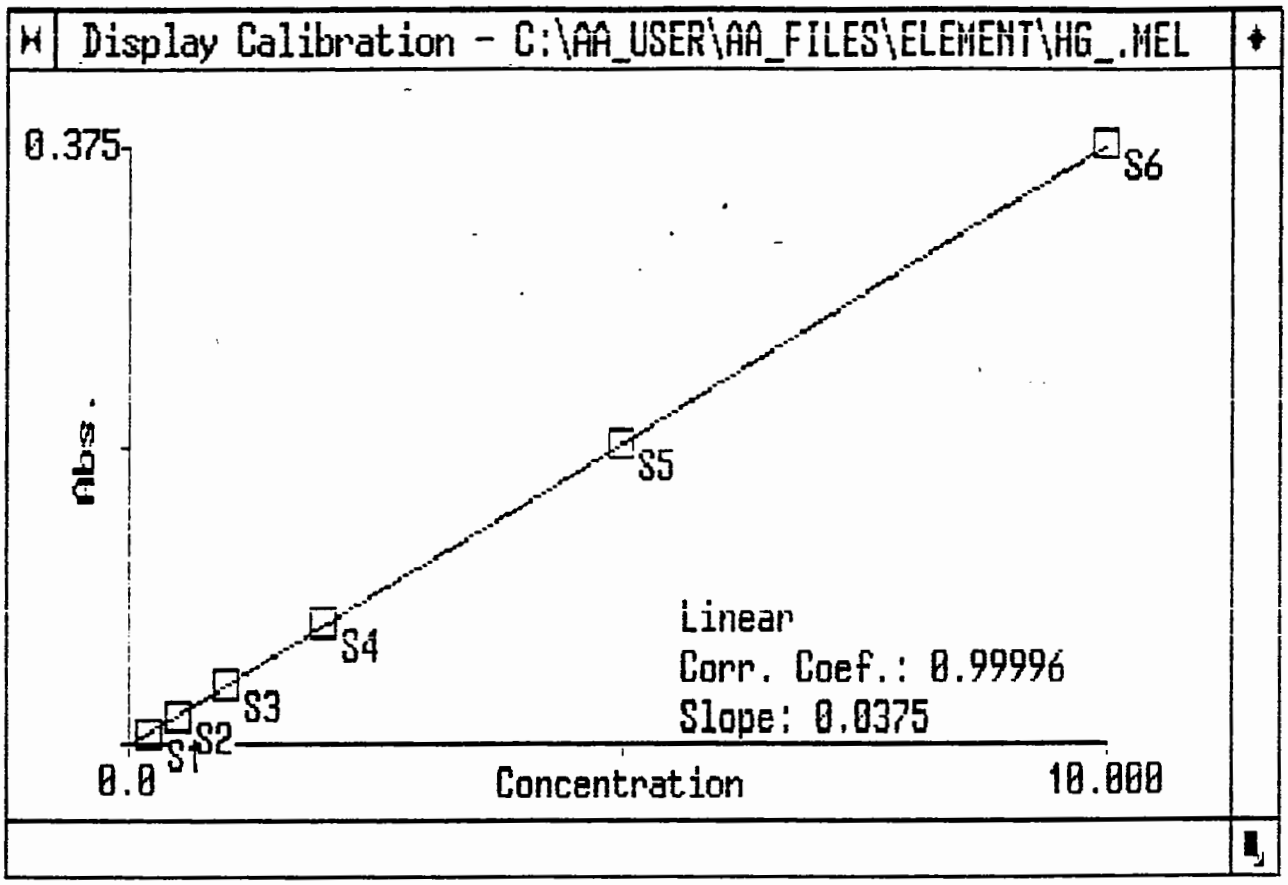
Standard number 5 applied. [5.000]
Correlation coefficient: 0.99983 Slope: 0.0375

Hg ID: STD6=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 10/01/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:34
Peak Area (A-s): 8.781 Peak Height (A): 0.375
Blank Corrected Pk Height (A): 0.375
Concentration (ug/L): 10.011

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99996 Slope: 0.0375

lement File: HG_.MEL	Element: Hg2	Wavelength: 253.7
ate: 10/01/97	Time: 09:35	Slit: 0.7 L
ata File: AB812.DAT	ID/Wt File: AB812.IDW	Lamp Current: 0
echnique: MHS	Calib. Type: Linear	Energy: 72
emark 1: STANDARDS= 3-019-1		
emark 2: QC= 3-019-2		



Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/01/97 Time: 09:37 Slit: 0.7 L
Data File: AB812.DAT ID/Wt File: AB812.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 72
Remark 1: STANDARDS= 3-019-1
Remark 2: QC= 3-019-2

Hg2 ID: ICV=4.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:37
Peak Area (A-s): 3.529 Peak Height (A): 0.152
Blank Corrected Pk Height (A): 0.152
Concentration (ug/L): 4.052

Hg2 ID: ICB Seq. No.: 00011 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:41
Peak Area (A-s): -0.001 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg2 ID: CHECK LO Seq. No.: 00012 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:42
Peak Area (A-s): 0.155 Peak Height (A): 0.006
Blank Corrected Pk Height (A): 0.006
Concentration (ug/L): 0.163

Hg2 ID: 43159A MB4 Seq. No.: 00013 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:43
Peak Area (A-s): -0.001 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 43159A MB4 D Seq. No.: 00014 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:44
Peak Area (A-s): -0.004 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.005

Hg2 ID: 43159A LCS4 Seq. No.: 00015 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:45
Peak Area (A-s): 3.808 Peak Height (A): 0.164
Blank Corrected Pk Height (A): 0.164
Concentration (ug/L): 4.365

Hg2 ID: 43159A LCS4 D Seq. No.: 00016 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:47
eak Area (A-s): 3.752 Peak Height (A): 0.162
lank Corrected Pk Height (A): 0.162
oncentration (ug/L): 4.319

~~~~~~

g2 ID: 182-30-7E Seq. No.: 00017 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:48
eak Area (A-s): 0.170 Peak Height (A): 0.007
lank Corrected Pk Height (A): 0.007
oncentration (ug/L): 0.193

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g2 ID: 182-30-7E D Seq. No.: 00018 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:49
eak Area (A-s): 0.154 Peak Height (A): 0.006
lank Corrected Pk Height (A): 0.006
oncentration (ug/L): 0.166

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g2 ID: 182-30-7E MS Seq. No.: 00019 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:50
eak Area (A-s): 4.154 Peak Height (A): 0.177
lank Corrected Pk Height (A): 0.177
oncentration (ug/L): 4.726

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g2 ID: 182-30-7E MSD Seq. No.: 00020 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:51
eak Area (A-s): 4.088 Peak Height (A): 0.179
lank Corrected Pk Height (A): 0.179
oncentration (ug/L): 4.779

~~~~~~

g2 ID: 182-30-9E Seq. No.: 00021 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:52
eak Area (A-s): 0.081 Peak Height (A): 0.003
lank Corrected Pk Height (A): 0.003
oncentration (ug/L): 0.091

~~~~~~

g2 ID: 182-30-9E D Seq. No.: 00022 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:53
eak Area (A-s): 0.067 Peak Height (A): 0.003
lank Corrected Pk Height (A): 0.003
oncentration (ug/L): 0.070

~~~~~~

g2 ID: CCV1=6.0ug/L Seq. No.: 00023 A/S Pos.: -- Date: 10/01/97

eplicate 1 Time: 09:54
eak Area (A-s): 5.276 Peak Height (A): 0.228
lank Corrected Pk Height (A): 0.228
~~~~~~

Concentration (ug/L): 6.082

Hg2 ID: CC81 Seq. No.: 00024 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 09:55
Peak Area (A-s): 0.025 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

Hg2 ID: 43233B MB Seq. No.: 00025 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 10:02
Peak Area (A-s): -0.001 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 43233B MB D Seq. No.: 00026 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 10:03
Peak Area (A-s): -0.002 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

Hg2 ID: 43233 LCS Seq. No.: 00027 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 10:04
Peak Area (A-s): 3.848 Peak Height (A): 0.167
Blank Corrected Pk Height (A): 0.167
Concentration (ug/L): 4.458

Hg2 ID: 43233 LCS D Seq. No.: 00028 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 10:06
Peak Area (A-s): 3.710 Peak Height (A): 0.157
Blank Corrected Pk Height (A): 0.157
Concentration (ug/L): 4.196

Hg2 ID: 183-5-1 Seq. No.: 00029 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 10:07
Peak Area (A-s): 0.016 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.024

Hg2 ID: 183-5-1 D Seq. No.: 00030 A/S Pos.: -- Date: 10/01/97

Replicate 1 Time: 10:08
Peak Area (A-s): 0.008 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.011

ID/Weight File: AB817.IDW Analyst: RICHARDS
Sample Volume: 100 mL Nominal Weight: 1.0 g

Loc.	Sample ID	Weight	Dilution
0	STD BLK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43159A MB4		
11	43159A MB4 D		
12	43159A LCS4		
13	43159A LCS4 D		
14	182-30-7BD		
15	182-30-7BD D		
16	182-30-7BD MS		
17	182-30-7BD MSD		
18	182-30-8AC		
19	182-30-8AC D		
20	CCV1=6.0ug/L		
21	CCB1		
22	182-30-9BD		
23	182-30-9BD D		
24	182-30-14BC		
25	182-30-14BC D		
26	CCV2=6.0ug/L		
27	CCB2		
28	43271 MB2		
29	43271 MB2 D		
30	43271 LCS2		
31	43271 LCS2 D		
32	183-43-3D		
33	182-43-3D D		
34	183-43-5C		
35	183-43-5C D		
36	183-43-5C MS		
37	183-43-5C MSD		
38	CCV1=6.0ug/L		
39	CCB1		
40	183-43-5AB		
41	183-43-5AB D		
42	183-43-5D		
43	183-43-5D D		
44	183-43-5E		
45	183-43-5E DX5		
46	183-43-5E DDX5		
47	183-43-5F		
48	183-43-5F D		
49	183-43-6AB		
50	183-43-6AB D		
51	CCV2=6.0ug/L		
52	CCB2		
53	183-43-6C		

3-020-5 mr 10/9/97

3-020-6 mr 10/9/97

5 10-13-97 EE

5

DB 10-13-97

3-020-6 mr 10/9/97

DB 10-13-97

3-020-6 mr 10/9/97

3-020-6 mr 10/9/97

3-020-6 mr 10/9/97

Loc.	Sample ID	Weight	Dilution
54	183-43-6C D		
55	183-43-6D		
56	183-43-6D D		
57	183-43-6E		
58	183-43-6E DX2		
59	183-43-6E DDX2		
60	183-43-6F		
61	183-43-6F D		
62	183-43-7AB		
63	183-43-7AB D		
64	CCV3=6.0ug/L	3-020-6 mr	10/9/97
65	CCB3		
66	184-43-7C		
67	184-43-7C D		
68	184-43-7C MS		
69	184-43-7C MSD		
70	183-43-7D		
71	183-43-7D D		
72	183-43-7E		
73	183-43-7E DX5		
74	183-43-7E DDX5		
75	183-43-7F		
76	183-43-7F D		
77	CCV4=6.0ug/L	3-020-6 mr	10/9/97
78	CCB4		

Element File: HG_.MEL
Element: Hg2
Print Data: Main+Suppl.
Print: Calib. Curve
Remarks:
STANDARDS= 3-020-5
QC= 3-020-6

Analyst: RICHARDS
Peak Storage: None

Hg
10/9/97 re

INSTRUMENT: 5100
Wavelength: 253.7 Peak
Signal Type: AA
Read Time: 30.0
Sample Replicates: 1
Standard Replicates: 1

Technique: MHS
Slit: 0.7 Low
Signal Measurement: Peak Height (5)
Read Delay: 1.0

Version: 7.01
BOC Time: 2

FLAME:
Flame Type: Air
Oxidant Flow: 10.0 L/min

Flame Sensor: On
Fuel Flow: 2.0 L/min

CALIBRATION:

Solutions	ID	Conc
Calib. Blank	STD BLK	
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L
Calibration Type: Linear

Sample Units: ug/L

QC:
Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

---

g2 ID: STD BLK Seq. No.: 00003 A/S Pos.: -- Date: 10/09/97

e licate 1 Time: 08:20
eak Area (A-s): 0.004 Peak Height (A): 0.000
l nk Corrected Pk Height (A): 0.000
o centration (ug/L): 0.008

uto-zero performed.

---

g2 ID: STD1=0.2ug/L Sec. No.: 00004 A/S Pos.: -- Date: 10/09/97

e licate 1 Time: 08:21
eak Area (A-s): 0.167 Peak Height (A): 0.008
l nk Corrected Pk Height (A): 0.008
o centration (ug/L): 0.197

tandard number 1 applied. [0.200]
o relation coefficient: 1.00000 Slope: 0.0376

---

g ID: STD2=0.5ug/L Seq. No.: 00005 A/S Pos.: -- Date: 10/09/97

ample abs. is greater than that of the largest standard.
e licate 1 Time: 08:22
e k Area (A-s): 0.430 Peak Height (A): 0.018
lank Corrected Pk Height (A): 0.018
oncentration (ug/L): 0.488

t ndard number 2 applied. [0.500]
orrelation coefficient: 0.99977 Slope: 0.0368

---

g2 ID: STD3=1.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 10/09/97

a le abs. is greater than that of the largest standard.
eplicate 1 Time: 08:23
eak Area (A-s): 0.851 Peak Height (A): 0.036
l k Corrected Pk Height (A): 0.036
o centration (ug/L): 0.988

t ndard number 3 applied. [1.000]
o elation coefficient: 0.99992 Slope: 0.0365

---

g ID: STD4=2.0ug/L Seq. No.: 00007 A/S Pos.: -- Date: 10/09/97

ample abs. is greater than that of the largest standard.
e licate 1 Time: 08:24
e Area (A-s): 1.722 Peak Height (A): 0.074
lank Corrected Pk Height (A): 0.074
o entration (ug/L): 2.036

tandard number 4 applied. [2.000]
orrelation coefficient: 0.99990 Slope: 0.0370

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Hg2 ID: STD5=5.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 10/09/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 08:25
Peak Area (A-s): 4.365 Peak Height (A): 0.192
Blank Corrected Pk Height (A): 0.192
Concentration (ug/L): 5.177

Standard number 5 applied. [5.000]
Correlation coefficient: 0.99982 Slope: 0.0381

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Hg2 ID: STD6=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 10/09/97

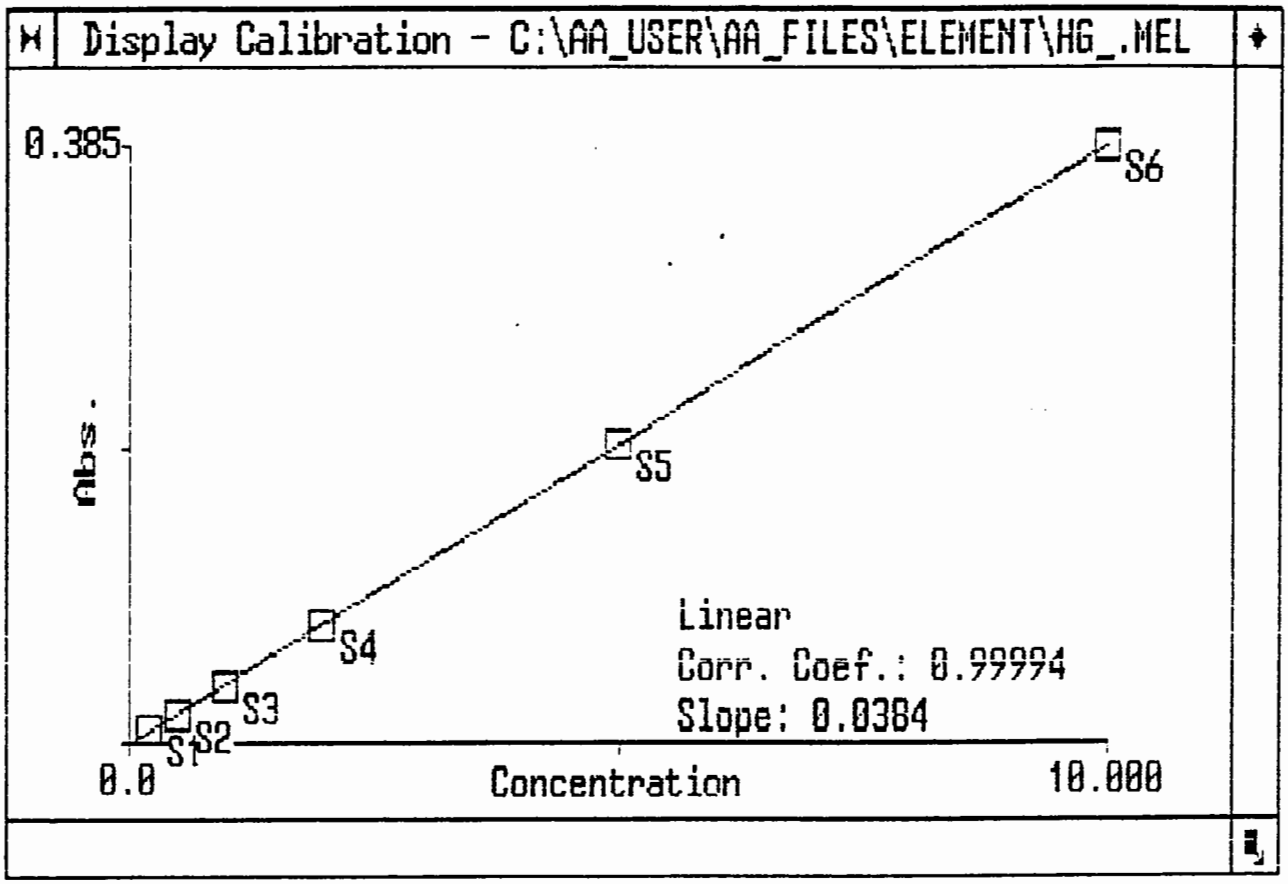
Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 08:27
Peak Area (A-s): 8.911 Peak Height (A): 0.385
Blank Corrected Pk Height (A): 0.385
Concentration (ug/L): 10.108

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99994 Slope: 0.0384

Element File: HG_.MEL
Date: 10/09/97
Data File: A8817.DAT
Technique: MHS
Remark 1: STANDARDS= 3-020-5
Remark 2: QC= 3-020-6

Element: Hg2
Time: 08:27
ID/Wt File: A8817.IDW
Calib. Type: Linear

Wavelength: 253.7
Slit: 0.7 L
Lamp Current: 0
Energy: 72



Hg2 ID: ICV=4.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:29
Peak Area (A-s): 3.572 Peak Height (A): 0.153
Blank Corrected Pk Height (A): 0.153
Concentration (ug/L): 3.974

Hg2 ID: ICB Seq. No.: 00011 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:30
Peak Area (A-s): 0.019 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.010

Hg2 ID: CHECK LO Seq. No.: 00012 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:32
Peak Area (A-s): 0.180 Peak Height (A): 0.008
Blank Corrected Pk Height (A): 0.008
Concentration (ug/L): 0.196

Hg2 ID: 43159A MB~~4~~5 10-13-97 EE Seq. No.: 00013 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:33
Peak Area (A-s): 0.009 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.010

Hg2 ID: 43159A MB~~4~~5D 10-13-97 EE Seq. No.: 00014 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:34
Peak Area (A-s): 0.003 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg2 ID: 43159A LCS~~4~~5 10-13-97 EE Seq. No.: 00015 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:35
Peak Area (A-s): 4.548 Peak Height (A): 0.201
Blank Corrected Pk Height (A): 0.201
Concentration (ug/L): 5.233

Hg2 ID: 43159A LCS~~4~~5D 10-13-97 EE Seq. No.: 00016 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:36
Peak Area (A-s): 4.382 Peak Height (A): 0.190
Blank Corrected Pk Height (A): 0.190
Concentration (ug/L): 4.941

Hg2 ID: 182-30-7~~BD~~ DB 10-13-97 EE Seq. No.: 00017 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:37
Peak Area (A-s): 0.023 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.018

Hg2 ID: 182-30-7~~BD~~ DB D 10-13-97 EE Seq. No.: 00018 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:38
Peak Area (A-s): 0.024 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.021

Hg2 ID: 182-30-7~~BD~~ DB MS 10-13-97 EE Seq. No.: 00019 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:39
Peak Area (A-s): 4.425 Peak Height (A): 0.190
Blank Corrected Pk Height (A): 0.190
Concentration (ug/L): 4.946

Hg2 ID: 182-30-7~~BD~~ DB MSD 10-13-97 EE Seq. No.: 00020 A/S Pos.: -- Date: 10/09/97

[redacted]licate 1 Time: 08:40
eak Area (A-s): 4.384 Peak Height (A): 0.189
[redacted]nk Corrected Pk Height (A): 0.189
[redacted]centration (ug/L): 4.930

[redacted] ID: 182-30-8~~AC~~ CA 9x 10-13-97 CC Seq. No.: 00021 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:41
Pe[redacted]k Area (A-s): 0.029 Peak Height (A): 0.001
[redacted]nk Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.021

Hg2 ID: 182-30-8~~AC~~ CA D 9x 10-13-97 CC Seq. No.: 00022 A/S Pos.: -- Date: 10/09/97

Re[redacted]licate 1 Time: 08:42
Peak Area (A-s): 0.005 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Co[redacted]centration (ug/L): 0.000

Hg[redacted] ID: CCV1=6.0ug/L Seq. No.: 00023 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:43
Peak Area (A-s): 5.525 Peak Height (A): 0.246
B[redacted]nk Corrected Pk Height (A): 0.246
Concentration (ug/L): 6.395

Hg[redacted] ID: CCB1 Seq. No.: 00024 A/S Pos.: -- Date: 10/09/97

Re[redacted]licate 1 Time: 08:44
Pe[redacted]k Area (A-s): 0.025 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

Hg2 ID: 182-30-9~~BD~~ DB 9x 10-13-97 CC Seq. No.: 00025 A/S Pos.: -- Date: 10/09/97

R[redacted]plicate 1 Time: 08:45
Peak Area (A-s): 0.103 Peak Height (A): 0.004
B[redacted]ank Corrected Pk Height (A): 0.004
C[redacted]ncentration (ug/L): 0.112

H[redacted] ID: 182-30-9~~BD~~ DB D 9x 10-13-97 CC Seq. No.: 00026 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:46
P[redacted]k Area (A-s): 0.100 Peak Height (A): 0.004
B[redacted]ank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.104

Hg2 ID: 182-30-14BC Seq. No.: 00027 A/S Pos.: -- Date: 10/09/97

R[redacted]plicate 1 Time: 08:47
Peak Area (A-s): 0.004 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000

[redacted]

Concentration (ug/L): 0.000

Hg2 ID: 182-30-148C D Seq. No.: 00028 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:48
Peak Area (A-s): 0.004 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: CCV2=6.0ug/L Seq. No.: 00029 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:49
Peak Area (A-s): 5.201 Peak Height (A): 0.224
Blank Corrected Pk Height (A): 0.224
Concentration (ug/L): 5.831

Hg2 ID: CCB2 Seq. No.: 00030 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:50
Peak Area (A-s): 0.023 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.021

Hg2 ID: 43271 MB2 Seq. No.: 00031 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:51
Peak Area (A-s): 0.003 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.005

Hg2 ID: 43271 MB2 D Seq. No.: 00032 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:52
Peak Area (A-s): 0.002 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg2 ID: 43271 LCS2 Seq. No.: 00033 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:53
Peak Area (A-s): 4.406 Peak Height (A): 0.194
Blank Corrected Pk Height (A): 0.194
Concentration (ug/L): 5.053

Hg2 ID: 43271 LCS2 D Seq. No.: 00034 A/S Pos.: -- Date: 10/09/97

Replicate 1 Time: 08:56
Peak Area (A-s): 4.053 Peak Height (A): 0.173
Blank Corrected Pk Height (A): 0.173
Concentration (ug/L): 4.507

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of Trace Metals

Method 29 April 1996 Rev.

Client:	Eastern Research Group
TLI Project Number:	43159B
Date:	October 15, 1997

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Rev. 07-May-97

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Overview

Five filter samples were analyzed for arsenic (As), beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), manganese (Mn), nickel (Ni), lead (Pb), antimony (Sb), selenium (Se), and mercury (Hg). For all analyses, the samples and associated QC samples were prepared and analyzed following the guidelines of Method 29 April 1996 Rev. Results reported relate only to the items tested.

QC Remarks

The release of this set of data by Triangle Laboratories, Inc. was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effects of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample Receipt:

Twelve train samples, two blank train samples two DI water samples, and five filter were received at ambient temperature on September 9, 1997 under project 43159 in good condition. Sample YCP-169 arrived with this batch of samples, but was not listed on the client's chain of custody. YCP-169 was not analyzed per the client's request. Samples YCP-21, YCP-27, YCP-33, YCP-44, and YCP-59 were missing from the sample shipment. Samples YCP-21, YCP-27, and YCP-33 were later received at 22 ^{0}C on September 10, 1996 under project # 43187 in good condition. The six filters were reported under project # 43159B. Only the six filter samples were reported in this data package.

Sample Preparation:

Laboratory documentation of the sample preparation is included in the data package.

Instrumentation:

Arsenic (As), beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), manganese (Mn), nickel (Ni), lead (Pb), antimony (Sb), and selenium (Se) concentrations were determined by Inductively Coupled Plasma Emission Spectroscopy (ICP).

Mercury (Hg) concentrations were determined by Cold Vapor Atomic Absorption (CVAA).

The linear range for the instrument TJA 61E Trace Analyzer was based on four standards and a blank, which established a correlation coefficient value greater than or equal to 0.995. A calibration curve, based on a blank and one standard, is established for each analytical run, followed by a check high standard and an initial calibration verification

(ICV). The check high standard does not deviate from the calibration curve by more than 5%. In addition, continuing calibration verifications (CCVs) are performed throughout the analytical run.

A Reporting Detection Limit (RDL) is used instead of an Instrument Detection Limit (IDL). The spectrometer and atomic absorption instruments can achieve low detection limits between 0.2-8 ppb levels for many analytes. Triangle Labs is using RDL values of 1-10 times the IDL as detection limits for reporting purposes.

Data Review:

All analytes found in the method blank (MB) are detected at a level equal to or less than the respective Reporting Detection Limits (RDLs).

The recoveries for the post-digestion spike (PDS) are not reported for Cr and Mn for the sample YCP-178. The spike concentrations added were insignificant in comparison to the levels of these analytes present in the native sample.

The pre-digestion spike (MS) for Mercury (Hg) for the sample YCP-178 demonstrated a percent recovery slightly outside the QC criteria, which does not indicate significant matrix effects specific to this analyte in the native sample matrix. Please note that the pre-digestion spike duplicate (MSD) met the QC criteria for this analyte.

The sample was analyzed within the 28 day sampling to analysis holding time for Hg and within the six month sampling to analysis holding time for other analytes.

QC requirements:

The duplicate analyses for analytes analyzed by ICP cannot be considered valid qualifiers if the concentrations of the analytes in the original and/or duplicate sample are not at least ten times the respective RDLs. The RPDs for these analyses are indicated by or "<RDL" in the Analyte Summary Reports.

For duplicate analyses which are valid qualifiers, the quality control RPD is ± 20.0 percent. If RPDs are outside this range, interferences are suspected.

The serial dilution analyses for analytes analyzed by ICP cannot be considered valid qualifiers if the concentrations of the analytes in the serial dilution sample are less than ten times the respective RDLs. The serial dilution RPDs for these analyses are indicated by "<RDL" in the Analyte Summary Reports.

For serial dilution analyses which are valid qualifiers, the quality control RPD is ± 10.0 percent. If RPDs are outside this range, interferences are suspected.

The quality control range for percent recoveries of laboratory control spiked samples is 80-120.

The quality control range for percent recoveries of spiked samples is 75-125. If recoveries are outside this range, a matrix effect is suspected.

By our interpretation, the analytical data in this project are valid based on the guidelines of Method 29 April 1996 Rev. Any specific QC concerns or problems have been discussed in the QC REMARKS section with emphasis on their effect on the data. Should Eastern Research Group have any questions or comments regarding this data package, please feel free to contact Project Scientist, Amy J. Boehm, at (919) 544-5729 ext.268.

For Triangle Laboratories, Inc.,

Report Preparation

Brenda H. Bell
Report Preparation Chemist

Quality Control

Linda F. Jones
Report Preparation Chemist

The total number of pages in this data package is: 87.

TRIANGLE LABORATORIES, INC.

LIST OF CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

American Association for Laboratory Accreditation. Certification pending. Certificate Number 0226-01. Accreditation for technical competence in Environmental Testing.(Including Waste Water, Sol/Haz Waste, Pulp/Paper, and Air Matrices) Parameters are AOX/TOX, Volatiles, Pesticides, PCB's, BNA's, and Dioxin/Furan. Method 1613 for Drinking Water.

State of Alabama, Department of Environmental Management. Expires December 31, 1997. Laboratory I.D. # 40950. Dioxin in drinking water.

State of Alaska, Department of Environmental Conservation. Expires December 21, 1997. Certificate number OS-00397. Dioxin in drinking water.

State of Arizona, Department of Health Services. Expires May 26, 1998. Certificate #AZ0423. Drinking Water for Dioxin, Dioxin in WW and S/H Waste.

State of Arkansas, Department of Pollution Control and Ecology. Expires February 18, 1998. Pulp/paper, soil, water, and Hazardous Waste for Dioxin/Furan; AOX/TOX.

State of California, Department of Health Services. Expires August 31, 1999. Certificate #1922. Selected Metals in Waste Water; Volatiles, Semi-volatiles. and Dioxin/furan in WW and Sol/Haz Waste. Dioxin in drinking water.

State of Connecticut, Department of Health Services. Expires September 30, 1997. Registration # PH-0117. Dioxin in drinking water.

Delaware Health and Social Services. Expires December 31. 1997. Certificate #NC 140. Dioxin in drinking water.

Florida Department of Health and Rehabilitative Services. Expires June 30, 1998.Dioxin in DW. Drinking Water ID HRS# 87424. Metals, Extractable Organics (GC/MS), Pesticides/PCB's (GC) and Volatiles (GC/MS) in Environmental Samples. Environmental water ID HRS# E87411.

Hawaii Department of Health. Expires March 1, 1998. Dioxin in drinking water. "Accepted" status for regulatory purposes .

Revised 9/18/97 RM

Printed 9/18/97

Idaho Department of Health and Welfare. Expires November 30, 1997. Dioxin in drinking water.

State of Kansas, Department of Health and Environment. Expires January 31, 1998. Environmental Analyses/Non potable Water and Solid and Hazardous Waste. Method 1613 for drinking water. ID #'s - Drinking water and/or pollution control - E-215. Solid or Hazardous Waste - E-1209.

Commonwealth of Kentucky, Department for Environmental Protection. Expires December 31, 1997. ID#90060. Dioxin in drinking water.

Maryland Department of Health and Mental Hygiene. Expires September 30, 1997. Certification #235. Drinking water by Method 1613A.

State of Michigan, Department of Public Health. Expires March 31, 1998. Drinking water by Method 1613.

Mississippi State Department of Health. No expiration date.. Dioxin in drinking water.

Montana Department of Health and Environmental Services. Expires December 31, 1997. Dioxin in drinking water.

State of New Jersey, Department of Environmental Protection and Energy. Extended by state. Temporary certificate until December 31. 1997. ID #67851. BNAs and Volatiles. Dioxin in drinking water.

State of New Mexico, Environment Department. Certification pending. Dioxin in drinking water.

New York State Department of Health. *Expires June 30, 1997. ID #11026. Environmental Analyses of non-potable Water, Solid and Hazardous Waste. Method 1613 in DW.*

State of North Carolina, Department of Environment Health and Natural Resources Expires August 31, 1999. Certificate # 37751. Dioxin in drinking water.

State of North Carolina, Department of Environment, Health, and Natural Resources, Division of Environmental Management. Expires December 31, 1997. Certificate # 485. Metals, pesticides & PCBs, semi-volatiles and volatiles; TCLP.

North Dakota State Department of Health and Consolidated Laboratories. Expires December 31, 1997. Certificate # R-076. Effective October 4, 1993. Dioxin in drinking water.

Oklahoma Department of Environmental Quality. Expires October 31, 1997. Laboratory #9612. Dioxin by 1613A. 8290 and 8280.

State of South Carolina, Department of Health and Environmental Control. Expires June 30, 1997. Certificate number #99040001 (drinking water). Expires August 31, 1999. Certificate number #99040002 (other parameters). Dioxin/Furans, BNA, Volatiles, and PCBs/pesticides under Clean Water Act, 2,3,7,8-TCDD for Drinking Water, and Organic extractables for Solid and Hazardous Waste.

State of Tennessee. Department of Environment and Conservation. Expires February 5, 1999. ID #02992. Method 1613 Drinking water only.

U.S. Department of Agriculture Soil Permit. Expires September 30, 2001. Permit No. S-3790. Under the authority of the Federal Plant Pest Act, permission is granted to receive foreign soil samples for use in laboratory analysis.

U.S. Army Corps of Engineers. Expires November 30, 1997. Validated to perform methods 8280 & 8290 for Lockbourne Landfill Site Investigation, Defense Distribution Depot Projects, and assorted projects for the USACE North Pacific Division Laboratory.

U.S. EPA Region V. Expires November 14, 1999. Dioxin in drinking water.

U.S. EPA Region VIII, for the State of Wyoming. Expires November 13, 1997. Dioxin in drinking water.

State of Utah, Department of Health. Expires December 31, 1997. Certificate Number E-166. Certification for the following parameters: Semi-Volatiles and Volatiles under RCRA; Volatiles under Clean Water Act; Dioxin/furans by Method 8280; Drinking water for Dioxin by Method 1613; Metals including Mercury and Microwave Digestion.

Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services. Expires June 30, 1998. ID # 00341. Dioxin in drinking water.

State of Washington, Department of Ecology. Expires September 1998. Lab Accreditation Number C067. Scope of Accreditation applies to water analyses for Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans, BNA Extr (Semivolatile) Organics and Purgeable (Volatile) Organics.

State of Washington, Department of Health. Expires April 30, 1998. Dioxin in drinking water. Lab I.D. 129

State of West Virginia, Department of Health. Expires December 31, 1997. Certificate No. 9923(C). Dioxin in drinking water.

State of Wisconsin, Department of Natural Resources. Expires August 31, 1998. Laboratory ID Number 999869530. Certification for the following categories of Organics: Purgeable, Base/Neutral, Acid, PCBs, and Dioxin. Expires November 14, 1999. Laboratory ID 999869530. Dioxin in drinking water.

PHARMACEUTICAL

Drug Enforcement Agency (DEA). Expires November 30, 1997. Registration number RT01195835. Controlled substance registration for schedules 1,2,3,3N,4,5.

N.C. Department of Human Resources. Expires October 31, 1997. Registration number NC-PT 0000 0031. North Carolina controlled substances registration. Application submitted for renewal.

Food & Drug Administration (FDA) Registration. Expires June 1998. ID #'s 001500 1053481. Annual registration of drug establishment. Annual registration of drug establishment.

OTHER

Clinical Laboratory Improvement Amendments (CLIA) Registration. Expires May 30, 1999. ID # 34D0705123. Department of Health & Human Services, Health Care Financing Administration.

U.S. EPA Large Quantity Hazardous Waste Generator. No expiration date. EPA ID #NCD982156879. Permit indicates that the laboratory is a large generator of hazardous waste.

North Carolina Radioactive Materials License. Expires April 30 1998. License No. 032-0954-1. License authorizes the licensee to receive, acquire, own, possess, transfer, import and use such radioactive materials as designated.

North Carolina General License for Radiation Protection. No. expiration date. License No. 032-875-OG. The general license applies only to radioactive material contained in devices which have been manufactured and labeled in accordance with specific requirements.

ABBREVIATIONS

BH = Back Half
CCB = Continuing Calibration Blank
CCV = Continuing Calibration Verification
CHECK HS = Check High Standard
D = DUP = Analytical Duplicate (Prepared Duplicate)
DA = Duplicate Analysis
FH = Front Half
FV = Final Digestate Volume
ICB = Initial Calibration Blank
ICV = Initial Calibration Verification
ICSAB = Interference Check Solution (Solution AB)
I = Initial
F = Final
Solution AB contains common interferents in addition to the analyte of interest.
IDL = Instrument Detection Limit
L = Serial Dilution
LCS = Laboratory Control Spike Sample
MB = Method Blank
MPV = Mercury Preparation Volume
MS = Pre-digestion Spike
MSD = Pre-digestion Spike Duplicate
N/A = Not Applicable
N/Av = Not Available
N/V = Not Valid
PDS = Post-digestion Spike
%REC = Percent Recovery
RDL = Reporting Detection Limit
RPD = Relative Percent Difference
T = Analytical Triplicate (Prepared Triplicate; for Hg analysis by Method 7471 only)
TV = Total Sample Volume
< = Analyte concentration in the sample is less than the respective RDL

STANDARD CONCENTRATIONS
for the TJA 61E TRACE ANALYZER

Analyte	Units	High Std	ICV/CCV	ICSAB	RDL	Wavelength
Ag	ppb	1000	500	500	1	3280
As	ppb	1000	500	500	5	1890
Al	ppb	1000	500	500000	50	3082
B	ppb	1000	500	500	7	2496
Ba	ppb	1000	500	500	2	4934
Be	ppb	1000	500	500	1	3130
Ca	ppb	1000	500	500000	60	3179
Cd	ppb	1000	500	500	1	2265
Ce	ppb	1000	500	500	3	4186
Co	ppb	1000	500	500	1	2286
Cr	ppb	1000	500	500	2	2677
Cu	ppb	1000	500	500	2	3247
Fe	ppb	1000	500	200000	40	2714
K	ppb	10000	5000	19000	220	7664
Li	ppb	1000	500	500	1	6706
Mg	ppb	1000	500	500000	30	2790
Mn	ppb	1000	500	500	2	2576
Mo	ppb	1000	500	500	2	2020
Na	ppb	10000	5000	5000	300	3302
Ni	ppb	1000	500	500	3	2316
P	ppb	1000	500	500	30	2149
Pb	ppb	1000	500	500	2	2203
Sb	ppb	1000	500	500	4	2068
Se	ppb	1000	500	500	3	1960
Sn	ppb	1000	500	500	13	1899
Sr	ppb	1000	500	650	1	4215
Ti	ppb	1000	500	500	8	3349
Tl	ppb	1000	500	500	5	1908
V	ppb	1000	500	500	2	2924
Zn	ppb	1000	500	500	12	2062

Note: Use this reference page to review the raw data from the TJA 61E Trace Analyzer.

This page includes the standard concentrations for the check high standard, initial calibration verification (ICV), continuing calibration verification (CCV), and the interference check solution (ICSAB). In addition the reporting detection limit (RDL) and wavelength are reported for each analyte.

Revision Date: 15-Jul-96

CALCULATIONS FOR AIR SAMPLES

RESULTS FOR TRACE METALS (except mercury):

$$\text{RESULT in } \mu g \text{ (Front Half)} = \frac{\mu g/L * FV\ (mL) * DF}{1000\ mL/L}$$

$$\text{RESULT in } \mu g \text{ (Back Half \& Impingers)} = \frac{\mu g/L * TV\ (mL) * FV\ (mL) * DF}{mL\ used * 1000\ mL/L}$$

FV = final volume in mL
TV = total volume in mL
DF = Dilution Factor

The RESULTS for combined Front Half & Back Half samples use the same calculation as the Back Half & impinger samples.

RESULTS FOR MERCURY (Hg):

$$\text{RESULT in } \mu g \text{ (Front Half)} = \mu g/L * (mL\ FV/mL\ aliquot) * MPV * DF$$

$$\text{RESULT in } \mu g \text{ (Back Half \& Impingers)} = \mu g/L * (mL\ TV/mL\ aliquot) * MPV * DF$$

MPV = mercury preparation volume = 0.1 L

%REC (Percent Recovery) for MS/MSD Hg spikes:

$$\%REC = \frac{\text{spike sample results - original sample results}}{\text{true spike sample results}} * 100$$

NOTE: Original sample results less than the RDL are not used in calulations.

%REC (Percent Recovery) for PDS:

$$\%REC = \frac{\text{Spike sample } \mu g/L \text{ conc. - original sample } \mu g/L \text{ conc.}}{\text{spike conc. } (\mu g/L)} * 100$$

%REC (Percent Recovery) for LCS/LCSD:

$$\%REC = \frac{\text{Spike sample } \mu g/L \text{ conc.}}{\text{spike conc. } (\mu g/L)} * 100$$

RPDs:

$$RPD = \frac{|\text{Result 2 - Result 1}|}{(\text{Result 2 + Result 1})/2} * 100$$

Rev. 2-Oct-96

Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-178
TLI Sample ID:	182-30-16A
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	42.134	N/A	N/A	100	1	4.21
Be	-1.132	N/A	N/A	100	1	< 0.100
Cd	7.688	N/A	N/A	100	1	0.769
Co	0.903	N/A	N/A	100	1	< 0.100
Cr	250.866	N/A	N/A	100	1	25.1
Mn	1891.264	N/A	N/A	100	1	189
Ni	42.480	N/A	N/A	100	1	4.25
Pb	131.643	N/A	N/A	100	1	13.2
Sb	-1.004	N/A	N/A	100	1	< 0.400
Se	83.177	N/A	N/A	100	1	8.32

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Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-178 L
TLI Sample ID:	182-30-16A L
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	11.009	N/A	N/A	100	5	5.50
Be	-0.076	N/A	N/A	100	5	< 0.500
Cd	0.550	N/A	N/A	100	5	< 0.500
Co	-0.544	N/A	N/A	100	5	< 0.500
Cr	51.146	N/A	N/A	100	5	25.6
Mn	368.407	N/A	N/A	100	5	184
Ni	11.035	N/A	N/A	100	5	5.52
Pb	26.708	N/A	N/A	100	5	13.4
Sb	0.415	N/A	N/A	100	5	< 2.00
Se	19.697	N/A	N/A	100	5	9.85

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Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-179
TLI Sample ID:	182-30-16B
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	29.054	N/A	N/A	100	1	2.91
Be	-1.026	N/A	N/A	100	1	< 0.100
Cd	9.177	N/A	N/A	100	1	0.918
Co	-0.166	N/A	N/A	100	1	< 0.100
Cr	260.619	N/A	N/A	100	1	26.1
Mn	1722.979	N/A	N/A	100	1	172
Ni	49.097	N/A	N/A	100	1	4.91
Pb	261.609	N/A	N/A	100	1	26.2
Sb	-4.378	N/A	N/A	100	1	< 0.400
Se	98.890	N/A	N/A	100	1	9.89

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Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-179 DA
TLI Sample ID:	182-30-16B DA
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	26.904	N/A	N/A	100	1	2.69
Be	-1.031	N/A	N/A	100	1	< 0.100
Cd	9.681	N/A	N/A	100	1	0.968
Co	-0.356	N/A	N/A	100	1	< 0.100
Cr	260.801	N/A	N/A	100	1	26.1
Mn	1724.823	N/A	N/A	100	1	172
Ni	48.572	N/A	N/A	100	1	4.86
Pb	263.129	N/A	N/A	100	1	26.3
Sb	-6.928	N/A	N/A	100	1	< 0.400
Se	97.690	N/A	N/A	100	1	9.77

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Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-180
TLI Sample ID:	182-30-16C
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	20.116	N/A	N/A	100	1	2.01
Be	-0.062	N/A	N/A	100	1	< 0.100
Cd	0.884	N/A	N/A	100	1	< 0.100
Co	-1.358	N/A	N/A	100	1	< 0.100
Cr	48.038	N/A	N/A	100	1	4.80
Mn	156.910	N/A	N/A	100	1	15.7
Ni	14.288	N/A	N/A	100	1	1.43
Pb	69.563	N/A	N/A	100	1	6.96
Sb	-0.802	N/A	N/A	100	1	< 0.400
Se	46.133	N/A	N/A	100	1	4.61

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Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-181
TLI Sample ID:	182-30-16D
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	21.761	N/A	N/A	100	1	2.18
Be	-0.208	N/A	N/A	100	1	< 0.100
Cd	2.311	N/A	N/A	100	1	0.231
Co	-1.341	N/A	N/A	100	1	< 0.100
Cr	88.634	N/A	N/A	100	1	8.86
Mn	324.012	N/A	N/A	100	1	32.4
Ni	17.479	N/A	N/A	100	1	1.75
Pb	254.724	N/A	N/A	100	1	25.5
Sb	-0.729	N/A	N/A	100	1	< 0.400
Se	54.026	N/A	N/A	100	1	5.40

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Printed: 13-Oct-97 at 12:49 PM

Client: Eastern Research Group
Project Number: 43159B

Sample Report

Client Sample ID:	YCP-182
TLI Sample ID:	182-30-16E
Date Received:	September 09, 1997
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
As	23.961	N/A	N/A	100	1	2.40
Be	0.102	N/A	N/A	100	1	< 0.100
Cd	-0.260	N/A	N/A	100	1	< 0.100
Co	-1.319	N/A	N/A	100	1	< 0.100
Cr	12.013	N/A	N/A	100	1	1.20
Mn	9.872	N/A	N/A	100	1	0.987
Ni	10.495	N/A	N/A	100	1	1.05
Pb	6.726	N/A	N/A	100	1	0.673
Sb	2.295	N/A	N/A	100	1	< 0.400
Se	40.226	N/A	N/A	100	1	4.02

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Client: **Eastern Research Group**
Project Number: 43159B

QA: Serial Dilution

Client Sample ID:	YCP-178	YCP-178 L
TLI Sample ID:	182-30-16A	182-30-16A L
Date Prepared:	September 18, 1997	September 18, 1997
Date Analyzed:	October 03-04, 1997	October 03-04, 1997
Matrix:	MM TRAIN	MM TRAIN

	Native Sample		Serial Dilution		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
As	4.21	42.134	5.50	11.009	<RDL
Be	< 0.100	-1.132	< 0.500	-0.076	<RDL
Cd	0.769	7.688	< 0.500	0.550	<RDL
Co	< 0.100	0.903	< 0.500	-0.544	<RDL
Cr	25.1	250.866	25.6	51.146	1.97%
Mn	189	1891.264	184	368.407	2.68%
Ni	4.25	42.480	5.52	11.035	<RDL
Pb	13.2	131.643	13.4	26.708	1.50%
Sb	< 0.400	-1.004	< 2.00	0.415	<RDL
Se	8.32	83.177	9.85	19.697	<RDL
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Client: Eastern Research Group
Project Number: 43159B

QA: Duplicate

Client Sample ID:	YCP-179	YCP-179 DA
TLI Sample ID:	182-30-16B	182-30-16B DA
Date Prepared:	September 18, 1997	September 18, 1997
Date Analyzed:	October 03-04, 1997	October 03-04, 1997
Matrix:	MM TRAIN	MM TRAIN

	Sample		Duplicate		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
As	2.91	29.054	2.69	26.904	<RDL
Be	< 0.100	-1.026	< 0.100	-1.031	<RDL
Cd	0.918	9.177	0.968	9.681	<RDL
Co	< 0.100	-0.166	< 0.100	-0.356	<RDL
Cr	26.1	260.619	26.1	260.801	0.000%
Mn	172	1722.979	172	1724.823	0.000%
Ni	4.91	49.097	4.86	48.572	1.02%
Pb	26.2	261.609	26.3	263.129	0.381%
Sb	< 0.400	-4.378	< 0.400	-6.928	<RDL
Se	9.89	98.890	9.77	97.690	1.22%
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Client: Eastern Research Group
Project Number: 43159B

QA: Matrix Spikes (Post-Digestion)

Client Sample ID:	YCP-178 PDS	
TLI Sample ID:	182-30-16A PDS	
Date Prepared:	September 18, 1997	
Date Analyzed:	October 03-04, 1997	
Matrix:	MM TRAIN	

	Post-Digestion Spike			Post-Digestion Spike Duplicate			RPD
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	
As	92.17	50	100%				—
Be	49.08	50	98%				—
Cd	58.55	50	102%				—
Co	51.15	50	102%				—
Cr	298.15	50	Spike Low				—
Mn	1913.59	50	Spike Low				—
Ni	92.72	50	100%				—
Pb	181.35	50	99%				—
Sb	50.29	50	101%				—
Se	151.57	50	137%				—

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QA: Method Blank

TLI Sample ID:	43159B MB
Date Prepared:	September 18, 1997
Date Analyzed:	October 03-04, 1997
Matrix:	MM TRAIN

	Method Blank		
Analyte	Recovered Amount (ug/L)	Detection Limit (ug/L)	Pass or Fail
As	-0.69	5	Pass
Be	0.09	1	Pass
Cd	-0.15	1	Pass
Co	-0.44	1	Pass
Cr	0.41	2	Pass
Mn	0.46	2	Pass
Ni	-0.72	3	Pass
Pb	0.93	2	Pass
Sb	-0.88	4	Pass
Se	-1.00	3	Pass
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Client: Eastern Research Group
Project Number: 43159B

QA: Lab Control Spikes

TLI Sample ID:	43159B LCS	
Date Prepared:	September 18, 1997	
Date Analyzed:	October 03-04, 1997	
Matrix:	N/A	

	Lab Control Spike			Lab Control Spike Duplicate			RPD
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	
As	45.87	50	92%				—
Be	46.15	50	92%				—
Cd	47.91	50	96%				—
Co	47.80	50	96%				—
Cr	48.57	50	97%				—
Mn	48.02	50	96%				—
Ni	47.82	50	96%				—
Pb	48.60	50	97%				—
Sb	48.00	50	96%				—
Se	45.02	50	90%				—

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ient: Eastern Research Group
oject Number: 43159B

ample Report

e Received:	September 09, 1997
e Prepared:	September 18-24, 1997
e Analyzed:	September 24, 1997
TA FILE:	AB809
trix:	MM TRAIN

ANALYTE: Hg	
ug/L RDL: 0.2	
Analysis Method:	29
Instrument: P E Zeeman 5100	
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

nt Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
C-178	182-30-16A	0.099	N/A	100	5	1	< 0.400	--	--	--
C-178 D	182-30-16A D	0.097	N/A	100	5	1	< 0.400	< 0.400	--	--
C-179	182-30-16B	0.140	N/A	100	5	1	< 0.400	--	--	--
C-179 D	182-30-16B D	0.132	N/A	100	5	1	< 0.400	< 0.400	--	--
C-180	182-30-16C	0.048	N/A	100	5	1	< 0.400	--	--	--
C-180 D	182-30-16C D	0.051	N/A	100	5	1	< 0.400	< 0.400	--	--
C-181	182-30-16D	0.040	N/A	100	5	1	< 0.400	--	--	--
C-181 D	182-30-16D D	0.043	N/A	100	5	1	< 0.400	< 0.400	--	--
C-182	182-30-16E	0.156	N/A	100	5	1	< 0.400	--	--	--
C-182 D	182-30-16E D	0.142	N/A	100	5	1	< 0.400	< 0.400	--	--
C-178 MS	182-30-16A MS	6.621	N/A	100	5	1	13.2	--	--	132%
C-178 MSD	182-30-16A MSD	5.770	N/A	100	5	1	11.5	12.4	13.7%	115%
C-179 MS	True Spike MS	5	N/A	100	5	1	10.0	--	--	--
C-179 MSD	True Spike MSD	5	N/A	100	5	1	10.0	--	--	--
thod Blank	43159B MB	0.030	--	--	--	--	--	--	--	--
thod Blank D	43159B MB D	0.013	--	--	--	--	--	--	--	--
S	43159B LCS	5.284	--	--	--	--	--	--	--	106%
S D	43159B LCS D	5.088	--	--	--	--	--	--	--	102%

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Youngstown Sintering Plant
CHAIN OF CUSTODY

RELINQUISHED BY = Carol Hughin DATE = 9-9-97 RECEIVED BY: Jim McGarry DATE: 9/9/97
RELINQUISHED BY = Jim McGarry DATE = 9/9/97 RECEIVED BY: [illegible] DATE: 9/9/97

SAMPLE ID	FIELD ID						SAMPLE TYPE	PRESERVATIVE	COMMENTS	ANALYSIS	
YCP-01	YCP-	81297	M29-	SBOUTLET-	APR-	1	METHOD 29, SBOUTLET, RUN 1	ACETONE PROBE RINSE	Beaker # 1	266.5	404.5
YCP-02	YCP-	81297	M29-	SBOUTLET-	HN-	1	METHOD 29, SBOUTLET, RUN 1	NITRIC ACID PROBE RINSE		267.5	411.5
YCP-03	YCP-	81297	M29-	SBOUTLET-	BH-	1	METHOD 29, SBOUTLET, RUN 1	HNO3/H2O2 BACK HALF		391.3	1126.7
YCP-04	YCP-	81297	M29-	SBOUTLET-	BHM-	1	METHOD 29, SBOUTLET, RUN 1	0.1N HNO3 RINSE - Hg		269.4	360.0
YCP-05	YCP-	81297	M29-	SBOUTLET-	KMnO-	1	METHOD 29, SBOUTLET, RUN 1	KMnO4 IMPINGERS		268.5	531.2
YCP-06	YCP-	81297	M29-	SBOUTLET-	HCl-	1	METHOD 29, SBOUTLET, RUN 1	8N HCl RINSE - Hg		270.5	595.2
YCP-07	YCP-	81397	M29-	SBOUTLET-	APR-	2	METHOD 29, SBOUTLET, RUN 2	ACETONE PROBE RINSE	Beaker # 2	267.2	326.2
YCP-08	YCP-	81397	M29-	SBOUTLET-	HN-	2	METHOD 29, SBOUTLET, RUN 2	NITRIC ACID PROBE RINSE		270.8	480.6
YCP-09	YCP-	81397	M29-	SBOUTLET-	BH-	2	METHOD 29, SBOUTLET, RUN 2	HNO3/H2O2 BACK HALF		391.1	1246.0
YCP-10	YCP-	81397	M29-	SBOUTLET-	BHM-	2	METHOD 29, SBOUTLET, RUN 2	0.1N HNO3 RINSE - Hg		270.7	346.0
YCP-11	YCP-	81397	M29-	SBOUTLET-	KMnO-	2	METHOD 29, SBOUTLET, RUN 2	KMnO4 IMPINGERS		268.7	648.7
YCP-12	YCP-	81397	M29-	SBOUTLET-	HCl-	2	METHOD 29, SBOUTLET, RUN 2	8N HCl RINSE - Hg		268.9	606.2
YCP-13	YCP-	81497	M29-	SBOUTLET-	APR-	3	METHOD 29, SBOUTLET, RUN 3	ACETONE PROBE RINSE	Beaker # 3	266.7	375.0
YCP-14	YCP-	81497	M29-	SBOUTLET-	HN-	3	METHOD 29, SBOUTLET, RUN 3	NITRIC ACID PROBE RINSE		267.4	375.4
YCP-15	YCP-	81497	M29-	SBOUTLET-	BH-	3	METHOD 29, SBOUTLET, RUN 3	HNO3/H2O2 BACK HALF		391.7	1206.1
YCP-16	YCP-	81497	M29-	SBOUTLET-	BHM-	3	METHOD 29, SBOUTLET, RUN 3	0.1N HNO3 RINSE - Hg		267.3	316.6
YCP-17	YCP-	81497	M29-	SBOUTLET-	KMnO-	3	METHOD 29, SBOUTLET, RUN 3	KMnO4 IMPINGERS		267.1	655.6
YCP-18	YCP-	81497	M29-	SBOUTLET-	HCl-	3	METHOD 29, SBOUTLET, RUN 3	8N HCl RINSE - Hg		267.1	491.3
YCP-19	YCP-	81297	M29-	SBINLET-	APR-	1	METHOD 29, SBINLET, RUN 1	ACETONE PROBE RINSE	Beaker # 11	266.7	457.8
YCP-20	YCP-	81297	M29-	SBINLET-	HN-	1	METHOD 29, SBINLET, RUN 1	NITRIC ACID PROBE RINSE		268.6	410.6
YCP-21	YCP-	81297	M29-	SBINLET-	BH-	1	METHOD 29, SBINLET, RUN 1	HNO3/H2O2 BACK HALF		391.3	1076.4
YCP-22	YCP-	81297	M29-	SBINLET-	BHM-	1	METHOD 29, SBINLET, RUN 1	0.1N HNO3 RINSE - Hg		270.8	342.4
YCP-23	YCP-	81297	M29-	SBINLET-	KMnO-	1	METHOD 29, SBINLET, RUN 1	KMnO4 IMPINGERS		269.6	607.4
YCP-24	YCP-	81297	M29-	SBINLET-	HCl-	1	METHOD 29, SBINLET, RUN 1	8N HCl RINSE - Hg		269.3	581.0
YCP-25	YCP-	81397	M29-	SBINLET-	APR-	2	METHOD 29, SBINLET, RUN 2	ACETONE PROBE RINSE	Beaker # 12	267.7	537.0
YCP-26	YCP-	81397	M29-	SBINLET-	HN-	2	METHOD 29, SBINLET, RUN 2	NITRIC ACID PROBE RINSE		266.5	554.0

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YCP-27	YCP-	81397	M29-	SBINLET-	BH-	2	METHOD 29, SBINLET, RUN 2	HNO3/H2O2 BACK HALF		391.6	1161.6
YCP-28	YCP-	81397	M29-	SBINLET-	BHM-	2	METHOD 29, SBINLET, RUN 2	0.1N HNO3 RINSE - Hg		267.5	365.3
YCP-29	YCP-	81397	M29-	SBINLET-	KMnO-	2	METHOD 29, SBINLET, RUN 2	KMnO4 IMPINGERS		266.5	718.9
YCP-30	YCP-	81397	M29-	SBINLET-	HCl-	2	METHOD 29, SBINLET, RUN 2	8N HCl RINSE - Hg		267.1	605.4
YCP-31	YCP-	81497	M29-	SBINLET-	APR-	3	METHOD 29, SBINLET, RUN 3	ACETONE PROBE RINSE	Beaker # 13	267.3	495.3
YCP-32	YCP-	81497	M29-	SBINLET-	HN-	3	METHOD 29, SBINLET, RUN 3	NITRIC ACID PROBE RINSE		266.3	410.9
YCP-33	YCP-	81497	M29-	SBINLET-	BH-	3	METHOD 29, SBINLET, RUN 3	HNO3/H2O2 BACK HALF		391.5	1295.3
YCP-34	YCP-	81497	M29-	SBINLET-	BHM-	3	METHOD 29, SBINLET, RUN 3	0.1N HNO3 RINSE - Hg		266.5	394.5
YCP-35	YCP-	81497	M29-	SBINLET-	KMnO-	3	METHOD 29, SBINLET, RUN 3	KMnO4 IMPINGERS		266.2	725.4
YCP-36	YCP-	81497	M29-	SBINLET-	HCl-	3	METHOD 29, SBINLET, RUN 3	8N HCl RINSE - Hg		267.5	438.6
YCP-37	YCP-	81397	M29-	SBOUTLET-	APR-	FB1	METHOD 29, SBOUTLET, FB1	ACETONE PROBE RINSE	Beaker # 4	269.3	369.0
YCP-38	YCP-	81397	M29-	SBOUTLET-	HN-	FB1	METHOD 29, SBOUTLET, FB1	NITRIC ACID PROBE RINSE		269.4	398.6
YCP-39	YCP-	81397	M29-	SBOUTLET-	F-	FB1	METHOD 29, SBOUTLET, FB1	FILTER	Filter # 080497-24	XX	XX
YCP-40	YCP-	81397	M29-	SBOUTLET-	BH-	FB1	METHOD 29, SBOUTLET, FB1	HNO3/H2O2 BACK HALF		268.2	573.2
YCP-41	YCP-	81397	M29-	SBOUTLET-	BHM-	FB1	METHOD 29, SBOUTLET, FB1	0.1N HNO3 RINSE - Hg		269.4	316.9
YCP-42	YCP-	81397	M29-	SBOUTLET-	KMnO-	FB1	METHOD 29, SBOUTLET, FB1	KMnO4 IMPINGERS		269.4	752.3
YCP-43	YCP-	81397	M29-	SBOUTLET-	HCl-	FB1	METHOD 29, SBOUTLET, FB1	8N HCl RINSE - Hg		269.2	429.6
YCP-44	YCP-	81397	M29-	SBOUTLET-	ACE-	RB1	METHOD 29, SBOUTLET, RB1	ACETONE		269.5	444.0
YCP-45	YCP-	81397	M29-	SBOUTLET-	HNO-	RB1	METHOD 29, SBOUTLET, RB1	0.1N HNO3		269.3	739.8
4 ~~YCP-46~~	YCP-	81397	M29-	SBOUTLET-	F-	RB1	METHOD 29, SBOUTLET, RB1	FILTER	Filter # 080497-01	XX	XX
YCP-47	YCP-	81397	M29-	SBOUTLET-	BH-	RB1	METHOD 29, SBOUTLET, RB1	HNO3/H2O2		268.4	567.3
YCP-48	YCP-	81397	M29-	SBOUTLET-	KMnO-	RB1	METHOD 29, SBOUTLET, RB1	KMnO4		269.1	493.3
YCP-49	YCP-	81397	M29-	SBOUTLET-	HCl-	RB1	METHOD 29, SBOUTLET, RB1	8N HCl		268.9	510.2
YCP-50	YCP-	81397	M29-	SBINLET-	APR-	FB2	METHOD 29, SBINLET, FB2	ACETONE PROBE RINSE	Beaker # 5	268.2	387.0
YCP-51	YCP-	81397	M29-	SBINLET-	HN-	FB2	METHOD 29, SBINLET, FB2	NITRIC ACID PROBE RINSE		267.2	439.2
YCP-52	YCP-	81397	M29-	SBINLET-	F-	FB2	METHOD 29, SBINLET, FB2	FILTER	Filter # 080497-23	XX	XX
YCP-53	YCP-	81397	M29-	SBINLET-	BH-	FB2	METHOD 29, SBINLET, FB2	HNO3/H2O2 BACK HALF		269.4	795.8
YCP-54	YCP-	81397	M29-	SBINLET-	BHM-	FB2	METHOD 29, SBINLET, FB2	0.1N HNO3 RINSE - Hg		268.5	333.4
YCP-55	YCP-	81397	M29-	SBINLET-	KMnO-	FB2	METHOD 29, SBINLET, FB2	KMnO4 IMPINGERS		268.7	691.5
YCP-56	YCP-	81397	M29-	SBINLET-	HCl-	FB2	METHOD 29, SBINLET, FB2	8N HCl RINSE - Hg		269.7	439.3
YCP-57	YCP-	81597	M29-	SBINLET-	ACE-	RB2	METHOD 29, SBINLET, RB2	ACETONE	Beaker # 6	268.1	407.0

OK
YCP-46 was 9/9/97

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YCP-58	YCP-	81597	M29-	SBINLET-	HNO-	RB2	METHOD 29, SBINLET, RB2	0.1N HNO3		391.7	648.0
YCP-59	YCP-	81597	M29-	SBINLET-	F-	RB2	METHOD 29, SBINLET, RB2	FILTER		XX	XX
YCP-60	YCP-	81597	M29-	SBINLET-	BH-	RB2	METHOD 29, SBINLET, RB2	HNO3/H2O2		391.6	636.3
YCP-61	YCP-	81597	M29-	SBINLET-	KMnO-	RB2	METHOD 29, SBINLET, RB2	KMnO4		391.2	650.3
YCP-62	YCP-	81597	M29-	SBINLET-	HCl-	RB2	METHOD 29, SBINLET, RB2	8N HCl		390.9	602.2
YCP-88	YCP-	81297	M29-	SBOUTLET-	F-	1	METHOD 29, SBOUTLET, RUN 1		FILTER # 080497-20	XX	XX
YCP-89	YCP-	81397	M29-	SBOUTLET-	F-	2	METHOD 29, SBOUTLET, RUN 2		FILTER # 080497-15	XX	XX
YCP-90	YCP-	81497	M29-	SBOUTLET-	F-	3	METHOD 29, SBOUTLET, RUN 3		FILTER # 080497-19	XX	XX
YCP-91	YCP-	81297	M29-	SBINLET-	F-	1	METHOD 29, SBINLET, RUN 1		FILTER # 080497-22	XX	XX
YCP-92	YCP-	81397	M29-	SBINLET-	F-	2	METHOD 29, SBINLET, RUN 2		FILTER # 080497-21 (1 of 2)	XX	XX
YCP-93	YCP-	81497	M29-	SBINLET-	F-	3	METHOD 29, SBINLET, RUN 3		FILTER # 080497-05 (1 of 2)	XX	XX
YCP-94	YCP-	81597	M29-	BAGAOUT-	APR-	1	METHOD 29, BAG A OUTLET, RUN	ACETONE PROBE RINSE	Beaker # 7	269.1	323.0
YCP-95	YCP-	81597	M29-	BAGAOUT-	HN-	1	METHOD 29, BAG A OUTLET, RUN	NITRIC ACID PROBE RINSE		269.1	336.9
YCP-96	YCP-	81597	M29-	BAGAOUT-	F-	1	METHOD 29, BAG A OUTLET, RUN	FILTER	Filter # 080497-08	XX	XX
YCP-97	YCP-	81597	M29-	BAGAOUT-	BH-	1	METHOD 29, BAG A OUTLET, RUN	HNO3/H2O2		268.6	768.4
YCP-98	YCP-	81597	M29-	BAGAOUT-	BHM-	1	METHOD 29, BAG A OUTLET, RUN	0.1N HNO3 RINSE - Hg		271.0	322.3
YCP-99	YCP-	81597	M29-	BAGAOUT-	KMnO4-	1	METHOD 29, BAG A OUTLET, RUN	KMnO4 IMPINGERS		270.1	601.6
YCP-100	YCP-	81597	M29-	BAGAOUT-	HCl-	1	METHOD 29, BAG A OUTLET, RUN	8N HCl RINSE - Hg		269.5	406.3
YCP-101	YCP-	81597	M29-	BAGAOUT-	APR-	2	METHOD 29, BAG A OUTLET, RUN	ACETONE PROBE RINSE	Beaker # 8	268.3	324.5
YCP-102	YCP-	81597	M29-	BAGAOUT-	HN-	2	METHOD 29, BAG A OUTLET, RUN	NITRIC ACID PROBE RINSE		268.6	372.2
YCP-103	YCP-	81597	M29-	BAGAOUT-	F-	2	METHOD 29, BAG A OUTLET, RUN	FILTER	Filter # 080497-06	XX	XX
YCP-104	YCP-	81597	M29-	BAGAOUT-	BH-	2	METHOD 29, BAG A OUTLET, RUN	HNO3/H2O2		388.7	1089.7
YCP-105	YCP-	81597	M29-	BAGAOUT-	BHM-	2	METHOD 29, BAG A OUTLET, RUN	0.1N HNO3 RINSE - Hg		268.6	348.0
YCP-106	YCP-	81597	M29-	BAGAOUT-	KMnO4-	2	METHOD 29, BAG A OUTLET, RUN	KMnO4 IMPINGERS		268.3	610.6
YCP-107	YCP-	81597	M29-	BAGAOUT-	HCl-	2	METHOD 29, BAG A OUTLET, RUN	8N HCl RINSE - Hg		269.4	517.8
YCP-108	YCP-	81697	M29-	BAGAOUT-	APR-	3	METHOD 29, BAG A OUTLET, RUN	ACETONE PROBE RINSE	Beaker # 9	265.2	318.4
YCP-109	YCP-	81697	M29-	BAGAOUT-	HN-	3	METHOD 29, BAG A OUTLET, RUN	NITRIC ACID PROBE RINSE		265.5	344.9
YCP-110	YCP-	81697	M29-	BAGAOUT-	F-	3	METHOD 29, BAG A OUTLET, RUN	FILTER	Filter # 080497-14	XX	XX
YCP-111	YCP-	81697	M29-	BAGAOUT-	BH-	3	METHOD 29, BAG A OUTLET, RUN	HNO3/H2O2		389.1	1040.1
YCP-112	YCP-	81697	M29-	BAGAOUT-	BHM-	3	METHOD 29, BAG A OUTLET, RUN	0.1N HNO3 RINSE - Hg		266.6	333.6
YCP-113	YCP-	81697	M29-	BAGAOUT-	KMnO4-	3	METHOD 29, BAG A OUTLET, RUN	KMnO4 IMPINGERS		267.8	609.5

Eastern Research Group COC

YCP-114	YCP-	81697	M29-	BAGAOUT-	HCl-	3	METHOD 29, BAG A OUTLET, RUN	8N HCl RINSE - Hg		266.1	486.2
YCP-141	YCP-	81597	M29-	BAGA	APR-	GPB1	ETHOD 29, BAGA, GLASSWARE BL	ACETONE PROBE RINSE	Archived at ERG	268.5	310.1
YCP-142	YCP-	81597	M29-	BAGA	HCl-	GPB1	ETHOD 29, BAGA, GLASSWARE BL	8N HCl RINSE - Hg	Archived at ERG	269.1	462.8
YCP-143	YCP-	81597	M29-	BAGA	HN-	GBP1	ETHOD 29, BAGA, GLASSWARE BL	NITRIC ACID PROBE RINSE	Archived at ERG	268.9	329.1
YCP-144	YCP-	81597	M29-	BAGA	APR-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	ACETONE PROBE RINSE	Archived at ERG	268.4	302.4
YCP-145	YCP-	81597	M29-	BAGA	BH-	GBP1	ETHOD 29, BAGA, GLASSWARE BL	HNO3/H2O2	Archived at ERG	269.1	624.4
YCP-146	YCP-	81597	M29-	BAGA	HN-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	NITRIC ACID PROBE RINSE	Archived at ERG	268.1	399.9
YCP-147	YCP-	81597	M29-	BAGA	IMP	GBP1	ETHOD 29, BAGA, GLASSWARE BL	0.1N HNO3 RINSE - Hg	Archived at ERG	268.7	336.2
YCP-148	YCP-	81597	M29-	BAGA	BH-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	HNO3/H2O2	Archived at ERG	268.4	590.9
YCP-149	YCP-	81597	M29-	BAGA	KMnO4-	GBP1	ETHOD 29, BAGA, GLASSWARE BL	KMnO4 IMPINGERS	Archived at ERG	268.5	613.4
YCP-150	YCP-	81597	M29-	BAGA	IMP	GPB2	ETHOD 29, BAGA, GLASSWARE BL	0.1N HNO3 RINSE - Hg	Archived at ERG	268.6	370.5
YCP-151	YCP-	81597	M29-	BAGA	KMnO4-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	KMnO4 IMPINGERS	Archived at ERG	268.4	445.6
YCP-152	YCP-	81597	M29-	BAGA	HCl-	GPB2	ETHOD 29, BAGA, GLASSWARE BL	8N HCl RINSE - Hg	Archived at ERG	268.8	446.8
YCP-159	YCP-	81697	M29-	BAGA-	APR-	FB	METHOD 29, INLET, FB2	ACETONE PROBE RINSE	Beaker # 10	275.8	326.4
YCP-160	YCP-	81697	M29-	BAGA-	HN-	FB	METHOD 29, INLET, FB2	NITRIC ACID PROBE RINSE		274.8	369.6
YCP-161	YCP-	81697	M29-	BAGA-	BH-	FB	METHOD 29, INLET, FB2	HNO3/H2O2 BACK HALF		391.6	859.7
YCP-162	YCP-	81697	M29-	BAGA-	IMP	FB	METHOD 29, INLET, FB2	0.1N HNO3 RINSE - Hg		268.4	309.8
YCP-163	YCP-	81697	M29-	BAGA-	KMnO-	FB	METHOD 29, INLET, FB2	KMnO4 IMPINGERS		268.4	599.0
YCP-164	YCP-	81697	M29-	BAGA-	HCl-	FB	METHOD 29, INLET, FB2	8N HCl RINSE - Hg		268.4	411.5
YCP-165	YCP-	81697	M29-	BAGA-	F	FB	METHOD 29, INLET, FB2	FILTER	Filter # 080497-03	XX	XX
YCP-170	YCP-	81397	M29-	-		RB1	METHOD 29, REAGENT BLANK	DI WATER		393.0	803.8
YCP-171	YCP-	81597	M29-	-		RB2	METHOD 29, REAGENT BLANK	DI WATER		391.1	795.9
YCP-178	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN1	FILTER FOR YCP-21	FILTER	Filter # 082797-02	METALS	
YCP-179	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN2	FILTER FOR YCP-27	FILTER	Filter # 082797-03	METALS	
YCP-180	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN3	FILTER FOR YCP-33 (1 of 2)	FILTER	Filter # 082797-04	METALS	
YCP-181	YCP-	9/2/97	M29-	SBINLET	FILTER	RUN3	FILTER FOR YCP-33 (2 of 2)	FILTER	Filter # 082797-05	METALS	
YCP-182	YCP-	9/2/97	M29-	BLANK	FILTER	BLANK	FILTER BLANK	FILTER	Filter # 082797-01	METALS	
YCP-183	YCP-	8/13/97	M29-	SBINLET	FILTER	RUN2	2nd Filter fo SBInlet Run 2 (2of2)	FILTER	Filter # 080497-25 (2 of 2)	METALS	
YCP-184	YCP-	8/14/97	M29-	SBINLET	FILTER	RUN3	2nd Filter fo SBInlet Run 3 (2of2)	FILTER	Filter # 080497-18 (2 of 2)	METALS	

169

COPY BH 9/29/97

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

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TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-1A	YCP-01 YCP-01	BEAKER METALS LAB									
182-30-1B	YCP-02 YCP-02	PR METALS LAB									
182-30-1C	YCP-03 YCP-03	HN03/H202 METALS LAB									
182-30-1D	YCP-04 YCP-04	0.1N HNO3 METALS LAB									
182-30-1E	YCP-05 YCP-05	KMN04 METALS LAB									
182-30-1F	YCP-06 YCP-06	HCL METALS LAB									
182-30-1G	YCP-88 YCP-88	FILTER METALS LAB									
182-30-2A	YCP-07 YCP-07	BEAKER METALS LAB									
182-30-2B	YCP-08 YCP-08	PR METALS LAB									
182-30-2C	YCP-09 YCP-09	HN03/H202 METALS LAB									
182-30-2D	YCP-10 YCP-10	0.1NHN03 METALS LAB									
182-30-2E	YCP-11 YCP-11	KMN04 METALS LAB									
182-30-2F	YCP-12 YCP-12	HCL METALS LAB									
182-30-2G	YCP-89 YCP-89	FILTER METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

Book 182 Page 30

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-3A	YCP-13 YCP-13	BEAKER METALS LAB									
182-30-3B	YCP-14 YCP-14	PR METALS LAB									
182-30-3C	YCP-15 YCP-15	HN03/H202 METALS LAB									
182-30-3D	YCP-16 YCP-16	0.1NHN03 METALS LAB									
182-30-3E	YCP-17 YCP-17	KMN04 METALS LAB									
182-30-3F	YCP-18 YCP-18	HCL METALS LAB									
182-30-3G	YCP-90 YCP-90	FILTER METALS LAB									
182-30-4A	YCP-19 YCP-19	BEAKER METALS LAB									
182-30-4B	YCP-20 YCP-20	PR METALS LAB									
182-30-4C	YCP-22 YCP-22	0.1NHN03 METALS LAB									
182-30-4D	YCP-23 YCP-23	KMN04 METALS LAB									
182-30-4E	YCP-24 YCP-24	HCL METALS LAB									
182-30-4F	YCP-91 YCP-91	FILTER METALS LAB									
182-30-5A	YCP-25 YCP-25	BEAKER METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

Book 182 Page 30

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-5B	YCP-26	PR									
	YCP-26	METALS LAB									
182-30-5C	YCP-28	KMN04									
	YCP-28	METALS LAB									
182-30-5D	YCP-29	HCL									
	YCP-29	METALS LAB									
182-30-5E	YCP-30	FILTER									
	YCP-30	METALS LAB									
182-30-5F	YCP-92	FILTER									
	YCP-92	METALS LAB									
182-30-5G	YCP-183	FILTER									
	YCP-183	METALS LAB									
182-30-6A	YCP-31	BEAKER									
	YCP-31	METALS LAB									
182-30-6B	YCP-32	PR									
	YCP-32	METALS LAB									
182-30-6C	YCP-34	.1N HNO3									
	YCP-34	METALS LAB									
182-30-6D	YCP-35	KMN04									
	YCP-35	METALS LAB									
182-30-6E	YCP-36	HCL									
	YCP-36	METALS LAB									
182-30-6F	YCP-93	FILTER									
	YCP-93	METALS LAB									
182-30-6G	YCP-184	FILTER									
	YCP-184	METALS LAB									
182-30-7A	YCP-37	BEAKER									
	YCP-37	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

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Ice Chest/Box NO COOLANT

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-7B	YCP-38 YCP-38	PR METALS LAB									
182-30-7C	YCP-39 YCP-39	FILTER METALS LAB									
182-30-7D	YCP-40 YCP-40	HNO3/H2O2 METALS LAB									
182-30-7E	YCP-41 YCP-41	Hg HNO3 METALS LAB									
182-30-7F	YCP-42 YCP-42	Hg KMnO4 METALS LAB									
182-30-7G	YCP-43 YCP-43	Hg HCl METALS LAB									
182-30-8A	YCP-45 YCP-45	0.1NHNO3 METALS LAB									
182-30-8B	YCP-46 YCP-46	FILTER METALS LAB									
182-30-8C	YCP-47 YCP-47	HNO3/H2O2 METALS LAB									
182-30-8D	YCP-48 YCP-48	KMNO4 METALS LAB									
182-30-8E	YCP-49 YCP-49	HCL METALS LAB									
182-30-9A	YCP-50 YCP-50	BEAKER METALS LAB									
182-30-9B	YCP-51 YCP-51	PR METALS LAB									
182-30-9C	YCP-52 YCP-52	FILTER METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

Book 182 Page 30

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-9D	YCP-53 YCP-53	HN03/H202 METALS LAB									
182-30-9E	YCP-54 YCP-54	Hg HNO3 METALS LAB									
182-30-9F	YCP-55 YCP-55	Hg KMnO4 METALS LAB									
182-30-9G	YCP-56 YCP-56	Hg HCl METALS LAB									
182-30-10A	YCP-57 YCP-57	BEAKER METALS LAB									
182-30-10B	YCP-58 YCP-58	0.1NHN03 METALS LAB									
182-30-10C	YCP-60 YCP-60	HN03/H202 METALS LAB									
182-30-10D	YCP-61 YCP-61	KMN04 METALS LAB									
182-30-10E	YCP-62 YCP-62	HCL METALS LAB									
182-30-11A	YCP-94 YCP-94	BEAKER METALS LAB									
182-30-11B	YCP-95 YCP-95	PR METALS LAB									
182-30-11C	YCP-96 YCP-96	FILTER METALS LAB									
182-30-11D	YCP-97 YCP-97	HNO3/H2O2 METALS LAB									
182-30-11E	YCP-98 YCP-98	IMP 4 METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

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TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-11F	YCP-99	Hg KMnO4									
	YCP-99	METALS LAB									
182-30-11G	YCP-100	Hg HCl									
	YCP-100	METALS LAB									
182-30-12A	YCP-101	BEAKER									
	YCP-101	METALS LAB									
182-30-12B	YCP-102	PR									
	YCP-102	METALS LAB									
182-30-12C	YCP-103	FILTER									
	YCP-103	METALS LAB									
182-30-12D	YCP-104	HNO3/H2O2									
	YCP-104	METALS LAB									
182-30-12E	YCP-105	IMP 4									
	YCP-105	METALS LAB									
182-30-12F	YCP-106	KMNO4									
	YCP-106	METALS LAB									
182-30-12G	YCP-107	Hg HCl									
	YCP-107	METALS LAB									
182-30-13A	YCP-108	BEAKER									
	YCP-108	METALS LAB									
182-30-13B	YCP-109	PR									
	YCP-109	METALS LAB									
182-30-13C	YCP-110	FILTER									
	YCP-110	METALS LAB									
182-30-13D	YCP-111	HNO3/H2O2									
	YCP-111	METALS LAB									
182-30-13E	YCP-112	IMP 4									
	YCP-112	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

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Page
30

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-13F	YCP-113 YCP-113	Hg KMnO4 METALS LAB									
182-30-13G	YCP-114 YCP-114	Hg HCl METALS LAB									
182-30-14A	YCP-159 YCP-159	BEAKER METALS LAB									
182-30-14B	YCP-160 YCP-160	PR METALS LAB									
182-30-14C	YCP-161 YCP-161	IMP 1,2,3 METALS LAB									
182-30-14D	YCP-162 YCP-162	IMP4 METALS LAB									
182-30-14E	YCP-163 YCP-163	KMNO4 METALS LAB									
182-30-14F	YCP-164 YCP-164	HCL METALS LAB									
182-30-14G	YCP-165 YCP-165	FILTER METALS LAB									
182-30-15A	YCP-169 YCP-169	HPLC METALS LAB									
182-30-15B	YCP-170 YCP-170	DI H20 METALS LAB									
182-30-15C	YCP-171 YCP-171	1ATER METALS LAB									
182-30-16A	YCP-178 YCP-178	FILTER METALS LAB									
182-30-16B	YCP-179 YCP-179	FILTER METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43159
Client: ERG02 - Eastern Research Group

Date Received 09/09/97 By

Carrier and Number JIM MC

Ice Chest/Box NO COOLANT

Book 182 Page 30

TLI Number.. mR/H:CPM.	Client Sample ID..... Client COC ID.....*	Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-30-16C	YCP-180	FILTER									
	YCP-180	METALS LAB									
182-30-16D	YCP-181	FILTER									
	YCP-181	METALS LAB									
182-30-16E	YCP-182	FILTER									
	YCP-182	METALS LAB									

Receiving Remarks: YCP-21,YCP-27,YCP-33,YCP-44 ,YCP-59 were missing from shipment.Also a YCP-169 filter arrived But is not listed on C.O.C.

Archive Remarks:

COPY KML 9/10/97

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TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Absent
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43187
Client: ERG02 - Eastern Research Group

Date Received 09/10/97 By [signature]

Carrier and Number JIM MC

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Page 58

Styro Cooler NO COOLANT Temp 22.0 C

TLI Number.. mR/H:CPM.	....Client Sample ID..... .....Client COC ID.....*	.....Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
182-58-1	YCP-21 REFER TO TLI PROJECT43159*	WATER C02									
182-58-2	YCP-27 REFER TO TLI PROJECT43159*	WATER C02									
182-58-3	YCP-33 REFER TO TLI PROJECT43159*	WATER C02									

Receiving Remarks: NO COOLANT PRESENT WITH SAMPLES THUS THE HIGH TEMPERATURE. SAMPLES ARE PART OF TLI PROJECT #43159.

Archive Remarks:

roject # 43159 B

:llent: Eastern Research Group

Triangle Laboratories of RTP
(919) 544-5729

'ate/Int.: 9/18/97 SRB

llent Run# YCP-178

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Analytes			
ICP	GFAA	FLAA	CVAA
As, Be			
Cd, Co			
Cr, Mn			
Ni, Pb			
Sb, Se			

CONT # 1
Filter
'pe: G or Q
label 182-30-16A

CONT # ~~2~~
Acetone Rinse
label
Volume

CONT # ~~3~~
HNO3 Rinse
label
Volume

CONT # ~~4~~
Back Half Impinger
label
Volume

Hg Impingers

CONT # ~~5A~~ HNO3
label
Volume ml
Aliquot A
Aliquot B
Int
Date

CONT # ~~5B~~ KMNO4
label
Volume ml
Aliquot A
Aliquot B
Int
Date

CONT # ~~5C~~ HCl
label
Volume ml
Aliquot A
Aliquot B
Int
Date

Dessicate to dryness and redissolve in 10ml con HNO3 — Int / Date

Reduce volume to 20 ml on hotplate — Int / Date

rowave dig h conc. HF conc. HNO3 — Int SRB / Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int / Date
label

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int SRB / Date 9/18/97
label 182-30-16A
Volume 100 ML

For Metals
label 182-30-16A Int SRB
Volume 100 Date 9/18/97
post digest spike on FH for GFAA))

For Hg
label 182-30-16A Int MR
Volume 100 ml Date 9/24/97

Aliquot A: 5 mL Spiked

For Metals
label
Volume

For Hg
label
Volume

Reduce Volume to 20 ml. on Hotplate — Int. / Date

Hotplate dig with HNO3 and H202 — Int. / Date

Add 500 uL Sc — Int. / Date

Dilute to 100 mls — Int. / Date

label Int
Volume Date

(Duplicate Analysis of Each

Sample
label Int
Volume Date
Aliquot A:
Aliquot B:

Spike
(1 BH Hg Spike required)
label Int
Volume Date
Aliquot A:
Aliquot B:
spk ml of ppb — Int
final spk conc. added ppb — Date

FH & BH Serial dilution performed
ml to ml FV + uL Sc

Project # 43159 B

Client: _____

Date/Int.: _____

Client Run# YCP-179

Triangle Laboratories of RTP
(919) 544-5729

Analytes			
ICP	GFAA	FLAA	CVAA

CONT # 1
Filter
Type: G or Q
label 182-30-16B

CONT # 2
Acetone Rinse
label _____
Volume _____

CONT # 3
HNO3 Rinse
label _____
Volume _____

CONT # 4
Back Half Impinger
label _____
Volume _____

Hg Impingers

CONT # 5A
HNO3
label _____
Volume _____ ml
Aliquot A _____
Aliquot B _____
Int _____
Date _____

CONT # 5B
KMNO4
label _____
Volume _____ ml
Aliquot A _____
Aliquot B _____
Int _____
Date _____

CONT # 6C
HCL
label _____
Volume _____ ml
Aliquot A _____
Aliquot B _____
Int _____
Date _____

(Duplicate Analysis of Each

Dessicate to dryness and redissolve in 10ml con HNO3 — Int _____ Date _____

Reduce volume to 20 ml on hotplate — Int _____ Date _____

Microwave dig with conc. HF and conc. HNO3 — Int _____ Date _____

Microwave dig with conc. HF and conc. HNO3 — Int SRB Date 9/18/97

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int SRB Date 9/18/97

label 182-30-16B
Volume 100 ML

For Metal
label 182-30-16B
Int SRB
Volume 100 Date 9/18/97
(post digest spike on FH for GFAA))

For Hg
label 182-30-16B Int MR
Volume 100 ml Date 9/24/97

FH & BH Post dig. spk.
Aliquot A: 5 mL

For Metals
label _____
Volume _____

For Hg
label _____
Volume _____

Reduce Volume to 20 ml. on Hotplate — Int. _____ Date _____

Hotplate dig with HNO3 and H202 — Int. _____ Date _____

Add 500 uL Sc — Int. _____ Date _____

Dilute to 100 mls — Int. _____ Date _____

label _____ Int _____
Volume _____ Date _____

Sample
label _____ Int _____
Volume _____ Date _____
Aliquot A: _____
Aliquot B: _____

Spike
(1 BH Hg Spike required)
label _____ Int _____
Volume _____ Date _____
Aliquot A: _____
Aliquot B: _____

spk _____ ml of _____ ppb — Int _____
final spk conc. added _____ ppb — Date _____

FH & BH Serial dilution performed
_____ ml to _____ ml FV + _____ uL Sc

Project # 43159 B

Client:

Date/Int.:

Client Run# YCP-180

Triangle Laboratories of RTP

(919) 544-5729

Analytes: ICP | GFAA | FLAA | CVAA

40

CONT # 1 — Filter type: G or Q — label 182-30-16C

CONT # 2 — Acetone Rinse — label ____ Volume ____

CONT # 3 — HNO3 Rinse — label ____ Volume ____

CONT # 4 — Back Half Impinger — label ____ Volume ____

Hg Impingers

CONT # 5A — HNO3 — label ____ Volume ____ml Aliquot A ____ Aliquot B ____ Int ____ Date ____

CONT # 5B — KMNO4 — label ____ Volume ____ml Aliquot A ____ Aliquot B ____ Int ____ Date ____

CONT # 6C — HCl — label ____ Volume ____ml Aliquot A ____ Aliquot B ____ Int ____ Date ____

Dessicate to dryness and redissolve in 10ml con HNO3 — Int ____ Date ____

Reduce volume to 20 ml on hotplate — Int ____ Date ____

Microwave dig with conc. HF and conc. HNO3 — Int ____ Date ____ — label ____

Microwave dig with conc. HF and conc. HNO3 — Int SRB Date 9/18/97

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int SRB Date 9/18/97

label 182-30-16C Volume 100 ML

For Metal — label 182-30-16C Int SRB Volume 100 Date 9/18/97

(post digest spike on FH for GFAA))

For Hg — label 183-30-16C Int MR Volume 100 ml Date 9/24/97

FH & BH Post dig. spk. — Aliquot A: 5 ml

(No spike required)

For Metals — label ____ Volume ____

For Hg — label ____ Volume ____

Reduce Volume to 20 ml. on Hotplate — Int. ____ Date ____

Hotplate dig with HNO3 and H202 — Int. ____ Date ____

Add 500 uL Sc — Int. ____ Date ____

Dilute to 100 mls — Int. ____ Date ____

label ____ Int ____ Volume ____ Date ____

(One post digestion spk on BH for GFAA)

(Duplicate Analysis of Each

Sample — label ____ Int ____ Volume ____ Date ____ — Aliquot A: ____ Aliquot B: ____

Spike (1 BH Hg Spike required) — label ____ Int ____ Volume ____ Date ____ — Aliquot A: ____ Aliquot B: ____

spk ____ml of ____ppb — Int ____

final spk conc. added ____ppb — Date ____

FH & BH Serial dilution performed

____ ml to ____ml FV + ____uL Sc

Project # 4/3159 B

Client: _____

Date/Int.: _____

Client Run# YCP-181

Triangle Laboratories of RTP

(919) 544-5729

Analytes: ICP | GFAA | FLAA | CVAA

41

CONT # 1 — Filter type: G or Q — label 182-30-16D

CONT # 2 — Acetone Rinse — label _____ Volume _____

CONT # 3 — HNO3 Rinse — label _____ Volume _____

CONT # 4 — Back Half Impinger — label _____ Volume _____

Hg Impingers

CONT # 5A — HNO3 — label _____ Volume _____ ml — Aliquot A _____ Aliquot B _____ Int _____ Date _____

CONT # 5B — KMNO4 — label _____ Volume _____ ml — Aliquot A _____ Aliquot B _____ Int _____ Date _____

CONT # 5C — HCl — label _____ Volume _____ ml — Aliquot A _____ Aliquot B _____ Int _____ Date _____

Dessicate to dryness and redissolve in 10ml con HNO3 — Int _____ Date _____

Reduce volume to 20 ml on hotplate — Int _____ Date _____

Microwave dig with conc. HF and conc. HNO3 — Int SRB — Date 9/18/97

Microwave dig with conc. HF and conc. HNO3 — Int _____ Date _____ — label _____

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int SRB — Date 9/18/97

label 182-30-16D

Volume 100 ML

For Metal — label 182-30-16D — Int SRB — Volume 100 — Date 9/18/97

post digest spike on FH for GFAA))

& BH Post dig. spk. — Aliquot A: 5 mL

For Hg — label 182-30-16D — Int MR — Volume 100 ml — Date 9/24/97

For Metals — label _____ Volume _____

For Hg — label _____ Volume _____

Reduce Volume to 20 ml. on Hotplate — Int. _____ Date _____

Hotplate dig with HNO3 and H202 — Int. _____ Date _____

Add 500 uL Sc — Int. _____ Date _____

Dilute to 100 mls — Int. _____ Date _____

label _____ Int _____ Volume _____ Date _____

(Duplicate Analysis of Each)

Sample — label _____ Int _____ Volume _____ Date _____ — Aliquot A: _____ Aliquot B: _____

Spike (1 BH Hg Spike required) — label _____ Int _____ Volume _____ Date _____ — Aliquot A: _____ Aliquot B: _____

spk ____ ml of ____ ppb — Int _____ — final spk conc. added ____ ppb — Date _____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Project # 43159 B

Client:

Date/Int.:

Client Run# YCP-182

Triangle Laboratories of RTP

(919) 544-5729

Analytes			
ICP	GFAA	FLAA	CVAA

42

CONT # 1

Filter
Type: G or Q

label 182-30-16E

CONT # ~~2~~

Acetone Rinse

label

Volume

CONT # ~~3~~

HNO3 Rinse

label

Volume

CONT # ~~4~~

Back Half Impinger

label

Volume

Hg Impingers

CONT # ~~5A~~ HNO3

label

Volume ml

Aliquot A

Aliquot B

Int

Date

CONT # ~~5B~~ KMNO4

label

Volume ml

Aliquot A

Aliquot B

Int

Date

CONT # ~~5C~~ HCl

label

Volume ml

Aliquot A

Aliquot B

Int

Date

Dessicate to dryness and redissolve in 10ml con HNO3 — Int ____ Date ____

Reduce volume to 20 ml on holplate — Int ____ Date ____

Microwave dig with conc. HF and conc. HNO3 — Int ____ Date ____

label

Microwave dig with conc. HF conc. HNO3 — Int SRB Date 9/18/97

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls — Int SRB Date 9/18/97

label 182-30-16E

Volume 100 ML

For Metal

label 182-30-16E Int SRB

Volume 100 Date 9/18/97

post digest spike on FH for GFAA))

FH & BH Post dig. spk.

Aliquot A: 5 mL

For Hg

label 182-30-16E Int MC

Volume 100 ml Date 9/24/97

For Metals

label

Volume

For Hg

label

Volume

Reduce Volume to 20 ml. on Holplate — Int. ____ Date ____

Holplate dig with HNO3 and H202 — Int. ____ Date ____

Add 500 uL Sc — Int. ____ Date ____

Dilute to 100 mls — Int. ____ Date ____

label ____ Int ____

Volume ____ Date ____

(Duplicate Analysis of Each

Sample

label ____ Int ____

Volume ____ Date ____

Aliquot A: ____

Aliquot B: ____

Spike
(1 BH Hg Spike required)

label ____ Int ____

Volume ____ Date ____

Aliquot A: ____

Aliquot B: ____

spk ____ ml of ____ ppb — Int ____

final spk conc. added ____ ppb — Date ____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

INORGANICS SPIKE LOG

DATE	PROJECT # SAMPLE IDs	ANALYTE	ORIGINAL STANDARD #	ORIGINAL STANDARD CONC. (PPM)	SPIKE SAMPLE (µL) / FINAL VOLUME (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
4/97	43199-LCS	*	3-013-3	*	1000/100	*	DSE	SF
	182-70-2MS						↓	↓
	182-70-2MSD						↓	↓
15/97	43091B-LCS	*	3-013-3	*	1000/100	*	SRB	LDJ
rep	181-61-1MS						↓	↓
	181-61-1MSD						↓	↓
6/97	43239-LCS	*	3-013-3	*	1000/100	*	DSE	SRB
	183-11-5 MS						↓	↓
	183-11-5 MSD						↓	↓
		P	2-120-2	1000	100/100	1000	DSE ↓	↓
		Sn	2-117-1	1000	20/100	200	↓	↓
		Ti	2-112-3	1000	70/100	700	↓	↓
17/97	43182-LCS	*	3-013-3	*	1000/100	*	DSE	SRB
18/97	43159B-LCS	*	3-013-3	*	1000/100	*	SRB	SF

TLI # 43159-B

*** SEE SPIKE LOG**

EXP date	Element	Spiking Standard Preparation: Standard ID	Orig. Std. (ppm)	Spike(uL) Fvol(100mL)	conc (ppm)	SPIKING from Spiking Standard: Spike(uL) FVol(100ml)	conc (ppb)	combined total
2/1/98	Ag	2-115-4	100	5000	5	1000	50	
9/1/98	As	3-010-10	100	5000	5	1000	50	
2/1/98	Al	2-115-4	100	5000	5	1000	50	
9/1/98	Al	3-010-7	10000	950	95	1000	950	1000
2/1/98	B	2-115-4	100	5000	5	1000	50	
2/1/98	Ba	2-115-4	100	5000	5	1000	50	
9/1/98	Be	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-012-7	10000	950	95	1000	950	1000
9/1/98	Cd	3-010-10	100	5000	5	1000	50	
9/1/98	Co	3-010-10	100	5000	5	1000	50	
9/1/98	Cr	3-010-10	100	5000	5	1000	50	
9/1/98	Cu	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-012-6	10000	950	95	1000	950	1000
2/1/98	K	2-115-4	1000	5000	50	1000	500	
9/1/98	K	3-012-5	10000	1500	150	1000	1500	2000
9/1/98	Mg	3-010-10	100	5000	5	1000	50	
8/1/98	Mg	3-010-8	10000	950	95	1000	950	1000
9/1/98	Mn	3-010-10	100	5000	5	1000	50	
9/1/98	Mo	3-010-10	100	5000	5	1000	50	
2/1/98	Na	2-115-4	100	5000	5	1000	50	
8/1/98	Na	3-010-9	10000	1950	195	1000	1950	2000
9/1/98	Ni	3-010-10	100	5000	5	1000	50	
9/1/98	Pb	3-010-10	100	5000	5	1000	50	
9/1/98	Sb	3-010-10	100	5000	5	1000	50	
9/1/98	Se	3-010-10	100	5000	5	1000	50	
9/1/98	Ti	3-010-10	100	5000	5	1000	50	
9/1/98	Tl	3-010-10	100	5000	5	1000	50	
9/1/98	V	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-10	100	5000	5	1000	50	
8/1/98	Zn	3-010-8	1000	1500	15	1000	150	200

1000uL of the Spiking Standard gives the listed conc. of the above elements.

****Spike seperately**

Element	Orig Std (ppm)	Spike(uL) Fvol(100m	conc (ppb)
Au	1000	140	1400
Ce	1000	30	300
Li	1000	70	700
P	1000	100	1000
Pd	1000	160	1600
Pt	1000	300	3000
S	1000	350	3500
Si	10000	350	35000
Sn	1000	20	200
Sr	1000	5	50

Spiking Standard 3-013-3
EXP: 11/26/97

Spiked by: SRB 9/18/97
Predigestion-

Postdigestion-

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43159-B

Transfer From: IWLM To: IA I

	Initials..	Date.....	Time...
Released by:	SRB	9/18/97	12:30pm
Accepted by:	MKA	9/21/97	2330

MILES.ID.....		TLI_No.....	Cust.Id.....
43159-B	-000	TLI Blank	TLI Method Blank
43159-B	-001	182-30-16A	YCP-178
43159-B	-002	182-30-16B	YCP-179
43159-B	-003	182-30-16C	YCP-180
43159-B	-004	182-30-16D	YCP-181
43159-B	-005	182-30-16E	YCP-182
43159-B	-006	LCS	LAB CONTROL SPIKE

XfrCOC (Rev 11/01/94)

:ional comments or instructions:

Date	Project Sample IDs	Analyte	Std ID	Std conc ppm	Spike vol / sample vol	Spike Conc	Initials	Wt.
4/97	43528B	↓	3013-4	↓	100/10	↓	NKA	NKA
	180-97-2 PNS							
5/97	42869C	↓	3-013-4	↓	100/10	↓	SRB	SRB
	179-37-1 PNS	↓	↓	↓	↓	↓	↓	↓
97	42869C	↓	3-013-4	↓	100/10	↓	NKA	NKA
	179-37-1 PNS	↓	↓	↓	↓	↓	↓	↓
3/97	43332A	↓	3-013-4	↓	100/10	↓	NKA	NKA
	184-5-2 PNS	↓	↓	↓	↓	↓	↓	↓
3/97	43182	↓	3-013-4	↓	100/10	↓	NKA	NKA
	182-53-1,3 PNS	↓	↓	↓	↓	↓	↓	↓
1/97	43159A	↓	3-013-4	↓	100/10	↓	NKA	NKA
	182-30-1AB PNS	↓	↓	↓	↓	↓	↓	↓
	182-30-1C PNS	↓	↓	↓	↓	↓	↓	↓
1/97	43159B	↓	3-013-4	↓	100/10	↓	NKA	NKA
	182-30-16A PNS	↓	↓	↓	↓	↓	↓	↓

* SEE SPIKE LOG

EXP date	Element	Spiking Standard Preparation: Standard ID	Orig. Std. (ppm)	Spike(uL) / Fvol(100mL)	conc (ppm)	SPIKING from Spiking Standard: Spike(uL) / FVol(100ml)	conc (ppb)	combined total
2/1/98	Ag	2-115-4	100	5000	5	1000	50	
9/1/98	As	3-010-10	100	5000	5	1000	50	
2/1/98	Al	2-115-4	100	5000	5	1000	50	
9/1/98	Al	3-010-7	10000	950	95	1000	950	1000
2/1/98	B	2-115-4	100	5000	5	1000	50	
2/1/98	Ba	2-115-4	100	5000	5	1000	50	
9/1/98	Be	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-012-7	10000	950	95	1000	950	1000
9/1/98	Cd	3-010-10	100	5000	5	1000	50	
9/1/98	Co	3-010-10	100	5000	5	1000	50	
9/1/98	Cr	3-010-10	100	5000	5	1000	50	
9/1/98	Cu	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-012-6	10000	950	95	1000	950	1000
2/1/98	K	2-115-4	1000	5000	50	1000	500	
9/1/98	K	3-012-5	10000	1500	150	1000	1500	2000
9/1/98	Mg	3-010-10	100	5000	5	1000	50	
8/1/98	Mg	3-010-8	10000	950	95	1000	950	1000
9/1/98	Mn	3-010-10	100	5000	5	1000	50	
9/1/98	Mo	3-010-10	100	5000	5	1000	50	
2/1/98	Na	2-115-4	100	5000	5	1000	50	
8/1/98	Na	3-010-9	10000	1950	195	1000	1950	2000
9/1/98	Ni	3-010-10	100	5000	5	1000	50	
9/1/98	Pb	3-010-10	100	5000	5	1000	50	
9/1/98	Sb	3-010-10	100	5000	5	1000	50	
9/1/98	Se	3-010-10	100	5000	5	1000	50	
9/1/98	Ti	3-010-10	100	5000	5	1000	50	
9/1/98	Tl	3-010-10	100	5000	5	1000	50	
9/1/98	V	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-6	1000	1500	15	1000	150	200

100CuL of the Spiking Standard gives the listed conc. of the above elements.

**Spike seperately

Element	Orig Std (ppm)	Spike(uL) Fvol(100m	conc (ppb)
Au	1000	140	1400
Ce	1000	30	300
Li	1000	70	700
P	1000	100	1000
Pd	1000	160	1600
Pt	1000	300	3000
S	1000	350	3500
Si	10000	350	35000
Sn	1000	20	200
Sr	1000	5	50

Spiking Standard 3-013-4
EXP: 11/26/97

Spiked by:
Predigestion-

Postdigestion- MKA 10/4/97

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	STD1-BLANK	100397	TRIANGL2	10/03/97	23:02		X	IR
2	STD3	100397	TRIANGL2	10/03/97	23:07		X	IR
3	STD3	100397	TRIANGL2	10/03/97	23:12	DKH	Q	CONC
4	CHECK LO	100397	TRIANGL2	10/03/97	23:16	DKH	Q	CONC
5	ICV/CCV	100397	TRIANGL2	10/03/97	23:21	DKH	Q	CONC
6	ICB/CCB	100397	TRIANGL2	10/03/97	23:26	DKH	Q	CONC
7	ICB/CCB	100397	TRIANGL2	10/03/97	23:51	DKH	Q	CONC
8	ICSAB	100397	TRIANGL2	10/03/97	23:56	DKH	Q	CONC
9	43332A MB	100397	TRIANGL2	10/04/97	00:13	DKH	S	CONC
10	43332A LCS	100397	TRIANGL2	10/04/97	00:29	DKH	S	CONC
11	184-5-2	100397	TRIANGL2	10/04/97	00:44	DKH	S	CONC
12	184-5-2 D	100397	TRIANGL2	10/04/97	00:49	DKH	S	CONC
13	184-5-2 MS	100397	TRIANGL2	10/04/97	00:54	DKH	S	CONC
14	184-5-2 MSD	100397	TRIANGL2	10/04/97	00:58	DKH	S	CONC
15	184-5-2 PDS	100397	TRIANGL2	10/04/97	01:03	DKH	S	CONC
16	184-5-2 L	100397	TRIANGL2	10/04/97	01:08	DKH	S	CONC
17	CHECK 9972	100397	TRIANGL2	10/04/97	01:13	DKH	S	CONC
18	ICV/CCV	100397	TRIANGL2	10/04/97	01:18	DKH	Q	CONC
19	ICB/CCB	100397	TRIANGL2	10/04/97	01:23	DKH	Q	CONC
20	ICSAB	100397	TRIANGL2	10/04/97	01:28	DKH	Q	CONC
21	43182 MB	100397	TRIANGL2	10/04/97	01:39	DKH	S	CONC
22	43182 LCS	100397	TRIANGL2	10/04/97	01:44	DKH	S	CONC
23	182-53-1,3	100397	TRIANGL2	10/04/97	01:48	DKH	S	CONC
24	182-53-1,3 PDS	100397	TRIANGL2	10/04/97	01:53	DKH	S	CONC
25	182-53-1,3 L	100397	TRIANGL2	10/04/97	01:58	DKH	S	CONC
26	182-53-2,5	100397	TRIANGL2	10/04/97	02:03	DKH	S	CONC
27	182-53-2,5 DA	100397	TRIANGL2	10/04/97	02:07	DKH	S	CONC
28	ICV/CCV	100397	TRIANGL2	10/04/97	02:14	DKH	Q	CONC
29	ICV/CCV	100397	TRIANGL2	10/04/97	02:19	DKH	Q	CONC
30	ICB/CCB	100397	TRIANGL2	10/04/97	02:25	DKH	Q	CONC
31	ICB/CCB	100397	TRIANGL2	10/04/97	02:30	DKH	Q	CONC
32	ICSAB	100397	TRIANGL2	10/04/97	02:36	DKH	Q	CONC
33	STD1-BLANK	100397	TRIANGL2	10/03/97	19:12		X	IR
34	STD3	100397	TRIANGL2	10/03/97	19:16		X	IR
35	STD3	100397	TRIANGL2	10/03/97	19:21	DKH	Q	CONC
36	CHECK LO	100397	TRIANGL2	10/03/97	19:27	DKH	Q	CONC
37	ICV/CCV	100397	TRIANGL2	10/03/97	19:31	DKH	Q	CONC
38	ICB/CCB	100397	TRIANGL2	10/03/97	19:36	DKH	Q	CONC
39	ICB/CCB	100397	TRIANGL2	10/03/97	19:42	DKH	Q	CONC
40	ICSAB	100397	TRIANGL2	10/03/97	19:47	DKH	Q	CONC
41	43159A MB	100397	TRIANGL2	10/03/97	20:03	DKH	S	CONC
42	43159A LCS	100397	TRIANGL2	10/03/97	20:07	DKH	S	CONC
43	182-30-1AB	100397	TRIANGL2	10/03/97	20:12	DKH	S	CONC
44	182-30-1AB PDS	100397	TRIANGL2	10/03/97	20:17	DKH	S	CONC
45	182-30-1AB L	100397	TRIANGL2	10/03/97	20:21	DKH	S	CONC
46	182-30-2AB	100397	TRIANGL2	10/03/97	20:26	DKH	S	CONC
47	182-30-2AB DA	100397	TRIANGL2	10/03/97	20:31	DKH	S	CONC
48	182-30-3AB	100397	TRIANGL2	10/03/97	20:35	DKH	S	CONC
49	182-30-4AB	100397	TRIANGL2	10/03/97	20:40	DKH	S	CONC
50	182-30-5AB	100397	TRIANGL2	10/03/97	20:45	DKH	S	CONC
51	ICV/CCV	100397	TRIANGL2	10/03/97	21:24	DKH	Q	CONC
52	ICB/CCB	100397	TRIANGL2	10/03/97	21:31	DKH	Q	CONC
53	182-30-6AB	100397	TRIANGL2	10/03/97	21:39	DKH	S	CONC

Previous Run.

Ni = 6.549.

need dilutions for Pb, Mn.
X10.
MKot 10/5/97

Sample Name	File	Method	Date	Time	OpID	Type	Mode
182-30-7AB	100397	TRIANGL2	10/03/97	21:44	DKH	S	CONC
182-30-8AB	100397	TRIANGL2	10/03/97	21:49	DKH	S	CONC
182-30-9AB	100397	TRIANGL2	10/03/97	21:53	DKH	S	CONC
182-30-11AB	100397	TRIANGL2	10/03/97	21:58	DKH	S	CONC
182-30-12AB	100397	TRIANGL2	10/03/97	22:03	DKH	S	CONC
182-30-13AB	100397	TRIANGL2	10/03/97	22:07	DKH	S	CONC
182-30-14AB	100397	TRIANGL2	10/03/97	22:12	DKH	S	CONC
182-30-15B	100397	TRIANGL2	10/03/97	22:17	DKH	S	CONC
182-30-15C	100397	TRIANGL2	10/03/97	22:21	DKH	S	CONC
ICV/CCV	100397	TRIANGL2	10/03/97	22:26	DKH	Q	CONC
~~ICB/CCB~~	~~100397~~	~~TRIANGL2~~	~~10/03/97~~	~~22:32~~	~~DKH~~	~~Q~~	~~CONC~~
ICB/CCB	100397	TRIANGL2	10/03/97	22:48	DKH	Q	CONC
182-30-1C	100397	TRIANGL2	10/03/97	22:54	DKH	S	CONC
182-30-1C PDS	100397	TRIANGL2	10/03/97	22:59	DKH	S	CONC
182-30-1C L	100397	TRIANGL2	10/03/97	23:03	DKH	S	CONC
182-30-2C	100397	TRIANGL2	10/03/97	23:08	DKH	S	CONC
182-30-2C DA	100397	TRIANGL2	10/03/97	23:13	DKH	S	CONC
182-30-3C	100397	TRIANGL2	10/03/97	23:17	DKH	S	CONC
182-58-1	100397	TRIANGL2	10/03/97	23:22	DKH	S	CONC
182-58-2	100397	TRIANGL2	10/03/97	23:27	DKH	S	CONC
182-58-3	100397	TRIANGL2	10/03/97	23:31	DKH	S	CONC
182-30-7B	100397	TRIANGL2	10/03/97	23:36	DKH	S	CONC
ICV/CCV	100397	TRIANGL2	10/03/97	23:41	DKH	Q	CONC
~~ICB/CCB~~	~~100397~~	~~TRIANGL2~~	~~10/03/97~~	~~23:46~~	~~DKH~~	~~Q~~	~~CONC~~
ICB/CCB	100397	TRIANGL2	10/03/97	23:57	DKH	Q	CONC
182-30-8CA	100397	TRIANGL2	10/04/97	00:04	DKH	S	CONC
182-30-9DB	100397	TRIANGL2	10/04/97	00:09	DKH	S	CONC
182-30-11D	100397	TRIANGL2	10/04/97	00:13	DKH	S	CONC
182-30-12D	100397	TRIANGL2	10/04/97	00:18	DKH	S	CONC
182-30-13BD	100397	TRIANGL2	10/04/97	00:23	DKH	S	CONC
182-30-14BC	100397	TRIANGL2	10/04/97	00:27	DKH	S	CONC
ICV/CCV	100397	TRIANGL2	10/04/97	00:44	DKH	Q	CONC
ICB/CCB	100397	TRIANGL2	10/04/97	00:49	DKH	Q	CONC
ICSAB	100397	TRIANGL2	10/04/97	00:55	DKH	Q	CONC
43159B MB	100397	TRIANGL2	10/04/97	01:09	DKH	S	CONC
43159B LCS	100397	TRIANGL2	10/04/97	01:14	DKH	S	CONC
182-30-16A	100397	TRIANGL2	10/04/97	01:19	DKH	S	CONC
182-30-16A PDS	100397	TRIANGL2	10/04/97	01:23	DKH	S	CONC
182-30-16A L	100397	TRIANGL2	10/04/97	01:28	DKH	S	CONC
182-30-16B	100397	TRIANGL2	10/04/97	01:33	DKH	S	CONC
182-30-16B DA	100397	TRIANGL2	10/04/97	01:37	DKH	S	CONC
182-30-16C	100397	TRIANGL2	10/04/97	01:42	DKH	S	CONC
182-30-16D	100397	TRIANGL2	10/04/97	01:47	DKH	S	CONC
182-30-16E	100397	TRIANGL2	10/04/97	01:51	DKH	S	CONC
~~ICV/CCV~~	~~100397~~	~~TRIANGL2~~	~~10/04/97~~	~~01:56~~	~~DKH~~	~~Q~~	~~CONC~~
~~ICV/CCV~~	~~100397~~	~~TRIANGL2~~	~~10/04/97~~	~~02:02~~	~~DKH~~	~~Q~~	~~CONC~~
ICV/CCV	100397	TRIANGL2	10/04/97	02:34	DKH	Q	CONC
ICB/CCB	100397	TRIANGL2	10/04/97	02:44	DKH	Q	CONC
ICSAB	100397	TRIANGL2	10/04/97	03:00	DKH	Q	CONC

SOP # E010303
DKH 10/6/97

MERCURY SPIKE LOG

DATE	PROJECT # SAMPLE IDs	ORIGINAL SPIKE CONC. (Hg)	STANDARD # WORKING STANDARD PREPARED FROM	SPIKE AMOUNT (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
9/15/97	43199 LCS LCSD	0.1 ppm	3-015-2	5	5	me	SKB
	182-70-2 MS 182-70-2 MSD	↓	↓	↓	↓	↓	↓
9-17-97	43048 LCS1 LCS1D	0.1 ppm	3-016-8	5	5	MR	SF
	181-18-1D MS 181-18-1D MSD	↓	↓	↓	↓	↓	↓
	181-18-2G MS 181-18-2G MSD	↓	↓	↓	↓	↓	↓
	181-18-5G MS 181-18-5G MSD	↓	↓	↓	↓	↓	↓
9/19/97	43048 LCS2 LCS2D	0.1 ppm	3-016-8	5	5	me	DSE
	181-18-7E MS 181-18-7E MSD	↓	↓	↓	↓	↓	↓
	181-18-9E MS 181-18-9E MSD	↓	↓	↓	↓	↓	↓
	181-18 11G MS 181-18-11G MSD	↓	↓	↓	↓	↓	↓
9/23/97	43027 LCS2 LCS2D	0.1 ppm	3-016-8	5	5	MR	DSE
	180-96-5,7,10 MS 180-96-5,7,10 MSD	↓	↓	↓	↓	↓	↓
	43048 LCS3 LCS3D	↓	↓	↓	↓	↓	↓
	181-18-1ABC MS 181-18-1ABC MSD	↓	↓	↓	↓	↓	↓
	181-18-13C MS 181-18-13C MSD	↓	↓	↓	↓	↓	↓
9/24/97	43182 LCS LCSD	0.1 ppm	3-016-8	5	5	MR	DSE
	182-53-1,2,3,4 MS 182-53-4 MSD	↓	↓	↓	↓	↓	↓
	43159 LCS LCSD	↓	↓	↓	↓	↓	↓
	182-30-16A MS 182-30-16A MSD	↓	↓	↓	↓	↓	↓

BKA 10/5/97

Table Name: HA448 Autosampler Type: TYPE TJA
Sample Positions: 146/192 QC Positions: 13/19 # Sets: 2
Rinse Station location is rack -1. pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	13	10
2	Sample (16mm)	Samples	2	1
3	Sample (16mm)	Samples	48	1
4	Sample (16mm)	Samples	48	1
5	Sample (16mm)	Samples	48	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	43159A	TRIANGL2	36	2	1
2	Normal	No	43159B	TRIANGL2	10	2	37

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor

No Samples Prepared.

Rack #1

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	STD3	-NA-	2	Standard 1-60-5P
2	1	2	STD1-BLANK	-NA-	1	Standard
3	1	3	ICSAB	-NA-	3	QC Standard 1-60-7P
4	1	4	CHECK LO	-NA-	1	QC Standard
5	1	5	ICV/CCV	-NA-	6	QC Standard 1-60-6P
6	1	6	ICB/CCB	-NA-	6	QC Standard

(7...19 Not Used)

BKA 10/4/97

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	43159A MB	1	-NA-	Sample
2	1	2	43159A LCS	1	-NA-	Sample
3	1	3	182-30-1AB	1	-NA-	Sample
4	1	4	182-30-1AB PDS	1	-NA-	Sample
5	1	5	182-30-1AB L	1	-NA-	Sample
6	1	6	182-30-2AB	1	-NA-	Sample
7	1	7	182-30-2AB DA	1	-NA-	Sample
8	1	8	182-30-3AB	1	-NA-	Sample
9	1	9	182-30-4AB	1	-NA-	Sample
10	1	10	182-30-5AB	1	-NA-	Sample
11	1	11	182-30-6AB	1	-NA-	Sample
12	1	12	182-30-7AB	1	-NA-	Sample
13	2	1	182-30-8AB	1	-NA-	Sample
14	2	2	182-30-9AB	1	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
15	2	3	182-30-11AB	1	-NA-	Sample
16	2	4	182-30-12AB	1	-NA-	Sample
17	2	5	182-30-13AB	1	-NA-	Sample
18	2	6	182-30-14AB	1	-NA-	Sample
19	2	7	182-30-15B	1	-NA-	Sample
20	2	8	182-30-15C	1	-NA-	Sample
21	2	9	182-30-1C	1	-NA-	Sample
22	2	10	182-30-1C PDS	1	-NA-	Sample
23	2	11	182-30-1C L	1	-NA-	Sample
24	2	12	182-30-2C	1	-NA-	Sample
25	3	1	182-30-2C DA	1	-NA-	Sample
26	3	2	182-30-3C	1	-NA-	Sample
27	3	3	182-58-1	1	-NA-	Sample
28	3	4	182-58-2	1	-NA-	Sample
29	3	5	182-58-3	1	-NA-	Sample
30	3	6	182-30-7B	1	-NA-	Sample
31	3	7	182-30-8CA	1	-NA-	Sample
32	3	8	182-30-9DB	1	-NA-	Sample
33	3	9	182-30-11D	1	-NA-	Sample
34	3	10	182-30-12D	1	-NA-	Sample
35	3	11	182-30-13BD	1	-NA-	Sample
36	3	12	182-30-14BC	1	-NA-	Sample
37	4	1	43159B MB	2	-NA-	Sample
38	4	2	43159B LCS	2	-NA-	Sample
39	4	3	182-30-16A	2	-NA-	Sample
40	4	4	182-30-16A PDS	2	-NA-	Sample
41	4	5	182-30-16A L	2	-NA-	Sample
42	4	6	182-30-16B	2	-NA-	Sample
43	4	7	182-30-16B DA	2	-NA-	Sample
44	4	8	182-30-16C	2	-NA-	Sample
45	4	9	182-30-16D	2	-NA-	Sample
46	4	10	182-30-16E	2	-NA-	Sample

(47...48 Not Used)

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type

(1...48 Not Used)

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type

(1...48 Not Used)

Method: TRIANGL2 Standard: STD1-BLANK

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Avge	.0000	.0029	-.0004	.0751	.0006	.0002	.0005
SDev	.0001	.0000	.0001	.0015	.0000	.0000	.0000
%RSD	273.8	.7839	18.23	2.007	.2751	1.797	3.527
#1	-.0000	.0029	-.0003	.0748	.0006	.0002	.0005
#2	-.0000	.0028	-.0004	.0767	.0006	.0002	.0005
#3	.0001	.0028	-.0004	.0737	.0006	.0002	.0005

Elem	Cd2265	Ce4186	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	-.0001	-.0000	-.0002	-.0001	.0028	.0001	3.937
SDev	.0001	.0001	.0000	.0000	.0000	.0000	.030
%RSD	79.87	260.4	26.15	21.81	1.255	52.99	.7726
#1	-.0001	.0000	-.0002	-.0002	.0029	.0000	3.904
#2	-.0001	-.0001	-.0002	-.0001	.0028	.0001	3.944
#3	-.0002	.0000	-.0001	-.0001	.0028	.0001	3.964

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	P_2149
Avge	.0729	.0001	.0000	.0000	.0035	-.0022	-.0010
SDev	.0006	.0000	.0000	.0000	.0021	.0002	.0000
%RSD	.7489	52.54	20.63	141.9	59.46	8.802	2.941
#1	.0723	.0000	.0000	.0000	.0035	-.0022	-.0010
#2	.0730	.0001	.0000	.0001	.0015	-.0023	-.0011
#3	.0733	.0001	.0000	.0000	.0057	-.0019	-.0011

Elem	2203-1	2203-2	Sb2068	1960-1	1960-2	Sn1899	Sr4215
Avge	.0011	.0001	.0005	-.0063	.0025	-.0006	.0003
SDev	.0001	.0001	.0001	.0010	.0001	.0001	.0000
%RSD	10.19	53.72	26.48	15.31	1.846	8.818	3.762
#1	.0011	.0000	.0005	-.0073	.0025	-.0007	.0003
#2	.0012	.0001	.0004	-.0060	.0026	-.0007	.0003
#3	.0010	.0001	.0007	-.0055	.0025	-.0006	.0003

Elem	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Avge	.0001	-.0005	-.0005	-.0000	.0659
SDev	.0001	.0000	.0000	.0000	.0086
%RSD	81.06	6.313	3.126	76.41	13.13
#1	.0000	-.0005	-.0005	-.0000	.0626
#2	.0001	-.0005	-.0005	-.0000	.0757
#3	.0002	-.0005	-.0005	-.0000	.0594

tStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
vlen	371.030	--	--	--	--	--	--
ge	257206	15000	--	--	--	--	--
SDev	605.2008	.0000000	--	--	--	--	--
SD	.2352981	.0000000	--	--	--	--	--
#1	256522	15000	--	--	--	--	--
#2	257424	15000	--	--	--	--	--
	257672	15000	--	--	--	--	--

Method: TRIANGL2 Standard: STD3

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Avge	.4165	.0190	.0538	.2380	.3054	.2657	.0232
SDev	.0016	.0001	.0001	.0025	.0003	.0002	.0000
%RSD	.3769	.7924	.2500	1.066	.0883	.0756	.0409
#1	.4182	.0191	.0539	.2404	.3057	.2655	.0232
#2	.4161	.0189	.0536	.2384	.3054	.2659	.0232
#3	.4152	.0188	.0538	.2353	.3052	.2658	.0232

Elem	Cd2265	Ce4186	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	.9615	.1174	.1082	.1525	.1890	.0043	23.97
SDev	.0014	.0002	.0001	.0000	.0007	.0000	.07
%RSD	.1473	.1790	.1108	.0111	.3781	.1410	.2721
#1	.9610	.1172	.1082	.1525	.1898	.0043	24.03
#2	.9604	.1176	.1081	.1526	.1888	.0043	23.97
#3	.9631	.1173	.1083	.1525	.1884	.0044	23.90

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	P_2149
Avge	16.68	.0210	.1344	.0822	.2387	.3637	.0223
SDev	.05	.0001	.0000	.0001	.0033	.0004	.0001
%RSD	.2788	.2669	.0234	.1471	1.389	.1040	.6789
#1	16.73	.0211	.1344	.0821	.2413	.3633	.0222
#2	16.66	.0210	.1344	.0823	.2399	.3641	.0225
#3	16.64	.0210	.1343	.0823	.2350	.3636	.0224

Elem	2203-1	2203-2	Sb2068	1960-1	1960-2	Sn1899	Sr4215
Avge	.1888	.0926	.1259	.2829	.1667	.1229	.8782
SDev	.0005	.0005	.0002	.0008	.0002	.0006	.0021
%RSD	.2779	.5302	.1943	.2638	.1450	.4856	.2389
#1	.1893	.0922	.1259	.2824	.1666	.1223	.8803
#2	.1883	.0926	.1256	.2838	.1665	.1232	.8781
#3	.1889	.0931	.1261	.2825	.1670	.1234	.8761

Elem	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Avge	1.166	.0330	.0400	.1025	.5193
SDev	.001	.0005	.0000	.0001	.0032
%RSD	.0463	1.413	.0149	.1424	.6075
#1	1.166	.0325	.0400	.1023	.5157
#2	1.166	.0330	.0400	.1025	.5216
#3	1.165	.0334	.0400	.1026	.5207

ntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
vlen	371.030	--	--	--	--	--	--
ge	256188	15000	--	--	--	--	--
SDev	998.1509	.0000000	--	--	--	--	--
RSD	.3896161	.0000000	--	--	--	--	--
#1	255041	15000	--	--	--	--	--
#2	256667	15000	--	--	--	--	--
	256857	15000	--	--	--	--	--

Method: TRIANGL2 Sample Name: STD3 Operator: DKH
Run Time: 10/03/97 19:21 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	993.3	995.1	1003.	Q941.3	995.5	990.9
SDev	1.433	8.224	4.354	11.38	.6488	4.435
%RSD	.1443	.8265	.4342	1.209	.0652	.4476

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	994.0	996.0	998.0	995.2	993.6	994.0
SDev	4.264	5.474	1.085	3.117	3.595	3.698
%RSD	.429	.5497	.1087	.3132	.3618	.372

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	991.3	9.996	1003.	991.8	993.3	996.9
SDev	2.797	.0473	6.717	1.452	2.997	2.934
%RSD	.2821	.4735	.67	.1464	.3017	.2943

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	9.982	994.9	992.0	994.3	995.8	996.6
SDev	.1187	3.388	8.847	.3084	4.006	2.815
%RSD	1.189	.3405	.8919	.031	.4023	.2825

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	998.0	995.1	995.3	996.1	994.0	987.8
SDev	1.11	2.618	2.687	1.548	6.559	.1926
%RSD	.1112	.2631	.27	.1554	.6599	.0195

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	991.2	1004.	993.8	997.4	9803.
SDev	1.98	9.415	2.758	7.286	50.66
%RSD	.1997	.9377	.2776	.7305	.5168

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/04/97 00:44 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	508.2	521.0	518.0	589.2	496.1	500.9
SDev	.3706	5.74	1.718	5.892	1.065	4.288
%RSD	.0729	1.102	.3316	1	.2146	.8561

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	498.0	508.1	494.9	501.0	501.2	496.2
SDev	3.153	3.827	3.136	3.039	3.703	1.62
%RSD	.6331	.7533	.6336	.6065	.7388	.3265

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	501.0	4.942	474.8	501.2	495.2	496.2
SDev	7.211	.0181	3.127	3.391	3.069	4.009
%RSD	1.439	.3656	.6586	.6767	.6198	.8079

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.853	505.5	521.2	491.1	514.3	488.0
SDev	.0743	3.201	5.935	.7056	5.313	4.642
%RSD	1.531	.6331	1.139	.1437	1.033	.9513

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	518.1	513.4	506.6	515.0	489.4	488.8
SDev	2.469	4.235	3.778	2.769	3.196	1.14
%RSD	.4766	.8249	.7457	.5376	.653	.2332

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	493.2	504.6	498.1	506.2	5032.
SDev	2.647	6.149	3.475	5.271	66.56
%RSD	.5367	1.219	.6976	1.041	1.323

Method: TRIANGL2 Sample Name: IC8/CC8 Operator: DKH
Run Time: 10/04/97 00:49 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.4676	24.45	1.327	30.67	.4992	.5798
SDev	.3998	4.293	.7063	4.552	.094	.1473
%RSD	85.49	17.56	53.23	14.84	18.82	25.4

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-2.419	.4600	-.1950	.6703	.6418	-.5379
SDev	.4539	.1478	.9893	.0431	.1187	.2206
%RSD	18.76	32.12	507.3	6.43	18.5	41.02

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	1.474	.0931	.6785	2.058	.4741	1.498
SDev	5.144	.022	.07	2.257	.1062	.6762
%RSD	348.9	23.63	10.32	109.7	22.4	45.14

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	.0831	1.560	7.318	.0892	-1.074	3.589
SDev	.1408	.1298	2.333	2.374	1.223	1.992
%RSD	169.3	8.32	31.88	2660	113.9	55.51

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	3.256	-3.708	-.6864	-1.389	1.787	.4811
SDev	1.923	1.497	.8071	.797	1.266	.1049
%RSD	59.07	40.35	117.6	57.37	70.88	21.8

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	.4955	4.448	1.468	.8561	Q-141.6
SDev	.0862	4.721	.1929	.0993	31.26
%RSD	17.39	106.1	13.14	11.6	22.07

Method: TRIANGL2 Sample Name: ICSAB Operator: DKH
Run Time: 10/04/97 00:55 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159A

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	544.8	505800.	533.8	553.5	514.3	489.3
SDev	1.251	3758	4.029	6.369	.9676	2.806
%RSD	.2296	.743	.7547	1.151	.1881	.5734

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	457000.	480.4	500.6	475.1	480.9	542.7
SDev	3026	1.509	1.317	1.811	2.907	3.67
%RSD	.6621	.3141	.2631	.3811	.6045	.6762

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	177800.	Q25.13	615.8	539900.	455.3	498.7
SDev	563	.1375	4.351	94.57	2.066	1.471
%RSD	.3167	.5471	.7065	.0175	.4539	.295

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	5.530	461.6	554.8	494.2	488.7	514.8
SDev	.0715	1.506	16.23	1.475	8.632	3.078
%RSD	1.294	.3262	2.926	.2985	1.766	.5979

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	548.9	529.2	490.6	535.8	504.1	504.8
SDev	7.083	5.996	5.299	3.02	4.475	.6384
%RSD	1.29	1.133	1.08	.5637	.8878	.1265

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	493.4	518.2	492.8	453.8	5057.
SDev	1.042	9.822	2.03	5.004	84.31
%RSD	.2112	1.895	.412	1.103	1.667

Method: TRIANGL2 Sample Name: 43159B MB Operator: DKH
Run Time: 10/04/97 01:09 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159B

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	L-.6948	L.0887	L-.1535	L-.4425	L.4121	L.4566
SDev	.1128	.0365	.04	.1178	.3671	.026
%RSD	16.24	41.2	26.06	26.61	89.07	5.69

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	L-.7160	L.9267	L-.8814	L-.9954
SDev	.6181	.8056	.4715	.9104
%RSD	86.33	86.94	53.49	91.46

thod: TRIANGL2 Sample Name: 431598 LCS Operator: DKH
n Time: 10/04/97 01:14 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
its	ppb	ppb	ppb	ppb	ppb	ppb
ge	45.87	46.15	47.91	47.80	48.57	48.02
SDev	.6588	.185	.4976	.4967	.4279	.1305
%RSD	1.436	.4009	1.039	1.039	.8811	.2718

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
ge	47.82	48.60	48.00	45.02
ev	.4891	.9573	.6179	.8984
%RSD	1.023	1.97	1.287	1.995

ethod: TRIANGL2 Sample Name: 182-30-16A Operator: DKH
un Time: 10/04/97 01:19 Filename: 100397
ode: CONC Type: S Corr. Factor: 1.00000
ab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

lems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Inits	ppb	ppb	ppb	ppb	ppb	ppb
vge	42.13	L-1.132	7.688	L.9026	250.9	1891.
Dev	8.428	.0267	.5779	.4159	1.12	12.36
RSD	20	2.36	7.516	46.08	.4464	.6537

lems	Ni2316	Pb2203	Sb2068	Se1960
nits	ppb	ppb	ppb	ppb
vge	42.48	131.6	L-1.004	83.18
Dev	.676	1.003	.9143	4.568
RSD	1.591	.7621	91.1	5.492

Method: TRIANGL2 Sample Name: 182-30-16A PDS Operator: DKH
Run Time: 10/04/97 01:23 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	92.17	49.08	58.55	51.15	298.1	1914.
SDev	1.52	.3307	.2688	.2889	1.678	12.27
%RSD	1.649	.6738	.459	.5648	.5627	.641

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	92.72	181.3	50.29	151.6
SDev	.2617	.2781	1.663	2.125
%RSD	.2822	.1533	3.307	1.402

Method: TRIANGL2 Sample Name: 182-30-16A L Operator: DKH
Run Time: 10/04/97 01:28 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159B

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	11.01	L-.0757	L.5500	L-.5436	51.15	368.4
SDev	2.363	.0495	.1166	.2905	.6394	1.231
%RSD	21.46	65.35	21.2	53.44	1.25	.3341

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	11.04	26.71	L.4149	19.70
SDev	.8358	.5309	1.038	.153
%RSD	7.574	1.988	250.1	.777

Method: TRIANGL2 Sample Name: 182-30-166 Operator: DKH
Run Time: 10/04/97 01:33 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	29.05	L-1.026	9.177	L-.1660	260.6	1723.
SDev	2.014	.0094	.5306	.263	2.565	15.39
%RSD	6.932	.9137	5.782	158.4	.9843	.8933

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	49.10	261.6	L-4.378	98.89
SDev	.4101	.5778	.8385	3.047
%RSD	.8353	.2208	19.15	3.082

Method: TRIANGL2 Sample Name: 182-30-16B DA Operator: DKH
Run Time: 10/04/97 01:37 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159B

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	26.90	L-1.031	9.681	L-.3559	260.8	1725.
SDev	1.368	.0264	.3571	.1981	.8493	8.558
%RSD	5.086	2.558	3.689	55.66	.3257	.4962

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	48.57	263.1	L-6.928	97.69
SDev	.7402	2.327	.6833	1.223
%RSD	1.524	.8844	9.864	1.252

Method: TRIANGL2 Sample Name: 182-30-16C Operator: DKH
Run Time: 10/04/97 01:42 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	20.12	L-.0620	L.8840	L-1.358	48.04	156.9
SDev	.5819	.0197	.1106	.3086	.4239	.3982
%RSD	2.893	31.87	12.51	22.72	.8824	.2537

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	14.29	69.56	L-.8019	46.13
SDev	.3183	.0799	2.365	1.112
%RSD	2.227	.1149	294.9	2.411

Method: TRIANGL2 Sample Name: 182-30-16D Operator: DKH
Run Time: 10/04/97 01:47 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159B

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	21.76	L-.2082	2.311	L-1.341	88.63	324.0
SDev	1.645	.0165	.0719	.1553	.815	1.929
%RSD	7.561	7.921	3.109	11.59	.9195	.5954

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	17.48	254.7	L-.7289	54.03
SDev	.4308	1.648	1.326	.6835
%RSD	2.464	.6471	181.8	1.265

Method: TRIANGL2 Sample Name: 182-30-16E Operator: DKH
Run Time: 10/04/97 01:51 Filename: 100397
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	As1890	Be3130	Cd2265	Co2286	Cr2677	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	23.96	L.1019	L-.2604	L-1.319	12.01	9.872
SDev	.5897	.0194	.0561	.1545	.3117	.1281
%RSD	2.461	19.09	21.54	11.71	2.595	1.297

Elems	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb
Avge	10.50	6.726	L2.295	40.23
SDev	.4483	1.347	1.009	2.494
%RSD	4.272	20.03	43.98	6.199

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/04/97 01:56 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	Q345.7	Q314.9	Q353.0	272.7	Q336.0	Q338.0
SDev	277.7	365.6	281.1	442.5	270.8	271.4
%RSD	80.35	116.2	79.61	162.2	80.6	80.27

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	Q341.0	Q343.2	337.2	Q338.9	Q344.1	Q333.0
SDev	263.4	275.2	268.2	270.7	272.5	279.2
%RSD	77.25	80.18	79.52	79.89	79.19	83.85

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	Q383.6	Q3.654	Q327.4	Q336.4	Q335.8	Q335.5
SDev	298.7	1.978	235.9	268.4	268.8	268.4
%RSD	77.87	54.13	72.03	79.79	80.06	80

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.714	Q344.8	Q353.2	328.6	392.1	Q335.8
SDev	.1698	273.7	268.5	281.5	182	268.4
%RSD	3.602	79.38	76.04	85.67	46.42	79.92

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	349.3	401.2	Q371.0	Q383.9	Q328.7	Q332.1
SDev	289.6	188.3	215.1	222	260.3	267.1
%RSD	82.91	46.94	57.99	57.83	79.19	80.43

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	Q334.1	Q343.4	Q340.4	Q343.8	Q60530.
SDev	267.8	262.1	264.4	273.7	29520
%RSD	80.16	76.33	77.66	79.61	48.77

NW MKM 10/5/97

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/04/97 02:02 Filename: 100397
Mode: CONC Type: G Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	513.5	525.9	520.0	852.8	498.6	502.8
SDev	2.561	11.53	1.424	147.9	1.533	2.562
%RSD	.4987	2.193	.2739	17.34	.3074	.5095

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	499.9	509.0	496.7	502.2	509.9	501.3
SDev	3.286	2.212	2.822	2.422	2.539	4.67
%RSD	.6573	.4346	.5682	.4823	.4978	.9316

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	511.1	4.863	469.5	500.3	499.0	500.3
SDev	6.189	.0218	4.756	2.588	1.591	2.891
%RSD	1.211	.4476	1.013	.5173	.3189	.5779

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.802	510.6	522.7	489.4	508.3	498.9
SDev	.0987	1.563	3.907	3.801	1.767	.4415
%RSD	2.056	.3061	.7475	.7767	.3475	.0885

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	519.8	514.6	502.0	516.3	487.9	491.6
SDev	6.256	3.595	.3166	2.314	2.625	.8685
%RSD	1.204	.6985	.0631	.4481	.538	.1767

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	495.7	507.4	500.8	509.4	Q91570.
SDev	.6785	8.714	1.632	5.364	3821
%RSD	.1369	1.717	.3259	1.053	4.173

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Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/04/97 02:34 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43159B

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	512.3	532.7	516.7	2045.	495.6	498.2
SDev	2.633	10.42	.808	122	.834	1.751
%RSD	.514	1.957	.1564	5.964	.1683	.3515

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	498.2	505.2	494.4	500.2	502.7	500.0
SDev	1.84	1.554	.8722	1.424	1.89	3.335
%RSD	.3693	.3076	.1764	.2846	.376	.6669

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	490.0	4.929	474.4	500.4	495.9	495.4
SDev	6.145	.034	3.022	.8907	1.31	1.59
%RSD	1.254	.6902	.6371	.178	.2643	.3209

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.885	506.3	517.7	490.8	508.6	492.4
SDev	.1073	2.216	4.391	4.689	6.927	2.389
%RSD	2.197	.4377	.8481	.9554	1.362	.4852

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	514.7	510.7	502.7	512.0	484.6	488.5
SDev	3.383	3.065	3.06	2.258	3.336	.3432
%RSD	.6573	.6002	.6088	.4409	.6884	.0703

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	492.7	496.3	497.1	505.6	037360.
SDev	.7631	10.46	.5107	3.233	3119
%RSD	.1549	2.107	.1027	.6395	8.349

Method: TRIANGL2 Sample Name: ICB/CCB Operator: DKH
Run Time: 10/04/97 02:44 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-.0786	31.28	1.888	1976.	.0936	.2301
SDev	.4351	5.254	1.527	143.9	.0122	.0399
%RSD	553.9	16.8	80.86	7.283	13.04	17.33

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-3.845	-.1505	.1952	-.3339	1.204	-.6844
SDev	.9689	.0551	.4561	.2329	.2551	.369
%RSD	25.2	36.6	233.7	69.77	21.19	53.92

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	-2.765	.0629	.2489	.2085	.0157	.0592
SDev	2.758	.0175	.0106	1.874	.0181	.5317
%RSD	99.74	27.82	4.267	899.1	115	897.5

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	-.0425	2.237	7.006	-1.617	-1.498	.9307
SDev	.0933	.3687	4.545	1.926	2.259	.8699
%RSD	219.5	16.48	64.87	119.1	150.8	93.47

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	4.014	-3.173	-1.538	-.7799	.2936	.0849
SDev	.1527	.2332	1.027	.1611	.5348	.0264
%RSD	3.804	7.35	66.77	20.65	182.2	31.06

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	.0627	4.257	.7327	.1579	019460.
SDev	.0233	3.695	.1954	.1124	1906
%RSD	37.1	86.8	26.67	71.2	9.796

Method: TRIANGL2 Sample Name: ICSA8 Operator: DKH
Run Time: 10/04/97 03:00 Filename: 100397
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 431598

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	548.3	506600.	538.4	3584.	514.8	490.9
SDev	.4325	1351	.0983	86.16	.5125	2.683
%RSD	.0789	.2667	.0183	2.404	.0996	.5466

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	460800.	483.3	503.0	477.6	485.2	544.6
SDev	2419	2.308	1.137	2.098	2.578	.973
%RSD	.5249	.4775	.226	.4393	.5313	.1787

Elems	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	178400.	Q24.83	607.9	542400.	459.5	501.2
SDev	646.3	.0768	1.732	1027	2.009	2.601
%RSD	.3622	.3092	.2849	.1893	.4373	.519

Elems	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	5.457	464.9	558.7	495.7	490.4	518.9
SDev	.0857	1.833	11.72	4.684	6.969	5.036
%RSD	1.571	.3942	2.098	.9449	1.421	.9705

Elems	1960-1	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	548.8	530.7	492.2	536.7	503.7	505.8
SDev	9.923	6.944	3.108	3.059	3.659	.6583
%RSD	1.808	1.308	.6314	.5698	.7264	.1301

Elems	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	495.4	519.0	494.6	457.9	Q13080.
SDev	1.611	10.76	1.981	2.613	896.2
%RSD	.3252	2.074	.4005	.5707	6.851

D/Weight File: A8809.IDW Analyst: RICHARDS
ample Volume: 100 mL Nominal Weight: 1.0 g

+lg

Loc.	Sample ID	Weight	Dilution
0	STD BLK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43182 MB		
11	43182 MB D		
12	43182 LCS		
13	43182 LCS D		
14	182-53-1-3		
15	182-53-1-3 D		
16	182-53-4		
17	182-53-4 D		
18	182-53-4 MS		
19	182-53-4 MSD		
20	CCV1=6.0ug/L		
21	CCB1		
22	182-53-2-5		
23	182-53-2-5 D		
24	182-53-6		
25	182-53-6 D		
26	CCV2=6.0ug/L		
27	CCB2		
28	43159B MB		
29	43159 MB D		
30	43159 LCS		
31	43159 LCS D		
32	182-30-16A		
33	182-30-16A D		
34	182-30-16A MS		
35	182-30-16A MSD		
36	182-30-16B		
37	182-30-16B D		
38	CCV1=6.0ug/L		
39	CCB1		
40	182-30-16C		
41	182-30-16C D		
42	182-30-16D		
43	182-30-16D D		
44	182-30-16E		
45	182-30-16E D		
46	CCV2=6.0ug/L		
47	CCB2		
48	43048 MB		
49	43048 MBD		
50	43048 LCS		
51	43048 LCS D		
52	181-18-13B		
53	181-18-13B D		

3-017-7 mr 9/24/97

3-018 7 mr 9/24/97 -8 mr 9/24/97

3-017-8 mr 9/24/97

3-017-8 mr 9/24/97

3-017-8 mr 9/24/97

3-017-8 mr 9/24/97

Loc.	Sample ID	Weight	Dilution
54	181-18-13 MS		
55	181-18-13 MSD		
56	CCV1=6.0ug/L		
57	CCB1		

3-017-8 MR 9/24/97

Element File: HG_.MEL
Element: Hg2 Analyst: RICHARDS
Print Data: Main+Suppl. Peak Storage: None
Print: Calib. Curve
Remarks:
STANDARDS= 3-017-7
QC= 3-017-8

Hg
9/24/97 ME

INSTRUMENT: 5100 Technique: MHS Version: 7.01
Wavelength: 253.7 Peak Slit: 0.7 Low
Signal Type: AA Sighal Measurement: Peak Height (5)
Read Time: 30.0 Read Delay: 1.0 BOC Time: 2
Sample Replicates: 1
Standard Replicates: 1

FLAME:
Flame Type: Air Flame Sensor: On
Oxidant Flow: 10.0 L/min Fuel Flow: 2.0 L/min

CALIBRATION:

Solutions	ID	Conc
Calib. Blank	STD BLK	
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L Sample Units: ug/L
Calibration Type: Linear

QC:
Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

```
-----------------------------------------------------------------------------
Element File: HG_.MEL        Element: Hg2                  Wavelength: 253.7
Date: 09/24/97               Time: 15:19                   Slit: 0.7 L
Data File: A8809.DAT         ID/Wt File: A8809.IDW         Lamp Current: 0
Technique: MHS               Calib. Type: Linear           Energy: 72
Remark 1: STANDARDS= 3-017-7
Remark 2: QC= 3-017-8
-----------------------------------------------------------------------------
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Hg2   ID: STD BLK            Seq. No.: 00003    A/S Pos.: --    Date: 09/24/97

Replicate  1                            Time: 15:22
Peak Area (A-s): -0.000                 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L  ): 0.000

Auto-zero performed.
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Hg2   ID: STD1=0.2ug/L       Seq. No.: 00004    A/S Pos.: --    Date: 09/24/97

Sample abs. is greater than that of the largest standard.
Replicate  1                            Time: 15:23
Peak Area (A-s): 0.162                  Peak Height (A): 0.006
Blank Corrected Pk Height (A): 0.006
Concentration (ug/L  ): 0.286

Standard number 1 applied.  [0.200]
Correlation coefficient: 1.00000        Slope: 0.0316
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Hg2   ID: STD2=0.5ug/L       Seq. No.: 00005    A/S Pos.: --    Date: 09/24/97

Sample abs. is greater than that of the largest standard.
Replicate  1                            Time: 15:24
Peak Area (A-s): 0.402                  Peak Height (A): 0.017
Blank Corrected Pk Height (A): 0.017
Concentration (ug/L  ): 0.533

Standard number 2 applied.  [0.500]
Correlation coefficient: 0.99848        Slope: 0.0334
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Hg2   ID: STD3=1.0ug/L       Seq. No.: 00006    A/S Pos.: --    Date: 09/24/97

Sample abs. is greater than that of the largest standard.
Replicate  1                            Time: 15:26
Peak Area (A-s): 0.824                  Peak Height (A): 0.035
Blank Corrected Pk Height (A): 0.035
Concentration (ug/L  ): 1.044

Standard number 3 applied.  [1.000]
Correlation coefficient: 0.99916        Slope: 0.0346
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Hg2   ID: STD4=2.0ug/L       Seq. No.: 00007    A/S Pos.: --    Date: 09/24/97

Sample abs. is greater than that of the largest standard.
Replicate  1                            Time: 15:27
```

Peak Area (A-s): 1.724 Peak Height (A): 0.074
Blank Corrected Pk Height (A): 0.074
Concentration (ug/L): 2.143

Standard number 4 applied. [2.000]
Correlation coefficient: 0.99865 Slope: 0.0365

Hg2 ID: STD5=5.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 09/24/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 15:29
Peak Area (A-s): 4.517 Peak Height (A): 0.194
Blank Corrected Pk Height (A): 0.194
Concentration (ug/L): 5.325

Standard number 5 applied. [5.000]
Correlation coefficient: 0.99929 Slope: 0.0385

Hg2 ID: STD6=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 09/24/97

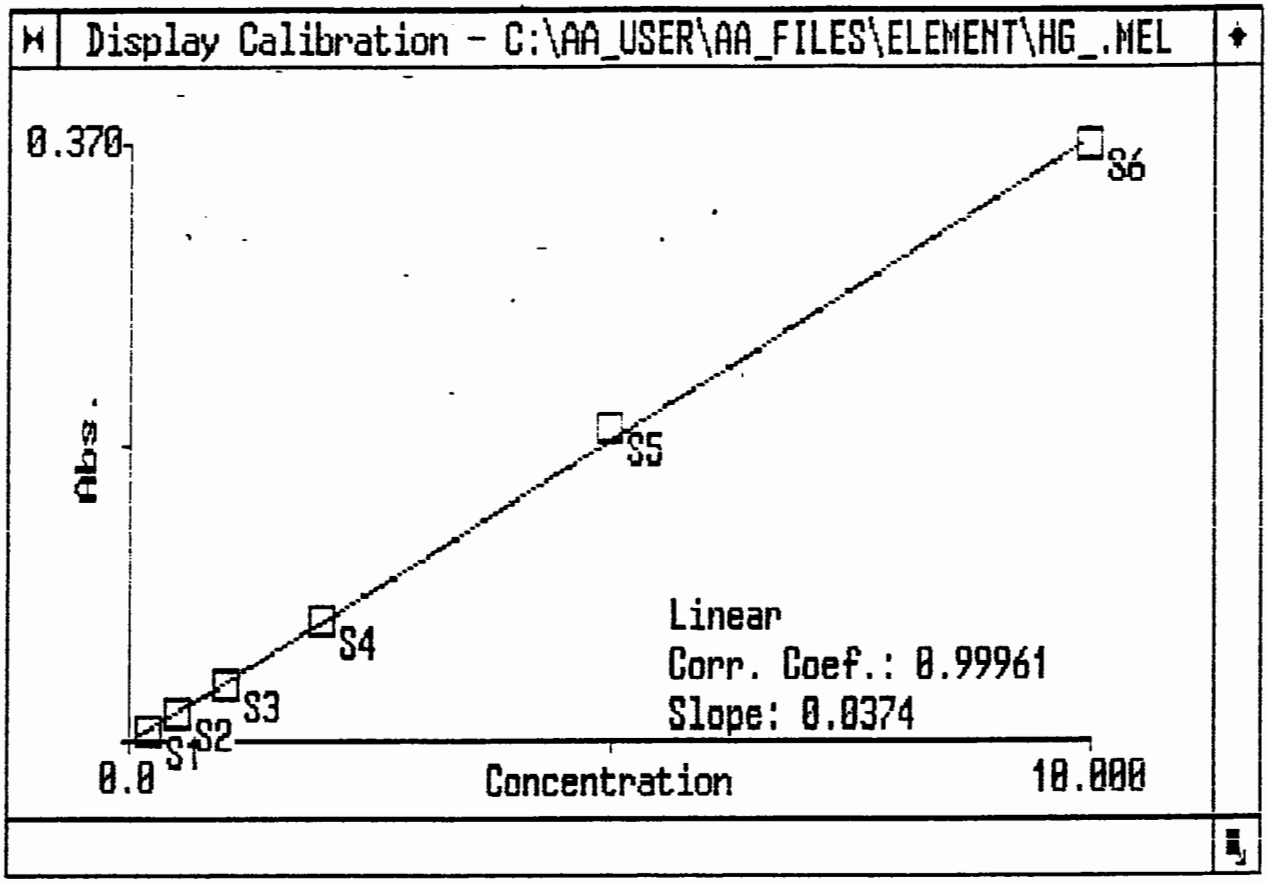
Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 15:30
Peak Area (A-s): 8.549 Peak Height (A): 0.370
Blank Corrected Pk Height (A): 0.370
Concentration (ug/L): 9.627

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99961 Slope: 0.0374

Element File: HG_.MEL	Element: Hg2	Wavelength: 253.7
Date: 09/24/97	Time: 15:31	Slit: 0.7 L
Data File: AB809.DAT	ID/Wt File: AB809.IDW	Lamp Current: 0
Technique: MHS	Calib. Type: Linear	Energy: 72

Remark 1: STANDARDS= 3-017-7

Remark 2: QC= 3-017-8



Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 09/24/97 Time: 15:32 Slit: 0.7 L
Data File: AB809.DAT ID/Wt File: AB809.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 72
Remark 1: STANDARDS= 3-017-7
Remark 2: QC= 3-017-8

Hg2 ID: ICV=4.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:33
Peak Area (A-s): 3.478 Peak Height (A): 0.156
Blank Corrected Pk Height (A): 0.156
Concentration (ug/L): 4.181

Hg2 ID: ICB Seq. No.: 00011 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:34
Peak Area (A-s): 0.023 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: CHECK LO Seq. No.: 00012 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:39
Peak Area (A-s): 0.180 Peak Height (A): 0.008
Blank Corrected Pk Height (A): 0.008
Concentration (ug/L): 0.212

Hg2 ID: 43182 MB Seq. No.: 00013 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:40
Peak Area (A-s): 0.016 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.013

Hg2 ID: 43182 MB D Seq. No.: 00014 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:41
Peak Area (A-s): 0.015 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

Hg2 ID: 43182 LCS Seq. No.: 00015 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:43
Peak Area (A-s): 5.072 Peak Height (A): 0.241
Blank Corrected Pk Height (A): 0.241
Concentration (ug/L): 6.441

Hg2 ID: 43182 LCS D Seq. No.: 00016 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:44
Peak Area (A-s): 4.753 Peak Height (A): 0.222
Blank Corrected Pk Height (A): 0.222
Concentration (ug/L): 5.936

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Hg2 ID: 43182 LCS DD Seq. No.: 00017 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:54
Peak Area (A-s): 4.507 Peak Height (A): 0.207
Blank Corrected Pk Height (A): 0.207
Concentration (ug/L): 5.531

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Hg2 ID: 182-53-1-3 Seq. No.: 00018 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:55
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.030

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Hg2 ID: 182-53-1-3 D Seq. No.: 00019 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:56
Peak Area (A-s): 0.014 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

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Hg2 ID: 182-53-4 Seq. No.: 00020 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:57
Peak Area (A-s): 0.755 Peak Height (A): 0.034
Blank Corrected Pk Height (A): 0.034
Concentration (ug/L): 0.915

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Hg2 ID: 182-53-4 D Seq. No.: 00021 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 15:59
Peak Area (A-s): 0.741 Peak Height (A): 0.035
Blank Corrected Pk Height (A): 0.035
Concentration (ug/L): 0.929

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Hg2 ID: 182-53-4 MS Seq. No.: 00022 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:00
Peak Area (A-s): 5.766 Peak Height (A): 0.272
Blank Corrected Pk Height (A): 0.272
Concentration (ug/L): 7.281

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Hg2 ID: 182-53-4 MSD Seq. No.: 00023 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:01
Peak Area (A-s): 5.623 Peak Height (A): 0.277
Blank Corrected Pk Height (A): 0.277
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Concentration (ug/L): 7.404

Hg2 ID: CCV1=6.0ug/L Seq. No.: 00024 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:04
Peak Area (A-s): 5.017 Peak Height (A): 0.220
Blank Corrected Pk Height (A): 0.220
Concentration (ug/L): 5.875

Hg2 ID: CCB1 Seq. No.: 00025 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:05
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.032

Hg2 ID: 182-53-2-5 Seq. No.: 00026 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:07
Peak Area (A-s): 0.019 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.032

Hg2 ID: 182-53-2-5 D Seq. No.: 00027 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:08
Peak Area (A-s): 0.018 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

Hg2 ID: 182-53-6 Seq. No.: 00028 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:09
Peak Area (A-s): 0.411 Peak Height (A): 0.018
Blank Corrected Pk Height (A): 0.018
Concentration (ug/L): 0.486

Hg2 ID: 182-53-6 D Seq. No.: 00029 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:10
Peak Area (A-s): 0.422 Peak Height (A): 0.019
Blank Corrected Pk Height (A): 0.019
Concentration (ug/L): 0.510

Hg2 ID: CCV2=6.0ug/L Seq. No.: 00030 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:11
Peak Area (A-s): 5.069 Peak Height (A): 0.222
Blank Corrected Pk Height (A): 0.222
Concentration (ug/L): 5.928

Hg2 ID: CCB2 Seq. No.: 00031 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:12
Peak Area (A-s): 0.030 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.032

Hg2 ID: 43159B MB Seq. No.: 00032 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:14
Peak Area (A-s): 0.024 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.030

Hg2 ID: 43159 MB D Seq. No.: 00033 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:14
Peak Area (A-s): 0.018 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.013

Hg2 ID: 43159 LCS Seq. No.: 00034 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:16
Peak Area (A-s): 4.498 Peak Height (A): 0.198
Blank Corrected Pk Height (A): 0.198
Concentration (ug/L): 5.284

Hg2 ID: 43159 LCS D Seq. No.: 00035 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:16
Peak Area (A-s): 4.265 Peak Height (A): 0.190
Blank Corrected Pk Height (A): 0.190
Concentration (ug/L): 5.088

Hg2 ID: 182-30-16A Seq. No.: 00036 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:19
Peak Area (A-s): 0.089 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.099

Hg2 ID: 182-30-16A D Seq. No.: 00037 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:21
Peak Area (A-s): 0.086 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.097

Hg2 ID: 182-30-16A MS Seq. No.: 00038 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:27
Peak Area (A-s): 5.025 Peak Height (A): 0.247
Blank Corrected Pk Height (A): 0.247
Concentration (ug/L): 6.621

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Hg2 ID: 182-30-16A MSD Seq. No.: 00039 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:41
Peak Area (A-s): 4.737 Peak Height (A): 0.216
Blank Corrected Pk Height (A): 0.216
Concentration (ug/L): 5.770

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Hg2 ID: 182-30-16B Seq. No.: 00040 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:42
Peak Area (A-s): 0.129 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.140

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Hg2 ID: 182-30-16B D Seq. No.: 00041 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:45
Peak Area (A-s): 0.109 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.132

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Hg2 ID: CCV1=6.0ug/L Seq. No.: 00042 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:46
Peak Area (A-s): 5.231 Peak Height (A): 0.230
Blank Corrected Pk Height (A): 0.230
Concentration (ug/L): 6.143

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Hg2 ID: CCB1 Seq. No.: 00043 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:47
Peak Area (A-s): 0.025 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

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Hg2 ID: 182-30-16C Seq. No.: 00044 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:49
Peak Area (A-s): 0.051 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.048

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Hg2 ID: 182-30-16C D Seq. No.: 00045 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:50
Peak Area (A-s): 0.051 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
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Concentration (ug/L): 0.051

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Hg2 ID: 182-30-16D Seq. No.: 00046 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:51
Peak Area (A-s): 0.039 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.040

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Hg2 ID: 182-30-16D D Seq. No.: 00047 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:53
Peak Area (A-s): 0.035 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.043

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Hg2 ID: 182-30-16E Seq. No.: 00048 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:54
Peak Area (A-s): 0.136 Peak Height (A): 0.006
Blank Corrected Pk Height (A): 0.006
Concentration (ug/L): 0.156

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Hg2 ID: 182-30-16E D Seq. No.: 00049 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:56
Peak Area (A-s): 0.125 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.142

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Hg2 ID: CCV2=6.0ug/L Seq. No.: 00050 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:58
Peak Area (A-s): 5.083 Peak Height (A): 0.222
Blank Corrected Pk Height (A): 0.222
Concentration (ug/L): 5.939

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Hg2 ID: CCB2 Seq. No.: 00051 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 16:59
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.027

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Hg2 ID: 43048 MB Seq. No.: 00052 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:01
Peak Area (A-s): 0.022 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019
~~~~~~

Hg2 ID: 43048 MBD Seq. No.: 00053 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:02
Peak Area (A-s): 0.021 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.021

Hg2 ID: 43048 LCS Seq. No.: 00054 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:04
Peak Area (A-s): 4.624 Peak Height (A): 0.205
Blank Corrected Pk Height (A): 0.205
Concentration (ug/L): 5.494

Hg2 ID: 43048 LCS D Seq. No.: 00055 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:06
Peak Area (A-s): 4.241 Peak Height (A): 0.194
Blank Corrected Pk Height (A): 0.194
Concentration (ug/L): 5.190

Hg2 ID: 181-18-13B Seq. No.: 00056 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:08
Peak Area (A-s): 0.027 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.024

Hg2 ID: 181-18-13B D Seq. No.: 00057 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:09
Peak Area (A-s): 0.020 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.024

Hg2 ID: 181-18-13 MS Seq. No.: 00058 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:10
Peak Area (A-s): 4.447 Peak Height (A): 0.197
Blank Corrected Pk Height (A): 0.197
Concentration (ug/L): 5.273

Hg2 ID: 181-18-13 MSD Seq. No.: 00059 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:12
Peak Area (A-s): 0.083 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.115

Delete 9/24/97 nl
wrong sample

Hg2 ID: 181-18-13 MSD Seq. No.: 00060 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:18
Peak Area (A-s): 5.164 Peak Height (A): 0.236
Blank Corrected Pk Height (A): 0.236
Concentration (ug/L): 6.309

Hg2 ID: CCV1=6.0ug/L Seq. No.: 00061 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:20
Peak Area (A-s): 5.174 Peak Height (A): 0.224
Blank Corrected Pk Height (A): 0.224
Concentration (ug/L): 6.001

Hg2 ID: CCB1 Seq. No.: 00062 A/S Pos.: -- Date: 09/24/97

Replicate 1 Time: 17:21
Peak Area (A-s): 0.041 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.038

Appendix D

Particulate Matter Laboratory Analysis Data

Youngstown

TITLE ~~I+S~~ Tare Metals Filters

Project No._____

Book No._____

From Page No.

Tare weight before Sampling

I+S Filters (Metals)

Filter #	Weigh 1 8/6 8am	Weigh 2 8/7 12:30 p	Weigh 3	Difference	Difference
080497-01 RB	0.7232	0.7231		0.00000	0.00000
080497-02	0.7041	0.7041		0.00000	
080497-03 FB	0.7550	0.7550		0.00000	0.00000
080497-04	0.7181	0.7180		0.00000	0.00000
080497-05 SBH=3	0.7204	0.7205		0.00000	
080497-06 BHA02	0.7126	0.7126		0.00000	
080497-07	0.7064	0.7064		0.00000	
080497-08 BHA 1	0.7051	0.7051		0.00000	
080497-09	0.7018	0.7016 fm		0.00000	
080497-10	0.7202	0.7201		0.00000	
080497-11	0.7047	0.7046		0.00000	
080497-12	0.7002	0.7002		0.00000	
080497-13	0.7247	0.7246		0.00000	
080497-14 BHA03	0.7417	0.7416		0.00000	
080497-15 SBH02	0.7146	0.7145		0.00000	
080497-16	0.7099	0.7100		0.00000	
080497-17	0.7023	0.7023		0.00000	
080497-18	0.7130	0.7128		0.00000	
080497-19 SBH03	0.7273	0.7272		0.00000	
080497-20 SBH01	0.7173	0.7174		0.00000	0.00000
080497-21 SBH#2	0.7122	0.7122		0.00000	
080497-22 SBH#1	0.7220	0.7221		0.00000	
080497-23 SBH FB	0.7220	0.7221		0.00000	0.00000
080497-24 FB	0.7067	0.7065		0.00000	~~0.00000~~
080497-25	0.7102	0.7101		0.00000	0.00000

Sartorius dig. bal used fm

Youngstown Filter tare wts.

w/m ± 0.0005

To Page No._____

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by Jerry McBrien	8/7/97

Project No._____
Book No._____ TITLE YCP - Filters

2

Page No.__

Filter #	Sample ID	Weigh 1 (8/27/97)	Weigh 2 (8/28/97)	Weigh 3	4
082797-01		1.6820	1.6775	1.6722	1.6654
-02		1.6753	1.6720	1.6682	1.6603
-03		1.6202	1.6168	1.6135	1.6062
-04		1.6573	1.6539	1.6512	1.6440
-05		1.7183	1.7162	1.7127	1.7046
080497-03	YCP-165	0.7560	0.7559	NA	
23	52	0.7226	0.7227		
01	46	0.7243	0.7241		
24	39	0.7072	0.7072		
15	89	0.7155	0.7156		
19	90	0.7288	0.7289		
20	88	0.7145	0.7142		
14	110	0.7412	0.7408		
06	103	0.7133	0.7132		
08	96	0.7051	0.7050		

Filter #	ID	Weigh 1 (8/28/97)	Weigh 2 (8/30/97)	Weigh 3 (9/1/97)
080497-22	YCP-91 (=W1)	2.9645	2.7200	2.5322
25	-115 (=W2)	0.8504	0.8500	NA
21	-92	1.0568	1.0544	1.0529
05	-93 (=W3)	1.3646	1.3563	1.3490
18	-93	1.1216	1.1188	1.1172

To Page No.____

ssed & Understood by me.	Date	Invented by	Date
		Recorded by James McBrian	9/9/97

TITLE YCP - filtration samples + Weights

Project No.

Book No.

3

From Page No.

	9/2/97 5pm 62% Humidity	9/3/97 10 am 52% Humidity	9/4/97 10am 45% Humidity
080297-01	1.7178	1.7186	1.7147
02	1.7139	~~1.75~~ 1.7143	NA
03	1.6573	1.6577	NA
04	1.6958	1.6966	1.6926
05	1.7586	1.7592	1.7552

filter#	Field ID	
080297-02	YCP-21	(IN 1)
03	27	(IN 2)
05	33	(IN 3)
04	33	(filter developed hole; used another filter to continue)

filter#	Field ID	Weigh 1 9/8/97 51% Hum.	Weigh 2 9/8/97 51% RH	Weigh 3 9/9/97 51% RH
080297-02	YCP-21	1.893326	1.89277	
03	-27	1.76776	1.76738	
04	-33	1.70332	1.70288	
05	-33	1.78116	1.78059	1.78054
080297-01	Blank		1.71742	1.71745

- Note: 3 samples contained particulate and needed filtration prior to analysis.

To Page No.

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by McBrian	9/9/97

TITLE YCP-Acetone Drydowns

Project No.

Book No.

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From Page No.

Sample ID	Beaker #	Weigh 1 (g) (8/27/97)	Weigh 2 (g) (8/28/97)	Weigh 3 (g) (8/31/97)
YCP-01	1	110.9425	110.9430	NA
07	2	106.0220	106.0223	
13	3	105.7892	105.7896	
37	4	104.0449	104.0454	
50	5	107.8471	107.8476	
57	6	106.2263	106.2270	106.2272
94	7	104.8878	104.8885	104.8888
101	8	107.2985	107.2992	107.2997
108	9	108.6776	108.6780	NA
159	10	119.3328	119.3330	NA

Sample ID	Beaker #	Weigh 1 (8/30/97)	Weigh 2 (8/31/97) (9/1/97)	Weigh 3 (9/4/97)
YCP-19	11	121.6126	121.5823	121.5833
25	12	117.4~~6~~351	117.4328	117.4330 ✓
31	13	110.33~~23~~26	110.3294	110.3296 ✓

Tare & Final Sample weights (taken directly from sample bottles):

Sample ID	Tare wt (g)	Final wt (g)
YCP-19	266.7	605.8
25	267.7	626.1
31	267.3	600.5
37	269.3	369.0
108	265.2	318.4
101	268.3	324.5
159	275.8	326.4
94	269.1	323.0
13	266.7	375.0
57	268.1	407.0
07	267.2	326.2
50	268.2	387.0
01	266.5	404.5

4-81-3361

To Page No.

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by McBrum	9/9/97

Project No._____
Book No._____ TITLE YCP

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Page No.__

Youngstown

Sample ID	Beaker #	Weigh 4 (9/2/97)	Weigh 5 (9/2/97)
YCP-19	11	121.5770	121.5848
↓ 25	12	~~117.4323~~ NA	NA
31	13	~~110.3289~~ NA	NA

Filter #	Sample ID	Weigh 4/5 (9/2/97)	Weigh 5/6 9/2/97
082797-01		1.6679	1.6735
02		1.6636	1.6693
03		1.6088	1.6147
04		1.6467	1.6529
↓ 05		1.7076	1.7135
080497-22	YCP-91 (FN1)	2.5213	2.5220 ✓
25	115 >(FN2)	0.8501	0.8500 ✓
21	92	1.0522	1.0509
05	93 >(FN3)	1.3472	1.3461
↓ 18	↓ 93	1.1167 ✓	NA

To Page No.____

tnessed & Understood by me.	Date	Invented by	Date 9/2/

TITLE YCP Beakers Test

Project No.
Book No.

5

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From Page No.

Beaker #		Sat. 8/23/97	Mon 8/25/97
1	SBH Out 1	110.9320	110.9321
2	SBH Out 2	106.0186	106.0187
3	SBH out 3	105.7834	105.7837
4	FBK	104.0396	104.0397
5		107.8373	107.8375
6	Auto KO	106.2259	106.2263
7	Bif Ro 1	104.8849 8842	104.8844
8	2	107.2943	107.2947
9	3	108.6752	108.6749
10	FBK	119.3296	119.3300
11	SBH In 1	118.9679	118.9676
12	2	115.3218	115.3217
13	3	108.2244	108.2246
14	FBK	120.2169	120.2173
15		101.4450	101.4480
16		109.9939	109.9944

Carol Hurkin

To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by Carol Hurkin	8-27-97

Project No.
Book No.
TITLE Youngstown - Balance Cals.

7111

Page No.

(g) True	(g) Actual	Date/ini
0.5	0.5000	8/27/97 jm
1.0	1.0000	
2.0	2.0000	
5.0	5.0001	
20.0	20.0001	
50.0	50.0001	
100.0	~~99.9998~~ jm 100.0000	
120.0	120.0000	
0.5	0.5000	8/28/97 jm
1.0	1.0000	
2.0	2.0000	
100.0	100.0000	
120.0	120.0000	
0.5	jm ~~0.0~~ 0.5000	08/30/97 jm
1.0	1.0000	
2.0	2.0000	
100.0	100.0000	
120.0	120.0000	
0.5	0.5000	8/31/97 jm
1.0	1.0000	
2.0	2.0000	
100.0	jm 100.0000	
120.0	120.0000	
		9/1/97 jm
0.5	0.5000	
1.0	1.0000	
2.0	2.0000	
100.0	100.0000	
120.0	120.0000	

True	Actual	date/ini
0.5	0.5000	9/2/97 jm
1.0	1.0000	
2.0	2.0000	
100.0	100.0000	
120.0	120.0000	
0.5	0.5000	9/3/97 jm
1.0	1.0000	
2.0	2.0000	
0.5	0.5000	9/4/97
1.0	1.0000	
2.0	2.0000	
0.5	0.500001	9/5/97 jm
1.0	1.00001	
2.0	2.00001	
0.5	0.50000 jm	9/8 jm
1.0	1.00001	
2.0	2.00001	
0.5	0.50001	9/9 jm
1.0	1.00001	
2.0	2.00001	

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Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by Jennifer McBrien	9/9/97

Appendix E

Field Data Sheets

Facility:	WCI
Date:	08/12/97
Location:	5BH/Inlet
Run Number:	1
Sample Type:	Metals
Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.30
Absolute Stack Pressure (in H2O)	27.09
Stack Static Pressure (in H2O)	-30.00
Average Stack Temperature (°F)	257.53
Stack Area (sq in)	14364.00
Actual Meter Volume (cu ft)	107.497
Average Meter Pressure (in H2O)	0.67
Average Meter Temperature (°F)	90.61
Moisture Collected (g)	140.10
Carbon Dioxide Concentration (%V)	2.0
Oxygen Concentration (%V)	18.5
Nitrogen Concentration (%V)	79.5
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.150
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.415
Standard Metered Volume (dscf)	99.613
Standard Metered Volume (dscm)	2.821
Stack Moisture (%V)	6.22
Mole Fraction Dry Stack Gas	0.938
Dry Molecular Weight	29.06
Wet Molecular Weight	28.37
Stack Gas Velocity (fpm)	5375.30
Stack Gas Velocity (mpm)	1638.39
Volumetric Flow Rate (acfm)	536186.52
Volumetric Flow Rate (acmm)	15184.80
Volumetric Flow Rate (dscfm)	335019.38
Volumetric Flow Rate (dscmm)	9487.75
Percent Isokinetic	100.70
Percent Excess Air	738.85
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/13/97
Location:	BH/Inlet
Run Number:	2
Sample Type:	Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.06
Absolute Stack Pressure (in H2O)	26.85
Stack Static Pressure (in H2O)	-30.00
Average Stack Temperature (°F)	218.96
Stack Area (sq in)	14364.00
Actual Meter Volume (cu ft)	104.344
Average Meter Pressure (in H2O)	0.58
Average Meter Temperature (°F)	78.21
Moisture Collected (g)	111.60
Carbon Dioxide Concentration (%V)	2.0
Oxygen Concentration (%V)	18.5
Nitrogen Concentration (%V)	79.5
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.150
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.408
Standard Metered Volume (dscf)	97.867
Standard Metered Volume (dscm)	2.772
Stack Moisture (%V)	5.10
Mole Fraction Dry Stack Gas	0.949
Dry Molecular Weight	29.06
Wet Molecular Weight	28.50
Stack Gas Velocity (fpm)	4821.75
Stack Gas Velocity (mpm)	1469.67
Volumetric Flow Rate (acfm)	480969.91
Volumetric Flow Rate (acmm)	13621.07
Volumetric Flow Rate (dscfm)	318534.84
Volumetric Flow Rate (dscmm)	9020.91
Percent Isokinetic	104.06
Percent Excess Air	738.85
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/14/97
Location:	BH/Inlet
Run Number:	3
Sample Type:	Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.10
Absolute Stack Pressure (in H2O)	26.89
Stack Static Pressure (in H2O)	-30.00
Average Stack Temperature (°F)	216.67
Stack Area (sq in)	14364.00
Actual Meter Volume (cu ft)	109.508
Average Meter Pressure (in H2O)	0.61
Average Meter Temperature (°F)	80.08
Moisture Collected (g)	157.20
Carbon Dioxide Concentration (%V)	2.0
Oxygen Concentration (%V)	18.0
Nitrogen Concentration (%V)	80.0
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.150
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.430
Standard Metered Volume (dscf)	103.200
Standard Metered Volume (dscm)	2.923
Stack Moisture (%V)	6.70
Mole Fraction Dry Stack Gas	0.933
Dry Molecular Weight	29.04
Wet Molecular Weight	28.30
Stack Gas Velocity (fpm)	5116.05
Stack Gas Velocity (mpm)	1559.37
Volumetric Flow Rate (acfm)	510326.07
Volumetric Flow Rate (acmm)	14452.43
Volumetric Flow Rate (dscfm)	333905.95
Volumetric Flow Rate (dscmm)	9456.22
Percent Isokinetic	104.68
Percent Excess Air	573.98
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/15/97
Location:	BH/ A-Outlet
Run Number:	1
Sample Type:	Metals

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	28.99
Stack Static Pressure (in H2O)	-0.10
Average Stack Temperature (°F)	161.50
Stack Area (sq in)	4071.50
Actual Meter Volume (cu ft)	87.194
Average Meter Pressure (in H2O)	1.83
Average Meter Temperature (°F)	75.67
Moisture Collected (g)	65.30
Carbon Dioxide Concentration (%V)	0.5
Oxygen Concentration (%V)	20.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.215
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.686
Standard Metered Volume (dscf)	~~82.330~~
Standard Metered Volume (dscm)	2.332
Stack Moisture (%V)	3.60
Mole Fraction Dry Stack Gas	0.964
Dry Molecular Weight	28.90
Wet Molecular Weight	28.51
Stack Gas Velocity (fpm)	3638.28
Stack Gas Velocity (mpm)	1108.95
Volumetric Flow Rate (acfm)	102869.90
Volumetric Flow Rate (acmm)	2913.28
Volumetric Flow Rate (dscfm)	81625.16
Volumetric Flow Rate (dscmm)	2311.62
Percent Isokinetic	94.26
Percent Excess Air	5513.72
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/15/97
Location:	BH/ A-Outlet
Run Number:	2
Sample Type:	Metals

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	28.99
Stack Static Pressure (in H2O)	-0.10
Average Stack Temperature (°F)	132.08
Stack Area (sq in)	4071.50
Actual Meter Volume (cu ft)	88.117
Average Meter Pressure (in H2O)	1.72
Average Meter Temperature (°F)	83.71
Moisture Collected (g)	50.60
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	21.0
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.215
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.683
Standard Metered Volume (dscf)	81.976
Standard Metered Volume (dscm)	2.322
Stack Moisture (%V)	2.83
Mole Fraction Dry Stack Gas	0.972
Dry Molecular Weight	28.84
Wet Molecular Weight	28.53
Stack Gas Velocity (fpm)	3477.25
Stack Gas Velocity (mpm)	1059.87
Volumetric Flow Rate (acfm)	98317.05
Volumetric Flow Rate (acmm)	2784.34
Volumetric Flow Rate (dscfm)	82550.47
Volumetric Flow Rate (dscmm)	2337.83
Percent Isokinetic	92.81
Percent Excess Air	-16380.66
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/16/97
Location:	BH/ A-Outlet
Run Number:	3
Sample Type:	Metals

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	28.61
Absolute Stack Pressure (in H2O)	28.60
Stack Static Pressure (in H2O)	-0.10
Average Stack Temperature (°F)	120.42
Stack Area (sq in)	4071.50
Actual Meter Volume (cu ft)	82.506
Average Meter Pressure (in H2O)	1.44
Average Meter Temperature (°F)	87.04
Moisture Collected (g)	85.50
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	21.5
Nitrogen Concentration (%V)	78.5
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.215
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.627
Standard Metered Volume (dscf)	75.238
Standard Metered Volume (dscm)	2.131
Stack Moisture (%V)	5.09
Mole Fraction Dry Stack Gas	0.949
Dry Molecular Weight	28.86
Wet Molecular Weight	28.31
Stack Gas Velocity (fpm)	3174.82
Stack Gas Velocity (mpm)	967.69
Volumetric Flow Rate (acfm)	89765.96
Volumetric Flow Rate (acmm)	2542.17
Volumetric Flow Rate (dscfm)	74089.99
Volumetric Flow Rate (dscmm)	2098.23
Percent Isokinetic	94.90
Percent Excess Air	-2827.83
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/15/97
Location: BH/ A-Outlet
Run Number: 1
Sample Type: Metals

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	28.99
Stack Static Pressure (in H2O)	-0.10
Average Stack Temperature (°F)	161.50
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	87.194
Average Meter Pressure (in H2O)	1.83
Average Meter Temperature (°F)	75.67
Moisture Collected (g)	65.30
Carbon Dioxide Concentration (%V)	0.5
Oxygen Concentration (%V)	20.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.215
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.686
Standard Metered Volume (dscf)	82.330
Standard Metered Volume (dscm)	2.332
Stack Moisture (%V)	3.60
Mole Fraction Dry Stack Gas	0.964
Dry Molecular Weight	28.90
Wet Molecular Weight	28.51
Stack Gas Velocity (fpm)	3638.28
Stack Gas Velocity (mpm)	1108.95
Volumetric Flow Rate (acfm)	231457.28
Volumetric Flow Rate (acmm)	6554.87
Volumetric Flow Rate (dscfm)	183656.61
Volumetric Flow Rate (dscmm)	5201.16
Percent Isokinetic	94.26
Percent Excess Air	5513.72
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/15/97
Location:	BH/ A-Outlet
Run Number:	2
Sample Type:	Metals

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	28.99
Stack Static Pressure (in H2O)	-0.10
Average Stack Temperature (°F)	132.08
Stack Area (sq in)	~~9160.88~~
Actual Meter Volume (cu ft)	88.117
Average Meter Pressure (in H2O)	1.72
Average Meter Temperature (°F)	83.71
Moisture Collected (g)	50.60
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	21.0
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.215
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.683
Standard Metered Volume (dscf)	81.976
Standard Metered Volume (dscm)	2.322
Stack Moisture (%V)	2.83
Mole Fraction Dry Stack Gas	0.972
Dry Molecular Weight	28.84
Wet Molecular Weight	28.53
Stack Gas Velocity (fpm)	3477.25
Stack Gas Velocity (mpm)	1059.87
Volumetric Flow Rate (acfm)	221213.36
Volumetric Flow Rate (acmm)	6264.76
Volumetric Flow Rate (dscfm)	185738.56
Volumetric Flow Rate (dscmm)	~~5260.12~~
Percent Isokinetic	92.81
Percent Excess Air	-16380.66
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/16/97
Location: BH/ A-Outlet
Run Number: 3
Sample Type: Metals

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	28.61
Absolute Stack Pressure (in H2O)	28.60
Stack Static Pressure (in H2O)	-0.10
Average Stack Temperature (°F)	120.42
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	82.506
Average Meter Pressure (in H2O)	1.44
Average Meter Temperature (°F)	87.04
Moisture Collected (g)	85.50
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	21.5
Nitrogen Concentration (%V)	78.5
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.215
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.627
Standard Metered Volume (dscf)	75.238
Standard Metered Volume (dscm)	2.131
Stack Moisture (%V)	5.09
Mole Fraction Dry Stack Gas	0.949
Dry Molecular Weight	28.86
Wet Molecular Weight	28.31
Stack Gas Velocity (fpm)	3174.82
Stack Gas Velocity (mpm)	967.69
Volumetric Flow Rate (acfm)	201973.42
Volumetric Flow Rate (acmm)	5719.89
Volumetric Flow Rate (dscfm)	166702.48
Volumetric Flow Rate (dscmm)	4721.01
Percent Isokinetic	94.90
Percent Excess Air	-2827.83
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/12/97
Location: BH/Inlet Strand baghouse
Run Number: 1
Sample Type: Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.30
Absolute Stack Pressure (in H2O)	27.09
Stack Static Pressure (in H2O)	-30.00
Average Stack Temperature (°F)	257.53
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	107.497
Average Meter Pressure (in H2O)	0.67
Average Meter Temperature (°F)	90.61
Moisture Collected (g)	140.10
Carbon Dioxide Concentration (%V)	2.0
Oxygen Concentration (%V)	18.5
Nitrogen Concentration (%V)	79.5
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.150
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.415
Standard Metered Volume (dscf)	99.613
Standard Metered Volume (dscm)	2.821
Stack Moisture (%V)	6.22
Mole Fraction Dry Stack Gas	0.938
Dry Molecular Weight	29.06
Wet Molecular Weight	28.37
Stack Gas Velocity (fpm)	5375.30
Stack Gas Velocity (mpm)	1638.39
Volumetric Flow Rate (acfm)	341962.03
Volumetric Flow Rate (acmm)	9684.36
Volumetric Flow Rate (dscfm)	213664.28
Volumetric Flow Rate (dscmm)	6050.97
Percent Isokinetic	100.70
Percent Excess Air	738.85
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/13/97
Location: BH/Inlet Strand baghouse
Run Number: 2
Sample Type: Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.06
Absolute Stack Pressure (in H2O)	26.85
Stack Static Pressure (in H2O)	-30.00
Average Stack Temperature (°F)	218.96
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	104.344
Average Meter Pressure (in H2O)	0.58
Average Meter Temperature (°F)	78.21
Moisture Collected (g)	111.60
Carbon Dioxide Concentration (%V)	2.0
Oxygen Concentration (%V)	18.5
Nitrogen Concentration (%V)	79.5
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.150
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.408
Standard Metered Volume (dscf)	97.867
Standard Metered Volume (dscm)	2.772
Stack Moisture (%V)	5.10
Mole Fraction Dry Stack Gas	0.949
Dry Molecular Weight	29.06
Wet Molecular Weight	28.50
Stack Gas Velocity (fpm)	4821.75
Stack Gas Velocity (mpm)	1469.67
Volumetric Flow Rate (acfm)	306746.70
Volumetric Flow Rate (acmm)	8687.07
Volumetric Flow Rate (dscfm)	203150.98
Volumetric Flow Rate (dscmm)	5753.24
Percent Isokinetic	104.06
Percent Excess Air	738.85
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/14/97
Location: BH/Inlet Strand baghouse
Run Number: 3
Sample Type: Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.10
Absolute Stack Pressure (in H2O)	26.89
Stack Static Pressure (in H2O)	-30.00
Average Stack Temperature (°F)	216.67
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	109.508
Average Meter Pressure (in H2O)	0.61
Average Meter Temperature (°F)	80.08
Moisture Collected (g)	157.20
Carbon Dioxide Concentration (%V)	2.0
Oxygen Concentration (%V)	18.0
Nitrogen Concentration (%V)	80.0
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.150
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.430
Standard Metered Volume (dscf)	103.200
Standard Metered Volume (dscm)	2.923
Stack Moisture (%V)	6.70
Mole Fraction Dry Stack Gas	0.933
Dry Molecular Weight	29.04
Wet Molecular Weight	28.30
Stack Gas Velocity (fpm)	5116.05
Stack Gas Velocity (mpm)	1559.37
Volumetric Flow Rate (acfm)	325469.09
Volumetric Flow Rate (acmm)	9217.28
Volumetric Flow Rate (dscfm)	212954.17
Volumetric Flow Rate (dscmm)	6030.86
Percent Isokinetic	104.68
Percent Excess Air	573.98
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/12/97
Location:	Stack Strand baghouse Outlet
Run Number:	1
Sample Type:	Dioxin

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.26
Absolute Stack Pressure (in H2O)	29.26
Stack Static Pressure (in H2O)	-0.04
Average Stack Temperature (°F)	250.19
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	228.017
Average Meter Pressure (in H2O)	2.63
Average Meter Temperature (°F)	99.53
Moisture Collected (g)	341.40
Carbon Dioxide Concentration (%V)	0.5
Oxygen Concentration (%V)	20.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.878
Standard Metered Volume (dscf)	210.832
Standard Metered Volume (dscm)	5.971
Stack Moisture (%V)	7.09
Mole Fraction Dry Stack Gas	0.929
Dry Molecular Weight	28.90
Wet Molecular Weight	28.13
Stack Gas Velocity (fpm)	6452.52
Stack Gas Velocity (mpm)	1966.73
Volumetric Flow Rate (acfm)	410491.39
Volumetric Flow Rate (acmm)	11625.12
Volumetric Flow Rate (dscfm)	277213.98
Volumetric Flow Rate (dscmm)	7850.70
Percent Isokinetic	99.23
Percent Excess Air	5513.72
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility:	WCI
Date:	08/13/97
Location:	Stack Strand Baghouse Outlet
Run Numb	2
Sample Ty	Dioxin

Total Sampling Time (min)	120.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	29.04
Stack Static Pressure (in H2O)	0.60
Average Stack Temperature (°F)	245.69
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	107.856
Average Meter Pressure (in H2O)	2.27
Average Meter Temperature (°F)	79.38
Moisture Collected (g)	146.70
Carbon Dioxide Concentration (%V)	0.5
Oxygen Concentration (%V)	20.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.854
Standard Metered Volume (dscf)	102.513
Standard Metered Volume (dscm)	2.903
Stack Moisture (%V)	6.32
Mole Fraction Dry Stack Gas	0.937
Dry Molecular Weight	28.90
Wet Molecular Weight	28.21
Stack Gas Velocity (fpm)	6188.65
Stack Gas Velocity (mpm)	1886.30
Volumetric Flow Rate (acfm)	393704.79
Volumetric Flow Rate (acmm)	11149.72
Volumetric Flow Rate (dscfm)	267835.10
Volumetric Flow Rate (dscmm)	7585.09
Percent Isokinetic	99.88
Percent Excess Air	5513.72
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/13/97
Location: Stack Strand baghouse outlet
Run Number: 3
Sample Type: Dioxin

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	29.04
Stack Static Pressure (in H2O)	0.60
Average Stack Temperature (°F)	233.63
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	224.147
Average Meter Pressure (in H2O)	2.53
Average Meter Temperature (°F)	81.05
Moisture Collected (g)	358.40
Carbon Dioxide Concentration (%V)	3.5
Oxygen Concentration (%V)	17.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.886
Standard Metered Volume (dscf)	212.543
Standard Metered Volume (dscm)	6.019
Stack Moisture (%V)	7.37
Mole Fraction Dry Stack Gas	0.926
Dry Molecular Weight	29.26
Wet Molecular Weight	28.43
Stack Gas Velocity (fpm)	6249.71
Stack Gas Velocity (mpm)	1904.91
Volumetric Flow Rate (acfm)	397589.40
Volumetric Flow Rate (acmm)	11259.73
Volumetric Flow Rate (dscfm)	272116.18
Volumetric Flow Rate (dscmm)	7706.33
Percent Isokinetic	101.91
Percent Excess Air	519.01
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/14/97
Location: Stack
Run Numb 4
Sample Ty Dioxin

Strand baghouse Outlet

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.04
Absolute Stack Pressure (in H2O)	29.08
Stack Static Pressure (in H2O)	0.60
Average Stack Temperature (°F)	235.66
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	222.820
Average Meter Pressure (in H2O)	2.51
Average Meter Temperature (°F)	89.59
Moisture Collected (g)	310.80
Carbon Dioxide Concentration (%V)	3.5
Oxygen Concentration (%V)	17.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.868
Standard Metered Volume (dscf)	208.287
Standard Metered Volume (dscm)	5.899
Stack Moisture (%V)	6.57
Mole Fraction Dry Stack Gas	0.934
Dry Molecular Weight	29.26
Wet Molecular Weight	28.52
Stack Gas Velocity (fpm)	6245.02
Stack Gas Velocity (mpm)	1903.48
Volumetric Flow Rate (acfm)	397290.73
Volumetric Flow Rate (acmm)	11251.27
Volumetric Flow Rate (dscfm)	273811.90
Volumetric Flow Rate (dscmm)	7754.35
Percent Isokinetic	99.25
Percent Excess Air	519.01
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/15/97
Location: Stack Strand baghouse Outlet
Run Number: 5
Sample Type: Dioxin

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	28.96
Absolute Stack Pressure (in H2O)	29.00
Stack Static Pressure (in H2O)	0.60
Average Stack Temperature (°F)	232.06
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	222.592
Average Meter Pressure (in H2O)	2.41
Average Meter Temperature (°F)	86.34
Moisture Collected (g)	297.40
Carbon Dioxide Concentration (%V)	3.5
Oxygen Concentration (%V)	17.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.869
Standard Metered Volume (dscf)	208.642
Standard Metered Volume (dscm)	5.909
Stack Moisture (%V)	6.30
Mole Fraction Dry Stack Gas	0.937
Dry Molecular Weight	29.26
Wet Molecular Weight	28.55
Stack Gas Velocity (fpm)	6112.46
Stack Gas Velocity (mpm)	1863.08
Volumetric Flow Rate (acfm)	388858.13
Volumetric Flow Rate (acmm)	11012.46
Volumetric Flow Rate (dscfm)	269443.87
Volumetric Flow Rate (dscmm)	7630.65
Percent Isokinetic	101.03
Percent Excess Air	519.01
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/12/97
Location: Stack Strand baghouse Outlet
Run Number: 1
Sample Type: Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.26
Absolute Stack Pressure (in H2O)	29.23
Stack Static Pressure (in H2O)	-0.40
Average Stack Temperature (°F)	246.09
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	224.695
Average Meter Pressure (in H2O)	2.77
Average Meter Temperature (°F)	99.06
Moisture Collected (g)	368.50
Carbon Dioxide Concentration (%V)	3.5
Oxygen Concentration (%V)	17.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9880
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.860
Standard Metered Volume (dscf)	206.501
Standard Metered Volume (dscm)	5.848
Stack Moisture (%V)	7.76
Mole Fraction Dry Stack Gas	0.922
Dry Molecular Weight	29.26
Wet Molecular Weight	28.39
Stack Gas Velocity (fpm)	6473.79
Stack Gas Velocity (mpm)	1973.21
Volumetric Flow Rate (acfm)	411844.44
Volumetric Flow Rate (acmm)	11663.43
Volumetric Flow Rate (dscfm)	277479.87
Volumetric Flow Rate (dscmm)	7858.23
Percent Isokinetic	97.10
Percent Excess Air	519.01
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/13/97
Location: Stack Strand baghouse Outlet
Run Number: 2
Sample Type: Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.00
Absolute Stack Pressure (in H2O)	29.04
Stack Static Pressure (in H2O)	0.60
Average Stack Temperature (°F)	238.50
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	213.980
Average Meter Pressure (in H2O)	2.55
Average Meter Temperature (°F)	77.34
Moisture Collected (g)	341.00
Carbon Dioxide Concentration (%V)	3.5
Oxygen Concentration (%V)	17.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9880
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.844
Standard Metered Volume (dscf)	202.664
Standard Metered Volume (dscm)	5.739
Stack Moisture (%V)	7.35
Mole Fraction Dry Stack Gas	0.926
Dry Molecular Weight	29.26
Wet Molecular Weight	28.43
Stack Gas Velocity (fpm)	6326.64
Stack Gas Velocity (mpm)	1928.36
Volumetric Flow Rate (acfm)	402483.68
Volumetric Flow Rate (acmm)	11398.34
Volumetric Flow Rate (dscfm)	273586.26
Volumetric Flow Rate (dscmm)	7747.96
Percent Isokinetic	96.65
Percent Excess Air	519.01
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Facility: WCI
Date: 08/14/97
Location: Stack Stand baghouse Outlet
Run Number: 3
Sample Type: Metals

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.04
Absolute Stack Pressure (in H2O)	29.08
Stack Static Pressure (in H2O)	0.60
Average Stack Temperature (°F)	230.91
Stack Area (sq in)	9160.88
Actual Meter Volume (cu ft)	209.885
Average Meter Pressure (in H2O)	2.48
Average Meter Temperature (°F)	86.61
Moisture Collected (g)	283.00
Carbon Dioxide Concentration (%V)	3.5
Oxygen Concentration (%V)	17.5
Nitrogen Concentration (%V)	79.0
Dry Gas Meter Factor	0.9880
Nozzle Diameter (in)	0.193
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.815
Standard Metered Volume (dscf)	195.672
Standard Metered Volume (dscm)	5.541
Stack Moisture (%V)	6.38
Mole Fraction Dry Stack Gas	0.936
Dry Molecular Weight	29.26
Wet Molecular Weight	28.54
Stack Gas Velocity (fpm)	6224.21
Stack Gas Velocity (mpm)	1897.14
Volumetric Flow Rate (acfm)	395967.06
Volumetric Flow Rate (acmm)	11213.79
Volumetric Flow Rate (dscfm)	275333.02
Volumetric Flow Rate (dscmm)	7797.43
Percent Isokinetic	92.72
Percent Excess Air	519.01
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

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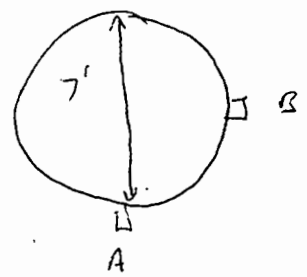
Traverse Point Location Form

Plant	YOUNGSTOWN SINTER	Sample Ports Information	Number	I.D. (in)
Date	8/15/97			
Sampling Location	BAGHOUSE A OUTLET.			
Total Duct Depth (Distance A)	87"			
(Inside Far Wall to Outside of Nipple/Port)				
Nipple/Port Length (Distance B)	3"			
(Inside Near Wall to Outside End of Nipple/Port)				
Stack Depth (Dist A – Dist B)	84"			
Stack Width (If rectangular)	—			
Nearest Upstream Disturbance	50'			
Nearest Downstream Disturbance	15'			
Calculator				



Schematic of Sampling Location (Cross Section of Duct)

1	2	3	4	5	6
Traverse Point Number	Percent Fraction of Stack ID	Stack ID (in)	Product of Columns 2 & 3 (to nearest 1/8 inch)	Distance B (in)	Traverse Point Location from Outside of Nipple (sum of columns 4 & 5)
A-1	.045	84"	3.75"	3"	6.75"
2	.146		12.25"	3"	15.25
3	.296		25.00	3"	28.0
4	.704		59.~~75~~00	3"	62.0
5	.854		71.75	3"	74.75
6	.955		80.25	3"	83.25

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Velocity Traverse Form

Plant		
Date		
Location		
Stack ID (in)		
Barometric Pressure (in Hg)		
Ambient Temperature (°F)		
Static Pressure (in H2O)		
Operators		

Schematic of Traverse Point Layout (Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)

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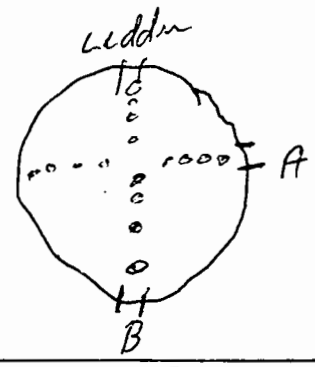
Preliminary Velocity Traverse Form and Cyclonic Flow Check

Plant	UCI
Date	8/11/97
Location	Strand baghouse Outlet
Stack ID (in)	
Barometric Pressure (in Hg)	
Ambient Temperature (°F)	
Static Pressure (in H2O)	
Operators	
Checked By	



Schematic of Traverse Point Layout
(Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)
A 1	2.1	238	+20				
2	2.7	240	+3°				
3	2.8	241	+3°				
4	3.1	242	+3°				
5	2.9	242	+2°				
6	2.9	241	0°				
7	3.1	240	-2°				
8	2.9	240	-5°				
B 1	1.7	241	+3°				
2	2.6	241	+3°				
3	2.6	241	+3°				
4	3.0	241	+3°				
5	3.4	243	0°				
6	2.9	243	-2°				
7	2.8	243	-2°				
8	3.1	246	-4°				

* Average of Absolute Values of All Angles >20° Require Alignment Approach Sampling.

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MODIFIED METHOD 5 DATA SHEET

Run	
Page 1 of	

Plant	WK	XAD Trap Number	Run 1	Meter Box Number	A-39
Date	8-12-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.700
Operator	MKO	Probe Length & Type	12'/659	DGM Factor (Y)	.996
Sampling Location	STACK	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.193
Sample Type	DILUTION	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	80°F
Run Number	1	Initial Leak Check	0.016 @ 10"	Assumed Moisture (% H2O)	
Static Pressure (±) (in. H2O)	-.04	Final Leak Check 0.010	0 @ 10"	K-Factor	1.003
Barometric Pressure (in. H2O)	29.26				

M-23 Outlet Strand B.H. Run 1

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 2.5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1355	785.615											
B 1	2.5	1342	792.00	2.1	246	2.16	2.16	225	250	52	92	81	59	5.0
1	15	1350	799.00	2.1	246	2.16	2.16	230	250	55	99	89	61	10.0
2	22.5	1357	805.43	2.3	248	2.36	2.36	235	262	56	100	87	58	15.0
2	30	1405	811.13	2.3	250	2.36	2.36	250	266	56	100	90	58	15.0
3	37.5	1412	817.43	2.5	250	2.56	2.56	266	269	56	100	91	63	15.0
3	45	1420	822.69	2.5	249	2.56	2.56	260	257	57	100	91	61	15.0
4	52.5	1427	833.76	2.8	250	2.86	2.86	270	260	57	100	92	61	17.0
4	60	1435	840.75	2.8	250	2.86	2.86	265	266	57	101	93	63	17.0
5	67.5	1442	849.75	2.7	252	2.78	2.68	266	258	58	96	93	68	17.0
5	75	1450	856.75	2.7	251	2.68	2.68	240	250	64	99	93	68	17.0
6	82.5	1458	861.87	3.0	250	3.09	2.68	249	250	60	100	93	68	18.0
6	90	1505	867.97	3.2	251	3.3	2.68	250	251	68	100	94	68	18.0
7	97.50	1513	878.23	2.6	250	2.68	2.68	261	257	63	96	93	71	18.0
7	105	1520	884.49	2.6	251	2.68	2.50	264	258	60	97	92	69	18.0
8	112.5	[illegible]	890.48	2.6	250	2.50	2.50	265	260	65	99	93	65	18.0
8	120	1608	897.012	2.8	247	2.88	2.50	260	262	64	100	93	61	18.0
8			Leak Check NOT good Broken Dry pass changed out											
	0	1809	898.72											
A 1	2.5	1807	905.16	2.8	241	2.88	2.88	225	261	51	96	95	74	5.0
1	15	1815	912.59	2.4	240	2.56	2.4	230	262	52	97	96	75	5.0
2	22.5	1822	920.63	2.8	246	2.88	2.88	250	261	59	111	99	66	5.0
2	30	1830	927.42	2.6	250	2.67	2.67	250	264	59	110	99	61	5.0
3	37.5	1837	934.95	2.6	250	2.67	2.67	263	262	60	113	104	61	5.0
3	45	1845	942.38	3.0	251	3.09	3.09	260	270	61	110	107	64	5.0
4	52.5	1852	950.75	3.0	251	3.09	3.09	264	268	64	111	103	64	5.0
4	60	1900	958.32	2.6	240	2.67	2.67	265	270	65	110	104	64	5.0
5	67.5	1907	965.38	2.6	240	2.67	2.70	255	272	64	110	103	65	5.0
5	75	1915	973.55	2.6	244	2.67	2.77	260	271	68	111	104	68	5.0

Comments:

Plant Shut Down 1523 Start Back

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
A 6	82.5	1923	981.43	2.7	253	2.70	2.70	245	260		102	100	69	5.0
6	80	1930	988.40	2.5	260	2.60	2.60	250	261		100	98	70	5.0
7	97.5	1945	999.80	2.6	260	2.67	2.67	251	260		100	98	72	5.0
7	105	1952	002.81	2.6	261	2.67	2.67	253	261		101	98	72	5.0
8	112.5	2000	009.36	2.2	265	2.26	2.67	258	267		101	97	72	5.0
8	120	2001	015.29	2.2	260	2.26	2.64	260	264		101	96	72	5.0

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Plant	WCT	XAD Trap Number		Meter Box Number	A-39	M-23 Outlet Strand B/A. Run 2
Date	8-13-97	Filter Heater Setting (°F)	250 ± 25	Meter delta H @	1.700	
Operator	MEW	Probe Length & Type	12' 9/655	DGM Factor (Y)	.996	
Sampling Location	STACK	Probe Heater Setting (°F)	250 ± 25	Nozzle Type & ID (in.)	.193	
Sample Type	DUKON	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	70°F	
Run Number	2	Initial Leak Check	0.010 at 15"	Assumed Moisture (% H2O)	5%	
Static Pressure (±) (in. H2O)	-1.6	Final Leak Check		K-Factor	1.00	
Barometric Pressure (in. H2O)	29.00					

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 7.5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1055	016.214											
A1	7.5		023.33	2.5	244	2.5	2.5	230	251	57	79	74	60	12.0
1	15		029.38	2.3	242	2.3	2.3	260	262	57	79	75	60	12.0
2	22.5		036.45	2.4	246	2.4	2.4	260	263	57	79	75	61	12.0
2	30		043.42	2.3	248	2.3	2.3	261	262	62	80	76	64	12.0
3	37.5		050.26	2.3	242	2.3	2.3	252	268	64	80	76	65	12.0
3	45		056.44	2.3	241	2.5	2.3	252	265	65	80	77	66	12.0
4	52.5		063.52	2.5	250	2.5	2.3	262	262	66	80	77	68	12.0
4	60		070.72	2.1	247	2.1	2.3	264	263	65	81	78	67	12.0
5	67.5		076.95	2.4	248	2.6	2.2	251	264	66	81	78	66	12.0
5	75		083.15	2.0	247	2.5	2.2	258	263	69	81	79	68	12.0
6	82.5		090.40	2.5	244	2.5	2.2	260	264	70	81	80	67	12.0
6	90		096.93	2.5	248	2.5	2.3	260	266	71	82	81	67	12.0
7	97.5		103.72	2.2	247	2.2	2.3	262	261	66	82	79	66	12.0
7	105		108.75	2.5	250	2.5	2.3	261	267	66	83	80	71	12.0
8	112.5		116.04	2.1	250	2.1	2.1	266	265	67	84	80	73	12.0
8	120	1155	124.07	2.1	260	2.1	2.1	267	262	71	85	81	74	12.0
				leak	check	not	good	broken	bag	pass				
B														

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Finished on 8/7/11

Outlet Stand Out. Run 3

Run ____
Page 1 of ____

Plant	[illegible]	XAD Trap Number		Meter Box Number	A-39
Date	8-13-11	Filter Heater Setting (°F)	250-225	Meter delta H @	1.708
Operator	MEO	Probe Length & Type	12 9/65	DGM Factor (Y)	.996
Sampling Location	STACK	Probe Heater Setting (°F)	250-225	Nozzle Type & ID (in.)	.193
Sample Type	[illegible]	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	70°F
Run Number	3	Initial Leak Check	0.009 at 10"	Assumed Moisture (% H2O)	6.0
Static Pressure (±) (in. H2O)	-1.6	Final Leak Check	0.009 at 12"	K-Factor	1.00
Barometric Pressure (in. H2O)	29.00				

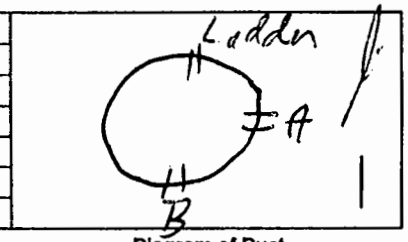

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 7.5 minutes

CO_2 3.5
O_2 17.5

CO_2 3.5
O_2 17.5

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1530	124.565											
B 1	7.5		131.43	2.3	238	2.3	2.3	225	230	57	81	73	60	5.0
1	15		137.62	2.1	239	2.1	2.1	225	236	57	81	74	60	5.0
2	22.5		144.15	2.4	240	2.4	2.4	225	244	58	83	74	60	6.0
2	30		151.42	2.4	244	2.4	2.4	230	245	64	86	75	60	5.0
3	37.5		158.32	2.5	240	2.5	2.5	239	244	61	88	75	65	5.0
3	45		165.64	2.5	240	2.5	2.5	230	239	61	88	75	61	6.0
* 4	52.5	1624	172.76	2.5	236	2.5	2.5	225	231	64	98	76	65	6.0
4	60		179.34	2.6	238	2.6	2.6	225	253	68	74	72	69	6.0
5	67.5		186.46	2.5	233	2.5	2.5	232	258	68	82	73	66	6.0
5	75		194.15	2.9	234	2.9	2.9	240	263	62	84	73	68	8.0
6	82.5		201.14	2.6	237	2.6	2.6	240	262	61	82	74	62	8.0
6	90		208.32	2.6	236	2.6	2.6	241	275	64	84	74	63	8.0
7	97.5		215.73	2.6	235	2.6	2.6	242	236	63	84	74	65	8.0
7	105		222.55	2.5	235	2.5	2.5	244	230	65	85	74	66	8.0
8	112.5		229.45	2.4	236	2.4	2.4	241	228	65	87	74	66	8.0
8	120	1812	236.04	2.4	237	2.4	2.4	236	246	67	84	74	69	8.0
			Leak check		0.010 at 12"			Final Leak Check			0.006 at 7"			
	0	0800	236.96											
** A 1	7.5	248	243.18	2.3	230	2.3	2.3	240	237	56	79	62	47	7.0
1	15	249.42	249.17	2.3	227	2.3	2.3	226	257	54	86	61	45	7.0
2	22.5		257.57	2.5	230	2.5	2.5	215	270	55	89	66	40	7.0
2	30		264.33	2.5	225	2.5	2.5	215	272	53	93	70	51	7.0
3	37.5		270.74	2.4	223	2.4	2.4	215	275	53	92	72	54	8.0
3	45		278.41	2.4	223	2.4	2.4	210	250	54	93	72	56	8.0
4	52.5		285.72	3.0	227	3.0	3.0	215	250	54	94	75	56	8.0
4	60		293.75	3.0	232	3.0	3.0	215	240	55	93	74	54	8.0
5	67.5		300.84	2.7	237	2.7	2.7	214	242	59	92	74	55	8.0
5	75		308.02	2.7	239	2.7	2.7	215	240	60	93	74	56	8.0

Comments:

* Plant STOP 1624 Start Back 1705

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
4 6		82.5	314.75	2.4	231	2.4	2.4	233	230	63	95	75	58	8.0
4 6		90	321.90	2.4	231	2.4	2.4	243	249	63	95	77	57	8.0
3 7		97.5	328.74	2.6	230	2.6	2.6	238	250	64	95	77	60	8.0
3 7		105	333.74	2.6	231	2.6	2.6	237	233	64	95	76	64	8.0
2 8		112.5	343.74	2.4	225	2.4	2.4	238	230	61	94	76	67	8.0
2 8	100	120	349.65	2.4	228	2.4	2.4	232	246	62	94	77	68	8.0
1				Good leak check 0.009 at 12"										

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Page 1 of ____

Run 4

Plant	WCI	XAD Trap Number		Meter Box Number	A-39	~~A-36~~	
Date	8-14-97	Filter Heater Setting (°F)	250-275	Meter delta H @	1.700	~~1.775~~	
Operator	MKO	Probe Length & Type	12 quartz	DGM Factor (Y)	.996	~~.988~~	
Sampling Location	STACK	Probe Heater Setting (°F)	250-275	Nozzle Type & ID (in.)		.183	
Sample Type	Orsat/N	Minimum Sample Volume (ft3)		Ambient Temperature (°F)		~~80~~ 87	
Run Number	4	Initial Leak Check	0.014 @ 15"	Assumed Moisture (% H2O)		6.0	
Static Pressure (±) (in. H2O)	+.6	Final Leak Check	0.020 @ 19"	K-Factor		1.00	
Barometric Pressure (in. H2O)	29.04						

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 7.5 minutes

Fyr He 17.5 O2
3.5 CO2

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	12:45	351.07											
B 1	7.5		357.76	1.6	224	1.6	1.6	225	245	56	79	75	55	5.0
1	15		362.62	1.7	228	1.7	1.7	225	245	59	88	76	53	6.0
2	22.5		369.84	1.9	228	1.9	1.9	228	237	58	90	76	56	6.0
2	30		375.63	1.8	227	1.8	1.8	231	241	61	93	77	57	6.0
3	37.5		381.54	2.3	230	2.3	2.3	239	242	63	94	80	62	6.0
3	45		387.24	2.2	238	2.2	2.2	244	248	69	95	86	63	6.0
4	52.5		395.04	3.0	230	3.0	3.0	248	260	64	92	78	64	14.0
4	60		403.10	2.6	233	2.6	2.6	247	259	64	93	79	66	12.0
5	67.5		410.74	2.6	231	2.6	2.6	242	248	66	90	80	68	12.0
5	75		415.76	2.7	231	2.7	2.7	244	254	63	95	80	66	12.0
6	82.5		424.19	2.5	231	2.5	2.5	236	257	67	90	81	65	12.0
6	90		431.15	2.5	226	2.5	2.5	240	256	67	91	82	65	12.0
7	97.5		437.55	2.7	232	2.7	2.7	246	248	68	90	85	68	12.0
7	105		444.26	2.8	230	2.8	2.8	239	250	68	91	87	68	12.0
8	112.5		452.36	2.8	236	2.8	2.8	240	252	69	92	86	68	12.0
8	120	1445	458.58	2.8	235	2.8	2.8	242	253	69	93	86	68	12.0
			Leak check 0.014 @ 12"											
	0	1610	465.78											
A 1	7.5		472.94	2.4	241	2.4	2.4	233	270	45	93	~~93~~ 86	~~60~~ 56	12.0
1	15		478.93	2.4	238	2.4	2.4	265	270	45	93	92	57	12.0
2	22.5		485.95	2.4	236	2.4	2.4	260	268	45	93	90	61	12.0
2	30		493.28	2.5	236	2.5	2.5	260	267	48	95	85	62	12.0
3	37.5		500.15	2.5	237	2.5	2.5	270	272	47	95	85	62	12.0
3	45		507.85	2.6	239	2.6	2.6	274	274	50	96	86	64	12.0
4	52.5		515.27	2.8	240	2.8	2.8	273	268	52	105	90	68	13.0
4	60		523.03	2.8	240	2.8	2.8	275	270	58	99	92	69	13.0
5	67.5		530.74	2.9	240	2.9	2.9	274	270	62	101	93	70	13.0
5	75		537.32	2.7	240	2.7	2.7	273	273	66	94	89	71	13.0

Comments:

Page ___ of ___

DIOXIN

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
A 6	87.5		544.74	2.7	244	2.7	2.7	270	274	68	95	86	68	13.0
6	90		554.05	2.6	244	2.6	2.6	271	270	67	96	87	70	13.0
7	97.5		554.83	2.7	245	2.7	2.7	272	274	68	97	88	69	13.0
7	105		566.74	2.7	246	2.7	2.7	268	273	68	97	88	69	13.0
8	112.5		573.93	2.8	247	2.8	2.8	263	270	68	100	89	70	13.0
8	120	1810	581.10	2.6	248	2.6	2.6	261	268	68	101	90	71	13.0
					0.020 at 17"									

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Run 5
Page 1 of

Plant	WCL	XAD Trap Number		Meter Box Number	A-39	M-23 Outlet Strand Bath Run 5
Date	8-15-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.700	
Operator	MKO	Probe Length & Type	12' glass	DGM Factor (Y)	.996	
Sampling Location	STACK	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.193	
Sample Type	Dioxin	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	75°F	
Run Number	5	Initial Leak Check	0.004 at 19	Assumed Moisture (% H2O)	6.20	
Static Pressure (±) (in. H2O)	1.6	Final Leak Check		K-Factor	1.00	
Barometric Pressure (in. H2O)	28.96					

0.004 at 19"

Diagram of Duct

Fyrite O_2 17.5
CO_2 3.5

Schematic of Traverse Point Layout

Read and record all data every 15 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	0830	582.338											
A1	2.5		588.32	2.1	230	2.1	2.1	236	228	42	76	75	49	8.0
1	15		595.35	2.1	230	2.1	2.1	244	260	44	88	75	45	8.0
2	22.5		601.14	2.5	234	2.5	2.5	268	246	45	83	77	45	10.0
2	30		607.94	2.4	234	2.4	2.4	265	249	46	84	78	46	10.0
3	37.5		615.54	2.3	237	2.3	2.3	249	249	46	85	80	47	10.0
3	45		622.45	2.4	236	2.4	2.4	261	261	46	86	81	46	10.0
4	52.5		630.45	2.5	233	2.5	2.5	270	259	45	85	81	46	10.0
4	60		637.55	2.5	233	2.5	2.5	269	269	44	86	84	47	10.0
5	67.5		643.84	2.6	233	2.6	2.6	270	270	46	86	82	47	10.0
5	75		650.06	2.4	233	2.4	2.4	272	264	44	86	83	47	10.0
6	82.5		657.73	2.3	230	2.3	2.3	270	265	45	87	81	48	10.0
6	90		664.84	2.3	227	2.3	2.3	258	256	50	86	81	50	10.0
7	97.5		671.44	2.3	226	2.3	2.3	260	259	48	87	81	51	10.0
7	105		679.43	2.3	227	2.3	2.3	266	260	49	88	84	55	10.0
8	112.5		684.62	2.1	226	2.1	2.1	268	260	52	87	82	58	10.0
8	120	1030	691.38	2.1	229	2.1	2.1	269	266	53	90	83	60	10.0
				Leak Check 0.006 at 17"							Moved Leak Check 0.006 at 17"			
	0	1055	691.62											
B1	2.5		698.31	2.2	230	2.2	2.2	225	230	42	86	79	51	10.0
1	15		705.26	2.2	231	2.2	2.2	225	225	40	85	80	50	10.0
2	22.5		712.22	2.5	232	2.5	2.5	230	228	41	84	80	56	10.0
2	30		719.15	2.5	231	2.5	2.5	225	267	39	92	80	54	10.0
3	37.5		726.73	2.4	230	2.4	2.4	228	264	40	94	80	54	11.0
3	45		734.35	2.4	230	2.4	2.4	259	265	39	91	79	55	12.0
4	52.5		741.46	2.4	232	2.4	2.4	263	260	40	91	78	55	12.0
4	60		748.15	2.4	232	2.4	2.4	270	264	43	92	78	56	12.0
5	67.5		754.85	2.5	234	2.5	2.5	269	260	43	92	79	58	12.0
5	75			2.5	234	2.5	2.5	270	263	48	89	78	61	14.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differentia (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
6	82.5		768.95	2.5	234	2.5	2.5	268	258	53	91	78	66	14.0
6	90		776.25	2.8	232	2.8	2.8	275	253	58	90	79	68	14.0
7	97.5		783.25	2.6	234	2.6	2.6	275	261	48	90	78	68	14.0
7	105		791.45	2.6	235	2.6	2.6	274	260	50	91	79	68	14.0
8	112.5		798.45	2.6	233	2.6	2.6	270	260	44	93	80	58	14.0
8	120	1155	805.57	2.6	234	2.6	2.6	272	263	43	94	81	57	14.0
					0.004 at 19"									

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Run [illegible]
Page 1 of 1

Plant	WCT	XAD Trap Number		Meter Box Number	A-36	Strand Baghouse Outlet
Date	8-22-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.75	
Operator	MKO	Probe Length & Type	12' S/S	DGM Factor (Y)	.988	
Sampling Location	Stack	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.193	
Sample Type	M5/Ds	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	86 F	
Run Number	1	Initial Leak Check	0.01 at 15"	Assumed Moisture (% H2O)	5%	
Static Pressure (±) (in. H2O)	-.40	Final Leak Check	0.00 at 16"	K-Factor	1.0	
Barometric Pressure (in. H2O)	29.26					

V_{lc} = 368.5

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 7.5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1335	595.35											
A 1	7.5	1342	602.17	2.5	239	2.6	2.6	225	225	N/A	90	90	62	5.0
2	15	1350	609.22	2.5	241	2.6	2.6	231	230		94	91	63	5.0
3	22.5	1357	616.53	2.7	244	2.8	2.8	265	260		100	93	63	5.0
4	30	1405	622.93	2.7	245	2.8	2.8	268	264		100	93	60	5.0
5	37.5	1412	629.45	2.7	247	2.8	2.8	270	265		101	93	62	5.0
6	45	1420	638.17	2.7	241	2.8	2.8	273	264		101	94	61	5.0
5	52.5	1427	645.25	3.0	247	3.12	3.12	270	265		100	95	64	5.5
4	60	1435	652.19	3.0	247	3.12	3.12	271	265		100	94	64	5.5
3	67.5	1442	660.45	2.9	241	3.0	3.0	247	266		100	95	66	5.5
2	75	1450	667.35	2.8	245	2.9	2.9	261	273		100	93	71	5.5
1	82.5	1458	674.38	2.6	245	2.7	2.7	263	264		104	94	68	5.5
1	90	1505	680.15	2.6	245	2.7	2.7	264	260		102	100	68	5.5
2	97.5	1513	687.33	2.6	243	2.7	2.7	240	275		102	94	68	5.5
3	105	1520	694.20	2.7	241	2.8	2.8	258	269		101	91	66	5.5
4	112.5	1528	700.8	2.6	243	2.8	2.8	260	264		102	95	68	5.5
5	120	1608	707.045	2.7	237	2.82	2.8	255	266		103	96	68	5.5
			leak check		0.007	at	16"							
	0	1800	707.26											
B 0	7.5	1807	714.36	2.5	244	2.6	2.6	225	270		103	96	56	6.0
8	15	1815	721.15	2.5	245	2.6	2.6	254	240		99	91	67	6.0
7	22.5	1822	728.32	2.9	243	3.01	3.01	248	250		102	94	68	6.0
7	30	1830	735.63	3.0	247	3.12	3.12	248	260		112	100	57	6.0
6	37.5	1837	742.45	2.8	249	2.90	2.90	250	270		112	100	59	6.0
6	45	1845	749.62	2.8	250	2.90	2.90	259	270		102	94	58	6.0
5	52.5	1852	756.29	3.2	240	3.30	3.30	265	245		102	94	64	6.0
5	60	1900	764.35	3.0	244	3.12	3.12	268	250		103	95	65	6.0
4	67.5	1907	772.21	2.7	250	2.80	2.80	264	253		104	94	64	6.0

Comments:

* Plant shut down 1523 start back 1600

Page ___ of ___

Plant		Location		Run Number	
Date		Sample Type		Operator	

Metals

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
B4	4 1915	75 1922	779.25	2.6	243	2.7	2.7	248	241		101	90	69	6.0
3	3 815	825 1930	786.42	2.6	250	2.7	2.7	250	244		109	93	72	6.0
3	3 10	1937	790.40	2.6	251	2.7	2.7	250	245		110	94	73	6.0
2	2 915	1945	800.10	2.5	250	2.6	2.6	254	250		109	95	70	6.0
2	2 105	1952	806.74	2.5	252	2.7	2.7	260	256		108	97	71	6.0
1	1 115	2000	813.94	2.5	260	2.6	2.6	262	260		109	99	72	6.0
1	1 20	2007	820.30	2.5	266	2.6	2.6	264	263		101	99	73	6.0

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Run _____
Page 1 of _____

Plant	WCI	XAD Trap Number		Meter Box Number	A36	Metals Strand Baghouse Outlet
Date	8-13-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.725	
Operator	MKO	Probe Length & Type	12' glass	DGM Factor (Y)	.988	
Sampling Location	Stack	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.193	
Sample Type	Metals	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	70°F	
Run Number	2	Initial Leak Check	0.009 at 12"	Assumed Moisture (% H2O)	5%	
Static Pressure (±) (in. H2O)	+.6	Final Leak Check	0.011 at 19"	K-Factor	1.000	
Barometric Pressure (in. H2O)	29.00					

3.5 CO_2
17.5 O_2

Schematic of Traverse Point Layout

Read and record all data every 7.5 minutes

3.5 CO_2
17.5 O_2

Diagram of Duct

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1055	820.96											
B 8	7.5		827.72	3.0	239	3.0	3.0	251	244		76	74	68	17.0
8	15		834.98	2.8	240	2.8	2.8	260	250		77	75	67	17.0
7	22.5		842.32	2.8	240	2.8	2.8	270	248		77	74	68	17.0
7	30		848.72	2.7	241	2.7	2.7	268	270		79	75	66	17.0
6	37.5		855.21	2.7	242	2.7	2.8	263	272		80	76	66	17.0
6	45		861.85	2.9	243	2.9	2.9	265	273		80	77	65	17.0
5	52.5		868.43	2.7	244	2.7	2.7	261	275		79	77	66	17.0
5	60		875.63	2.9	240	2.9	2.7	263	275		80	79	68	17.0
4	67.5		881.94	2.6	242	2.6	2.6	270	268		81	80	67	17.0
4	75		890.15	2.7	243	2.7	2.7	272	270		83	81	66	17.0
3	82.5		898.25	2.6	241	2.6	2.6	266	272		84	81	65	17.0
3	90		904.66	2.5	242	2.5	2.5	266	274		85	81	65	17.0
2	97.5		910.85	2.4	248	2.4	2.4	266	273		86	82	65	17.0
2	105		917.05	2.4	248	2.4	2.4	267	275		87	82	64	17.0
1	112.5		923.25	2.1	243	2.1	2.1	266	275		87	81	65	17.0
1	120	1255	929.36	2.1	250	2.1	2.1	264	276		88	81	65	17.0
					Leak	Check	0.009	0.00	at	18"				
B 8	0	1530	929.60											
A 8	7.5		935.42	2.1	238	2.1	2.1	230	225		74	73	61	12"
8	15		942.16	2.4	243	2.4	2.4	234	242		76	73	59	12"
7	22.5		948.94	2.7	246	2.7	2.7	225	245		86	74	61	12"
7	30		955.65	2.8	247	2.8	2.8	248	251		76	74	61	15"
6	37.5		962.34	2.6	239	2.6	2.6	249	239		77	75	62	15"
6	45		969.43	2.6	239	2.6	2.6	250	242		88	76	61	15"
5	52.5	1624	976.075	2.5	238	2.5	2.5	242	246		87	76	62	15"
5	60		982.15	2.5	230	2.5	2.5	232	234		72	74	61	15"
4	67.5		987.61	2.8	227	2.8	2.8	231	237		73	71	63	15"

Comments:

* Plant Stop 1624 Start Back 1705

Page ___ of ___

Plant	MCI	Location	STACK	Run Number	2
Date	8-13-97	Sample Type	Metals	Operator	MKO

Metals

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
A 4	15		996.34	2.7	229	2.7	2.7	244	240		73	71	64	17.0
3	82.5		003.14	2.4	231	2.4	2.4	246	239		73	71	64	17.0
3	90		009.54	2.5	231	2.5	2.5	249	240		74	71	65	17.0
2	97.5		015.79	2.5	230	2.5	2.5	249	237		74	71	65	17.0
2	105		022.91	2.6	230	2.6	2.6	250	244		74	71	64	17.0
1	112.5		028.65	2.1	233	2.1	2.1	248	241		74	71	66	17.0
1	120	1812	035.12	2.1	233	2.1	2.1	249	245		74	71	67	17.0

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Run ____
Page 1 of ____

Plant	WCF	XAD Trap Number		Meter Box Number	4-36
Date	8-14-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.725
Operator	MKO	Probe Length & Type	14' 9/655	DGM Factor (Y)	0.988
Sampling Location	Stack	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.193
Sample Type	Metals	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	85
Run Number	3	Initial Leak Check	0.012 at 15"	Assumed Moisture (% H2O)	6
Static Pressure (±) (in. H2O)	+.6	Final Leak Check	0.000 at 19"	K-Factor	1.00
Barometric Pressure (in. H2O)	29.04				

Run 3
Metals
Strand Baghouse Outlet

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 7.5 minutes

Fyrite 17.5 O_2 3.5 CO_2

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1245	036.79							NA				
A 8	7.5		042.65	2.5	218	2.5	2.5	222	238		82	80	46	14.0
8	15		050.55	2.5	222	2.5	2.5	268	238		84	79	46	14.0
7	22.5		057.32	2.5	223	2.5	2.5	249	210		86	78	48	14.0
7	30		062.94	2.5	224	2.5	2.5	258	224		86	79	51	14.0
6	37.5		070.21	2.7	225	2.7	2.7	265	268		87	79	53	14.0
6	45		076.74	2.6	230	2.6	2.6	260	263		88	80	54	14.0
5	52.5		083.21	2.8	226	2.8	2.6	265	248		86	79	55	16.0
5	60		090.35	2.8	228	2.8	2.6	259	249		86	81	60	16.0
4	67.5		096.85	2.6	231	2.6	2.6	258	250		86	81	61	16.0
4	75		103.16	2.6	227	2.6	2.8	266	254		86	81	63	16.0
3	82.5		108.63	2.6	231	2.6	2.6	249	248		91	81	68	16.0
3	90		116.54	2.5	226	2.5	2.5	268	246		87	83	68	16.0
2	97.5		122.66	2.5	231	2.5	2.5	270	248		87	84	68	16.0
2	105		128.39	2.5	226	2.5	2.5	268	249		87	84	70	16.0
1	112.5		135.64	2.3	228	2.3	2.3	270	250		87	85	68	16.0
1	120	1445	142.15	2.2	229	2.2	2.2	270	251		88	86	68	16.0
					0.011 at 18" leak check									
	0	1640	142.375								89	85	51	16.0
B 8	7.5		149.26	2.7	235	2.7	2.7	215	270		89	85	51	16.0
8	15		155.45	2.8	234	2.8	2.6	250	271		89	85	51	16.0
7	22.5		161.75	2.8	231	2.8	2.6	270	253		92	87	60	16.0
7	30		167.63	2.6	230	2.6	2.6	275	251		89	87	60	16.0
6	37.5		176.37	2.7	232	2.7	2.6	266	256		87	86	63	17.0
6	45		182.46	2.5	234	2.5	2.5	268	258		88	87	67	17.0
5	52.5		189.14	2.6	234	2.6	2.5	265	260		89	88	63	17.0
5	60		196.04	2.6	235	2.6	2.5	264	260		90	91	68	17.0
4	67.5		201.43	2.5	236	2.5	2.5	268	255		88	92	68	17.0
4	75		208.90	2.5	235	2.5	2.5	250	252		93	89	68	17.0

Comments:

Page ___ of ___

Metals

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
B 3	87.5		215.57	2.4	237	2.4	2.0	257	255		89	87	68	17.0
3	90		222.05	2.4	237	2.4	2.4	257	256		87	87	69	17.0
2	97.5		228.75	2.4	240	2.4	2.4	259	257		91	89	69	17.0
2	105		234.76	2.2	240	2.2	2.2	260	257		92	89	69	17.0
1	112.5		240.36	2.0	237	2.0	2.0	263	258		93	90	69	17.0
1	120	1810	247.10	2.0	238	2.0	2.0	264	259		94	91	68	17.0
				0.008 at 19			"							

Comments:

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Vlc 140.1
Vm 3.72 ftmus

Run	1
Page 1 of	2

Plant	YOUNGSTOWN SINTER	~~XAD Trap~~ Number FILTER	22	Meter Box Number	1A-38
Date	8/12/97	Filter Heater Setting (°F)	250	Meter delta H @	1.828
Operator	MWH	Probe Length & Type	8' GLASS	DGM Factor (Y)	.984
Sampling Location	INLET S.BH.	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.150
Sample Type	Metals	Minimum Sample Volume (ft3)	N/A	Ambient Temperature (°F)	75°F
Run Number	1	Initial Leak Check	.0050 @ 10"	Assumed Moisture (% H2O)	5%
Static Pressure (±) (in. H2O)	-30.0	Final Leak Check		K-Factor	~~.98~~ .37
Barometric Pressure (in. H2O)	29.30				

Diagram of Duct

Schematic of Traverse Point Layout

Add 30° to Tcol

Read and record all data every 15 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	13:35	895.397											
A-1	15	13:50	898.665	0.30	253	.11	.11	231	266	—	82	82	74	2.5
2	30	14:05	901.947	.30	250	.12	.12	244	285	—	85	82	69	2.5
3	45	14:20	909.155	2.1	251	.78	.78	205	292	—	89	85	64	4.5
4	60	14:35	917.377	2.3	257	.86	.86	222	241	—	87	85	58	5.0
	60	14:45	917.21	leak check		.0038 @ 14"								
B-1	75	15:00 14:45	924.985	1.70	254	.26	.26	266	288	—	88	86	73	2.5"
2	90	15:15	930.011	2.10	265	.78	.78	264	273	—	93	89	63	4"
3	105	15:30	938.086	3.6	253	.97	.97	263	252	—	92	88	61	5"
4	120	15:45	946.737	3.6	256	.97	.97	235	245	—	97	88	59	5"
	~~120~~		Leak Check .025 @ 14"											
C-1	120	17:54	947.408											
2	125	17:59	950.086	1.8	251	.16	.16	203	256	—	91	88	76	4"
3	130	18:04	952.965	1.6	250	.160	.160	223	253	—	94	89	64	4
*	135	18:09	955.565	1.6	245	.160	.160	295	258	—	96	89	62	4
4	140	18:14	957.575	3.1	249	1.16	1.16	214	256	—	96	89	60	5"
5	145	18:19	960.580	3.1	255	1.16	1.16	246	255	—	97	89	58	5"
* 6	150	18:24	963.265	3.1	257	1.16	1.16	283	256	—	97	89	55	5"
7	155	18:29	965.781	2.5	262	.94	.94	217	256	—	96	89	56	5"
8	160	18:34	969.155	2.5	259	.94	.94	251	255	—	95	89	54	5"
* 9	165	18:39	972.065	2.5	264	.94	.93	233	255	—	97	89	56	5"
10	170	18:44	974.315	2.5	266	.94	.94	226	257	—	97	90	56	5"
11	175	18:49	978.030	3.1	250	1.16	1.16	232	257	—	97	89	54	5"
* 12	180	18:54	981.10	3.1	254	1.16	1.16	257	258	—	97	89	56	6"
			Leak Check 0.00 @ 14"											

Comments:

(*) stopped for ~73 minutes - for pellet changing

O_2 - 18.5%

Plant	Youngstown	Location	Inlet	Run Number	1
Date	8/12/97	Sample Type	Metals	Operator	Dave

→ 180 | 19:01 | 980.559

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
D-1	185	19:06	982.475	.55	253	.21	.21	213	250	NA	91	90	72	3"
2	190	19:11	983.890	.55	258	.21	.21	275	255		93	90	66	3
* 3	195	19:16	985.269	.55	257	.21	.21	274	253		93	89	65	3
4	200	19:21	986.799	.55	254	.21	.21	233	251		93	89	65	3
5	205	19:26	988.135	.55	260	.21	.21	215	249		93	89	65	3
* 6	210	19:31	989.555	.55	260	.21	.21	245	249		93	89	66	3.5"
7	215	19:36	991.469	1.5	260	.56	.56	249	248		94	89	64	4"
8	220	19:41	993.575	1.5	257	.56	.56	246	248		96	88	62	4"
* 9	225	19:46	995.825	1.5	260	.56	.56	261	247		95	89	60	4.5"
10	230	19:51	998.115	1.5	264	.56	.56	310	246		94	88	59	4.5"
11	235	19:56	1000.735	2.2	256	.82	.82	276	247		95	89	58	5"
12	240	20:01	1003.021	2.2	255	.82	.82	243	247		95	88	58	5"

Comments:

Filter #2/25

O_2 - 18%

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Plant	Youngstown Sinter	XAD Trap Number		Meter Box Number	A-30
Date	8/13/97	Filter Heater Setting (°F)	250	Meter delta H @	1.828
Operator	DLW	Probe Length & Type	8' Glass	DGM Factor (Y)	.984
Sampling Location	Inlet Stack	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.150
Sample Type	Method 5	Minimum Sample Volume (ft3)	N/A	Ambient Temperature (°F)	
Run Number	2	Initial Leak Check	.015@15"	Assumed Moisture (% H2O)	5%
Static Pressure (±) (in. H2O)	-30	Final Leak Check		K-Factor	.37
Barometric Pressure (in. H2O)	29.06				

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	11:03	4.661											
A-1	5	11:08	5.780	.13	288	.11	.11	249	238	N/A	82	80	81	3"
1	10	11:13	6.651	.13	287	.11	.10	265	241		82	79	80	3
1	15	11:18	7.551	.13	286	.11	.101	247	245		82	79	74	3"
2	20	11:23	8.555	.35	225	.13	.131	250	248		81	79	69	3
2	25	11:28	9.520	.35	227	.13	.12	301	249		81	79	66	3
2	30	11:33	10.656	.35	236	.13	.12	242	249		81	79	66	3
3	35	11:38	11.654	.35	232	.13	.13	215	240		81	79	66	3"
3	40	11:43	14.252	2.0	227	.75	.76	251	214		83	79	60	6"
3	45	11:48	17.085	2.0	224	.75	.76	263	227		84	78	57	6"
4	50	11:53	19.355	2.0	222	.75	.75	222	221		84	80	56	6"
4	55	11:58	21.671	2.0	219	.75	.74	237	227		85	80	56	6.5"
4	60	12:03	25.743	2.0	224	.75	.75	268	221		85	80	57	6.5"
	60	12:10	25.851		0.00 @ 15"									
B-1	65	12:15	27.145	.83	226	.31	.31	285	221	N/A	84	81	67	4"
1	70	12:20	28.541	.74	229	.28	.28	274	223		85	81	66	4"
1	75	12:25	29.795	.90	233	.33	.33	287	224		85	81	65	4
2	80	12:30	33.050	2.1	233	.79	.79	272	230		86	82	64	6.5"
2	85	12:35	35.610	2.1	233	.79	.76	279	234		88	82	63	7"
2	90	12:40	37.795	2.1	232	.79	.78	278	237		88	82	63	7"
3	95	12:45	41.075	2.5	233	.94	.95	269	239		88	82	64	8.5"
3	100	12:50	43.790	2.5	224	.94	.93	270	240		88	83	65	9"
3	105	12:55	46.715	2.5	222	.94	.96	272	241		87	82	66	9.5"
4	110	13:00	49.510	2.5	225	.94	.91	260	243		88	82	67	10"
4	115	13:05	52.545	2.5	224	.94	.93	270	241		88	82	68	10.5"
4	120	13:10	56.066	2.5	225	.94	.93	221	240		86	81	68	12"
					Leak check 400 @ 15"									

Comments:

Plant	Youngstown	Location	Kalset	Run Number	2
Date	8/13/97	Sample Type	Metals	Operator	Zw

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
		3:30												
	120	~~56.55~~	56.530											
C-1	125	3:35	59.635	2.0	219	.75	.75	205	252	N/A	81	79	79	9"
1	130	3:40	62.401	2.5	217	.94	.94	219	248		83	79	65	11"
1	135	3:45	65.701	2.5	218	.94	.94	220	245		83	79	58	14"
2	140	3:50	68.065	3.2	224	1.20	1.20	225	242		82	79	56	18"
2	145	3:55	71.015	3.0	232	1.12	1.12	232	241		81	79	55	21"
2	150	4:00	73.175	3.0	233	1.12	.98	225	243		80	79	56	21"
3	155	4:05	76.125	2.7	233	1.01	.95	230	241		80	78	57	21.5"
3	160	16:10	79.155	2.0	208	.75	.76	220	242		80	79	59	19"
3	165	16:15	81.595	2.0	201	.75	.74	208	241		80	79	61	20"
4	170	16:20	84.135	2.0	200	.75	.72	220	244		80	79	62	20"
(1) 4	175	~~16:25~~	86.821	2.0	208	.75	.66	257	242		76	76	73	~~22~~ 22.1
4	180	~~16:30~~	89.095	2.1	203	.79	.57	252	243		76	76	67	22.5"
					Leak Check		.02 @ 26.5"							
Filter	25 L	Leak Check →			0.00 @ 10"									
	180	18:30	93.520											
D-1	185	18:35	95.095	.25	222	.13	.13	142	86	N/A	74	72	69	4"
1	190	18:40	96.215	.35	222	.13	.135	234	157		76	73	69	4"
1	195	18:45	97.475	.35	224	.13	.135	247	198		78	75	65	4"
2	200	~~18:50~~	99.129	.4	204	.15	.15	239	227		63	61	64	4"
2	205	~~18:55~~	100.425	.5	206	.19	.19	221	239		65	62	60	4.5"
2	210	~~19:00~~	101.574	.4	204	.15	.15	229	247		67	63	55	4"
3	215	~~19:05~~	103.391	1.3	201	.49	.49	258	257		68	62	53	7"
3	220	~~19:10~~	105.500	1.3	192	.49	.48	275	260		71	63	50	7"
3	225	~~19:15~~	107.525	1.5	194	.56	.56	255	261		72	64	49	8"
4	230	~~19:20~~	109.191	1.5	198	.56	.555	225	251		74	66	51	8"
4	235	~~19:25~~	111.925	1.5	198	.56	.55	268	244		73	65	51	8.5"
4	240	~~19:30~~	114.010	1.5	203	.56	.56	220	245		72	65	50	8.5"
				Final Leak Check			0.018 @ 14"							

8/14/97

Comments: (1) Plant shut down at 4:20 - restart (17:03)

(2) Plant down at 6:45. Vm = 98.011 ft³ at start up

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O_2 = 18.5 O_2 = 17.5% O_2 = 17.5% O_2 = 18%

MODIFIED METHOD 5 DATA SHEET

Run ____
Page 1 of ____

Plant	Youngstown Sinter	XAD Trap Number		Meter Box Number	A-38
Date	8/14/97	Filter Heater Setting (°F)	250	Meter delta H @	1.828
Operator	DLW	Probe Length & Type	8' glass	DGM Factor (Y)	.984
Sampling Location	Inlet Bag	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.150
Sample Type	Metals	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	
Run Number	3	Initial Leak Check	0.00 @ 10"	Assumed Moisture (% H2O)	5%
Static Pressure (±) (in. H2O)	-30	Final Leak Check		K-Factor	.137
Barometric Pressure (in. H2O)	29.10				

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	12:50	114.758											
A-1	5	12:55	117.145	1.5	204	.56	.56	206	214	N/A	75	73	77	6"
1	10	13:00	119.085	1.1	209	.41	.41	274	234		80	75	73	5"
1	15	13:05	121.162	1.1	208	.41	.42	277	254		81	76	69	5"
2	20	13:10	122.980	1.1	212	.41	.415	241	216		82	76	66	5"
2	25	13:15	124.781	1.1	213	.41	.41	235	238		82	77	65	5
2	30	13:20	126.358	1.1	213	.41	.41	258	232		81	76	63	5"
3	35	13:25	129.175	1.9	214	.71	.71	231	236		82	76	64	7"
3	40	13:30	131.20	1.9	214	.71	.71	263	254		83	78	63	7"
3	45	13:35	133.60	1.9	210	.71	.71	271	253		85	78	62	7"
4	50	13:40	136.1	1.9	215	.71	.71	250	257		85	78	62	7"
4	55	13:45	138.884	1.9	219	.71	.71	316	257		85	79	62	7"
4	60	13:50	141.325	1.9	210	.71	.70	220	256		85	79	65	7"
	60	14:00	~~Leak Check~~ (142.128)			0.008 @ 11" - Leak check								
B-1	105	14:05	144.10	.7	211	.26	.26	231	255	N/A	79	78	76	4"
1	70	14:10	145.448	.7	209	.26	.25	263	254		83	79	68	4"
1	75	14:15	146.824	.85	215	.32	.32	276	260		83	79	65	4.5"
2	80	14:20	149.633	1.9	216	.71	.71	289	258		84	79	63	7"
2	85	14:25	152.055	1.5	208	.56	.56	232	257		84	79	59	6"
2	90	14:30	153.610	1.5	208	.56	.55	254	260		84	79	59	6.5"
3	95	14:35	156.801	2.5	209	.94	.94	263	258		86	79	58	9"
3	100	14:40	159.610	2.5	213	.94	.94	220	257		86	79	56	10"
3	105	14:45	162.385	2.5	218	.94	.94	253	256		87	80	57	11"
4	110	14:50	165.285	2.5	222	.94	.94	270	259		88	81	59	11"
4	115	14:55	167.848	2.5	221	.94	.94	272	260		87	79	57	12"
4	120	15:00	170.645	2.5	219	.94	.94	251	256		87	80	59	13"
			Leak Check			.016 @ 13"								

Comments:

Plant	Youngstown	Location	Inlet BH 2	Run Number	3
Date	8/14/97	Sample Type	Metals	Operator	DW

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	120	16:10	171.296											
C-1	125	16:15	174.345	1.5	218	.56	.56	231	259	N/A	84	82	80	9"
	130	16:20	176.510	1.5	215	.56	.56	267	250		87	81	63	9"
1	135	16:25	178.425	1.5	212	.56	.56	235	249		87	82	60	10.5"
2	140	16:30	181.515	2.8	212	1.05	1.05	242	242		87	82	58	19.5"
2	145	16:35	184.445	2.8	215	1.05	1.05	244	243		86	82	59	20.5"
2	150	16:40	186.628	2.8	218	1.05	.96	239	243		85	83	59	21"
3	155	16:45	189.865	2.3	217	.86	.86	276	242		84	82	59	20"
3	160	16:50	192.525	2.3	218	.86	.86	268	246		83	82	60	21"
3	165	16:55	195.487	2.3	217	.86	.81	227	244		82	81	59	22"
4	170	17:00	197.856	2.3	218	.86	.75	237	244		82	81	59	22"
4	175	17:05	200.134	2.3	220	.86	.71	281	240		81	80	62	22"
4	180	17:10	202.472	2.3	219	.86	.67	254	238		83	81	63	22"
				Leak Check		.016 @ 22"								
	180	17:25	203.570			in Mat		leak fix, new filter → .016 @ 10"						
2-1	185	17:30	204.105	.41	223	.15	.15	190	118	N/A	81	80	77	7"
1	190	17:35	205.294	.55	225	.21	.21	237	154		81	80	75	15"
1	195	17:40	206.644	.55	225	.21	.21	243	205		85	82	64	14"
2	200	17:45	208.025	.50	228	.19	.19	272	227		85	82	62	14"
2	205	17:50	209.246	.52	225	.19	.19	210	247		85	82	63	14"
2	210	17:55	210.536	.58	223	.19	.19	270	250		86	83	63	14"
C-3	215	18:00	216.034	1.7		.51	.51		305					
3	220	18:05	217.554	1.7	225	.51	.51	278	305		85	81	63	22.5"
3	225	18:10	219.924	1.7	226	.164	.160	263	279		87	82	61	22.5"
4	230	18:15	222.241	1.7	221	.164	.163	277	261		84	81	59	22"
4	235	18:20	224.536	1.5	228	.156	.156	255	254		83	81	58	20"
4	240	18:25	226.818	1.7	227	.164	.164	233	271		82	81	58	21"
				leak Check		.012 @ 23"								

Comments: (1) Stopped run briefly. start back at 18:25.

Eastern Research Group, Inc.

Filter #08

MODIFIED METHOD 5 DATA SHEET

Run 1
Page 1 of

Plant	Youngstown Sinter	~~XAD Trap~~ Number Filter	#8	Meter Box Number	A-38	Baghouse A
Date	8/15/97	Filter Heater Setting (°F)	250	Meter delta H @	1.828	
Operator	MWH / DW	Probe Length & Type	7' Glass	DGM Factor (Y)	.984	
Sampling Location	Baghouse A outlet	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.215	
Sample Type	Metals	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	70°	
Run Number	1	Initial Leak Check	.016@10"	Assumed Moisture (% H2O)	5%	
Static Pressure (±) (in. H2O)	-0.1" H2O	Final Leak Check		K-Factor	1.88	
Barometric Pressure (in. H2O)	29.00					

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	11:00	228.873											
A-1	10	11:11	234.065	.10	166	2.07	2.1	247	279	N/A	69	68	66	9"
2	20	11:20	242.814	.11	167	2.07	2.1	231	251		77	69	55	9.5"
3	30	11:30	249.215	.09	162	1.86	1.9	240	245		77	68	51	9"
4	40	11:40	257.138	.09	161	1.7	1.7	273	242		78	71	54	8"
5	50	11:50	264.895	.09	166	1.67	1.7	269	250		82	74	56	7.5"
6	60	12:00	271.089	.78	164	1.47	1.5	223	255	↓	82	74	59	7
				Leak Check			.016 @ 13"							
	60	12:11	271.383											
B-1	70	12:21	279.101	.11	160	2.07	2.1	245	250	N/A	79	74	62	10"
2	80	12:31	287.475	.13	156	2.45	2.5	260	259		82	75	51	13.5"
3	90	12:41	295.401	.09	165	1.81	1.9	274	254		79	74	50	8.5"
4	100	12:51	302.815	.08	154	1.66	1.7	220	251		79	76	51	9.5"
5	110	13:01	309.856	.01	163	1.52	1.5	220	246		83	77	54	7"
6	120	13:11	316.411	.07	154	1.26	1.3	193	240	↓	81	74	55	6"
				Leak Check			.016 @	13.5"						

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

Eastern Research Group, Inc.

O_2 = 21%

O_2 = 21%

MODIFIED METHOD 5 DATA SHEET

Run	2
Page 1 of	

Plant	Youngstown Sinter	~~XAD Trap~~ Filter Number		Meter Box Number	A-38	Baghouse A
Date	8/15/97	Filter Heater Setting (°F)	250	Meter delta H @	1.928	
Operator	[illegible]	Probe Length & Type	7' Glass	DGM Factor (Y)	.994	
Sampling Location	B.H. 4 out	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.215	
Sample Type	metals	Minimum Sample Volume (ft3)	–	Ambient Temperature (°F)	70°	
Run Number	2	Initial Leak Check	.02 @ 10"	Assumed Moisture (% H2O)	5%	
Static Pressure (±) (in. H2O)	−0.1	Final Leak Check		K-Factor	1.00	
Barometric Pressure (in. H2O)	29.00					

Diagram of Duct

Schematic of Traverse Point Layout

15:38 319.994

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading (Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	~~15:15~~	~~318.085~~											
A 1	10	15:48	327.025	1.1	97	2.07	2.1	262	251	N/A	80	76	67	14"
2	20	15:58	334.140	1.1	113	2.07	2.05	235	253		81	75	59	14
3	30	16:08	342.358	.98	140	1.84	1.8	241	261		83	78	62	11"
4	40	16:18	349.713	.89	155	1.67	1.70	232	248		86	78	61	11
5	50	16:28	356.723	.84	157	1.58	1.6	247	247		88	80	65	10
6	60	16:38	364.256	.77	140	1.45	1.5	232	245		88	81	67	9.5
	60	16:49	364.546	Leak check			.02 @ 15"							
B 1	70	16:59	370.834	1.1	92	2.07	2.1	240	275	N/A	85	82	72	14"
2	80	17:09	379.033	1.0	142	1.88	1.9	255	232		87	82	58	13"
3	90	17:19	386.556	.92	165	1.73	1.7	257	240		89	82	61	11
4	100	17:29	393.360	.82	140	1.54	1.5	251	245		91	83	63	9.5
5	110	17:39	401.384	.82	127	1.54	1.5	267	249		92	85	67	9
6	115	17:49	408.401	.65	117	1.22	1.2	~~249~~ 234	249		92	86	66	5.5"
				Leak check .20 @ 14"										

Comments:

Page ___ of ___

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

Eastern Research Group, Inc.

O2 - 21.5% O2 - 21.5%

MODIFIED METHOD 5 DATA SHEET

Run 3
Page 1 of ____

Plant	Youngstown - Sinter	~~XAD Trap~~ Filter Number	418	Meter Box Number	A-38	Baghouse A
Date	8-16-97	Filter Heater Setting (°F)	250	Meter delta H @	1.928	
Operator	MWH/DCW	Probe Length & Type	7' glass	DGM Factor (Y)	.984	
Sampling Location	B.H.A outlet	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.215	Same as Run 2
Sample Type	metals	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	70°	
Run Number	3	Initial Leak Check	.02@10"	Assumed Moisture (% H2O)	5%	
Static Pressure (±) (in. H2O)	-0.1" H.O	Final Leak Check		K-Factor	1.88	
Barometric Pressure (in. H2O)	985mbar ÷ 1013 x 29.92					

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	8:23	410.098											
A-1	10	8:33	416.541	.79	107	1.49	1.5	266	250	N/A	81	77	71	10"
2	20	8:43	423.128	.84	104	1.58	1.6	254	245	↑	88	81	62	10.5
3	30	8:53	430.368	.80	119	1.50	1.5	235	246		93	85	63	10.5
4	40	9:03	437.128	.69	126	1.30	1.30	249	255		94	87	63	9
5	50	9:13	443.729	.71	125	1.34	1.3	263	240		93	87	66	9
6	60	9:23	450.488	.58	121	1.09	1.1	257	249	↓	91	86	66	7
				Leak Check			.016	@ 10"						
	60	9:30	450.679											
B-1	70	9:40	456.621	1.1	125	2.07	2.1	274	245	N/A	85	83	71	15"
2	80	9:50	463.015	.97	120	1.83	1.8	234	241	↑	86	82	51	13
3	90	10:00	473.449	.89	122	1.67	1.7	230	248		87	85	53	12
4	100	10:10	481.228	.81	113	1.52	1.5	222	255		84	82	53	18
5	110	10:20	486.558	.55	120	1.03	1.0	279	266		96	88	57	7
6	115	10:30	492.709	~~.48~~	123	.90 ~~1.17~~	.90 ~~1.2~~	235	269	↓	95	88	61	6
				Leak Check			.012	@ 15"						

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

ERG
Eastern Research Group, Inc.

K-FACTOR CALCULATION FORM

Plant	YOUNGSTOWN	Operator	MARK OWENS
Date	8/12	Used for runs	STRAND OUTLET
Location/Sampling Train			

C_p (S-type: 0.84; Std: 0.99)	.84
P_b (barometric pressure at location)	29.26
D_n (nozzle diameter, inches)	~~.18~~ .193
B_w (moisture in gas stream, fractional percent)	.05
P_m (barometric pressure at meter, Hg) = (Average ΔH / 13.6) + P_b	29.47
$\Delta H@$ (pressure differential of orifice in meterbox, H_2O)	1.725 1.700 .996 .988
P_s (stack pressure, in. Hg) = $P_b \pm$ (stack static pressure (in. H_2O) / 13.6)	-0.3"
T_s (average stack temperature, °R) = 240 °F + 460 = ___ °R	240 700°
T_m (average meter temperature, °R) = $T_{amblent}$ + 20°F + 460 = ___ °R	100°
M_d (molecular weight of stack gas, dry, lb/lb-mole) = (0.44 x %CO_2) + (0.32 x %O_2) + (0.28 x %N_2)	29.0
M_s (molecular weight of stack gas with water vapor, lb/lb-mole) = [M_d x (1 - B_w)] + [18 x B_w]	28.45
$K = (846.720)(D_n)^4(\Delta H@)(C_p)^2(1-B_w)^2(M_d/M_s)(P_s/P_m)(T_m/T_s)$	1.04 1.03

$\Delta H = K\Delta P$
Correlation Chart

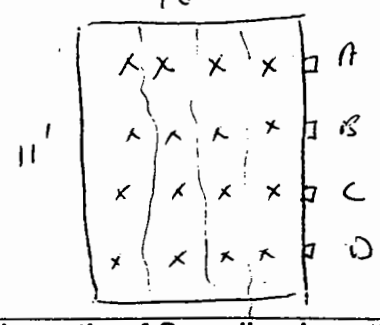
1		2		3	
ΔH	ΔP	ΔH	ΔP	ΔH	ΔP

Comments: _____

ERG
Eastern Research Group, Inc.

Traverse Point Location Form

Plant	YOUNGSTOWN SINTER CO.	Sample Ports Information	Number	I.D. (in)
Date	8/11/97			
Sampling Location	INLET BAGHOUSE - STRAND			
Total Duct Depth (Distance A)	126			
(Inside Far Wall to Outside of Nipple/Port)	~~6' 126'~~			
Nipple/Port Length (Distance B)	6"			
(Inside Near Wall to Outside End of Nipple/Port)	~~6'~~			
Stack Depth (Dist A – Dist B)	120"			
Stack Width (If rectangular)				
Nearest Upstream Disturbance				
Nearest Downstream Disturbance				
Calculator				



Schematic of Sampling Location
(Cross Section of Duct)

1	2	3	4	5	6
Traverse Point Number	Percent Fraction of Stack ID	Stack ID (in)	Product of Columns 2 & 3 (to nearest 1/8 inch)	Distance B (in)	Traverse Point Location from Outside of Nipple (sum of columns 4 & 5)
A-1			15"	6"	21"
2			45"	6"	51"
3			75"	6"	81"
4			105"	6"	111"

Eastern Research Group, Inc.

Velocity Traverse Form

Plant	
Date	
Location	
Stack ID (in)	
Barometric Pressure (in Hg)	
Ambient Temperature (°F)	
Static Pressure (in H2O)	
Operators	

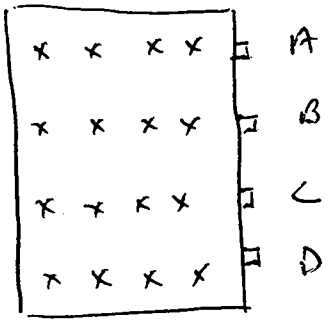
Schematic of Traverse Point Layout (Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)

Eastern Research Group, Inc.

Preliminary Velocity Traverse Form and Cyclonic Flow Check

Plant	YOUNGSTOWN SINTER CO.
Date	8/12/97
Location	INLET BAGHOUSE STRAND
Stack ID (in)	10' X 11'
Barometric Pressure (in Hg)	29.30
Ambient Temperature (°F)	75°
Static Pressure (in H2O)	- 14"?
Operators	MWH DW
Checked By	



Schematic of Traverse Point Layout
(Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)
A - 1	0.[illegible]	~~224~~ 207	0				
2	1.37	227	0				
3	2.6	228	0				
4	2.7	230	0				
B - 1	2.3	213	0				
2	3.3	222	0				
3	2.9	230	0				
4	3.2	230	0				
C - 1	1.5	227	0				
2	3.6	230	0				
3	3.3	212	0				
4	2.7	226	0				
	1.08						
D - 1	~~1.08~~	207	0				
2	.61	224	0				
3	1.5	227	0				
4	1.6	223	0				
	1.39	223.75	- 30				
		683.75					
	90 ACFM	- 67 FT/Sec.					
		4049 F/m.					

* Average of Absolute Values of All Angles >20° Require Alignment Approach Sampling.

Eastern Research Group, Inc.

Preliminary Velocity Traverse Form and Cyclonic Flow Check

Plant	Youngstown Sinter
Date	8-15-97
Location	B.H. A Outlet
Stack ID (in)	9'/84"
Barometric Pressure (in Hg)	28.92
Ambient Temperature (°F)	
Static Pressure (in H2O)	
Operators	MWH/DLW
Checked By	

Schematic of Traverse Point Layout
(Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)
A-1	.92	155					
2	.95	162					
3	.93	162					
4	.97	163					
5	1.3	162					
6	.86	158					

* Average of Absolute Values of All Angles >20° Require Alignment Approach Sampling.

RADIAN CORPORATION

K-FACTOR CALCULATION FORM

Plant	YOUNGSTOWN SCRAPER	Operator	MWH
Date	8/15/97	Used for runs	1-3
Location/Sampling Train	BAGHOUSE A OUTLET.		

C_p (S-type: 0.84; Std: 0.99)	.84
P_b (barometric pressure at location)	~~28.94~~ 29.00
D_n (nozzle diameter, inches)	.215
B_w (moisture in gas stream, fractional percent)	5%
P_m (barometric pressure at meter, Hg) = (Average ΔH / 13.6) + P_b	~~28.~~ 29.00
$\Delta H@$ (pressure differential of orifice in meterbox, H_2O)	1.828
P_s (stack pressure, in. Hg) = P_b ± (stack static pressure (in. H_2O) / 13.6)	28.94
T_s (average stack temperature, °R) = 155 °F + 460 = ___ °R	615
T_m (average meter temperature, °R) = $T_{ambient}$ + 20°F + 460 = ___ °R	540
M_d (molecular weight of stack gas, dry, lb/lb-mole) = (0.44 x %CO_2) + (0.32 x %O_2) + (0.28 x %N_2)	29.14
M_s (molecular weight of stack gas with water vapor, lb/lb-mole) = [M_d x (1 - B_w)] + [18 x B_w]	28.58
$K = (846.720)(D_n)^4(\Delta H@)(C_p)^2(1-B_w)^2(M_d/M_s)(P_s/P_m)(T_m/T_s)$	1.88

$\Delta H = K\Delta P$
Correlation Chart

1		2		3	
ΔH	**ΔP**	**ΔH**	**ΔP**	**ΔH**	**ΔP**

Comments: _____

Eastern Research Group, Inc.

K-FACTOR CALCULATION FORM

Plant	Youngstown	Operator	MWH DW
Date		Used for runs	1-3
Location/Sampling Train		INLET STRAND BAGHOUSE.	

C_p (S-type: 0.84; Std: 0.99)	.84
P_b (barometric pressure at location)	29.30
D_n (nozzle diameter, inches)	.193 .150
B_w (moisture in gas stream, fractional percent)	.05
P_m (barometric pressure at meter, Hg) = (Average ΔH / 13.6) + P_b	29.30
$\Delta H@$ (pressure differential of orifice in meterbox, H_2O)	1.828
P_s (stack pressure, in. Hg) = P_b ± (stack static pressure (in. H_2O) / 13.6) − 30" H_2O	~15" 27.09 ~~28.20~~
T_s (average stack temperature, °R) = 253 °F + 460 = ___ °R	713
T_m (average meter temperature, °R) = $T_{ambient}$ + 20°F + 460 = ___ °R 100°F	~~500~~ 560
M_d (molecular weight of stack gas, dry, lb/lb-mole) = (0.44 x %CO_2) + (0.32 x %O_2) + (0.28 x %N_2)	29.0
M_s (molecular weight of stack gas with water vapor, lb/lb-mole) = [M_d x (1 - B_w)] + [18 x B_w]	28.45
K= $(846.720)(D_n)^4(\Delta H@)(C_p)^2(1-B_w)^2(M_d/M_s)(P_s/P_m)(T_m/T_s)$	1.07 ~~39.137~~

$\Delta H = K\Delta P$
Correlation Chart

1		2		3	
ΔH	ΔP	ΔH	ΔP	ΔH	ΔP

Comments: _____

6694 6796