SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

FINAL REPORT

SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010001

Sample ID
CAT-0A-1

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218741

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.39	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	399	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.4	0.25
Silver	<0.05	0.05
Sodium	10.2	0.25
Strontium	0.256	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

DUPLICATE SUMMARY

010002

Sample ID
CAT-0A-1

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218741

Work Order: 23658

Analysis	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD
Aluminum	<0.5	<0.5	0.00%
Antimony	<0.1	<0.1	0.00%
Arsenic	<0.1	<0.1	0.00%
Barium	1.39	1.39	0.01%
Beryllium	<0.025	<0.025	0.00%
Bismuth	<0.1	<0.1	0.00%
Boron	<0.5	<0.5	0.00%
Cadmium	<0.025	<0.025	0.00%
Calcium	399	400	0.18%
Chromium	<0.05	<0.05	0.00%
Cobalt	<0.025	<0.025	0.00%
Copper	<0.05	<0.05	0.00%
Iron	<0.5	<0.5	0.00%
Lanthanum	<0.05	<0.05	0.00%
Lead	<0.1	<0.1	0.00%
Lithium	<0.025	<0.025	0.00%
Magnesium	<0.5	<0.5	0.00%
Manganese	<0.025	<0.025	0.00%
Molybdenum	<0.05	<0.05	0.00%
Nickel	<0.05	<0.05	0.00%
Palladium	<0.1	<0.1	0.00%
Phosphorus	<0.25	<0.25	0.00%
Potassium	NA	NA	NA
Selenium	<0.1	<0.1	0.00%
Silicon	31.4	31.5	0.17%
Silver	<0.05	<0.05	0.00%
Sodium	NA	NA	NA
Strontium	0.256	0.256	0.04%
Sulfur	<0.25	0.256	200%
Thallium	<0.1	<0.1	0.00%
Thorium	<0.1	<0.1	0.00%
Tin	<0.05	<0.05	0.00%
Titanium	<0.05	<0.05	0.00%
Tungsten	<0.1	<0.1	0.00%
Vanadium	<0.05	<0.05	0.00%
Yttrium	<0.05	<0.05	0.00%
Zinc	<0.05	<0.05	0.00%
Zirconium	<0.05	<0.05	0.00%

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010003

Sample ID
CAT-0A-10

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218742

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.727	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	452	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	33.9	0.25
Silver	<0.05	0.05
Sodium	3.13	0.25
Strontium	0.292	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.196	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

MATRIX SPIKE SUMMARY

010004

Sample ID
CAT-0A-10

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218742

Work Order: 23658

Analysis	Sample Result (mg/L)	Spike Result (mg/L)	Spike Added (mg/L)	Recovery
Aluminum	<0.5	19.6	20.0	97.8%
Antimony	<0.1	5.10	5.00	102.1%
Arsenic	<0.1	20.8	20.0	103.9%
Barium	0.727	21.0	20.0	101.2%
Beryllium	<0.025	0.510	0.500	101.9%
Bismuth	NA	NA	NA	NA
Boron	NA	NA	NA	NA
Cadmium	<0.025	0.499	0.500	99.8%
Calcium	452	652	200	100.0%
Chromium	<0.05	2.02	2.00	101.2%
Cobalt	<0.025	5.03	5.00	100.6%
Copper	<0.05	2.56	2.50	102.3%
Iron	<0.5	10.7	10.0	106.7%
Lanthanum	NA	NA	NA	NA
Lead	<0.1	5.11	5.00	102.2%
Lithium	NA	NA	NA	NA
Magnesium	<0.5	205	200	102.6%
Manganese	<0.025	5.07	5.00	101.4%
Molybdenum	NA	NA	NA	NA
Nickel	<0.05	4.95	5.00	99.1%
Palladium	NA	NA	NA	NA
Phosphorus	NA	NA	NA	NA
Potassium	NA	NA	NA	NA
Selenium	<0.1	21.4	20.0	107.1%
Silicon	33.9	76.3	40.0	105.9%
Silver	<0.05	0.512	0.500	102.4%
Sodium	NA	NA	NA	NA
Strontium	NA	NA	NA	NA
Sulfur	NA	NA	NA	NA
Thallium	<0.1	21.5	20.0	107.5%
Thorium	NA	NA	NA	NA
Tin	NA	NA	NA	NA
Titanium	NA	NA	NA	NA
Tungsten	NA	NA	NA	NA
Vanadium	<0.05	5.06	5.00	101.3%
Yttrium	NA	NA	NA	NA
Zinc	0.196	5.25	5.00	101.1%
Zirconium	NA	NA	NA	NA

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010005

Sample ID
CAT-0A-2

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218743

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.555	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	406	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.1	0.25
Silver	<0.05	0.05
Sodium	2.31	0.25
Strontium	0.260	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.157	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

DUPLICATE SUMMARY

010006

Sample ID
CAT-0A-2

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218743

Work Order: 23658

Analysis	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD
Aluminum	NA	NA	NA
Antimony	NA	NA	NA
Arsenic	NA	NA	NA
Barium	NA	NA	NA
Beryllium	NA	NA	NA
Bismuth	NA	NA	NA
Boron	NA	NA	NA
Cadmium	NA	NA	NA
Calcium	NA	NA	NA
Chromium	NA	NA	NA
Cobalt	NA	NA	NA
Copper	NA	NA	NA
Iron	NA	NA	NA
Lanthanum	NA	NA	NA
Lead	NA	NA	NA
Lithium	NA	NA	NA
Magnesium	NA	NA	NA
Manganese	NA	NA	NA
Molybdenum	NA	NA	NA
Nickel	NA	NA	NA
Palladium	NA	NA	NA
Phosphorus	NA	NA	NA
Potassium	<0.5	<0.5	0.00%
Selenium	NA	NA	NA
Silicon	NA	NA	NA
Silver	NA	NA	NA
Sodium	2.31	2.21	4.20%
Strontium	NA	NA	NA
Sulfur	NA	NA	NA
Thallium	NA	NA	NA
Thorium	NA	NA	NA
Tin	NA	NA	NA
Titanium	NA	NA	NA
Tungsten	NA	NA	NA
Vanadium	NA	NA	NA
Yttrium	NA	NA	NA
Zinc	NA	NA	NA
Zirconium	NA	NA	NA

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SOUTHWEST RESEARCH INSTITUTE

MATRIX SPIKE SUMMARY 010007

Sample ID
CAT-0A-2

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218743

Work Order: 23658

Analysis	Sample Result (mg/L)	Spike Result (mg/L)	Spike Added (mg/L)	Recovery
Aluminum	NA	NA	NA	NA
Antimony	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA
Barium	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA
Bismuth	NA	NA	NA	NA
Boron	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA
Calcium	NA	NA	NA	NA
Chromium	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA
Copper	NA	NA	NA	NA
Iron	NA	NA	NA	NA
Lanthanum	NA	NA	NA	NA
Lead	NA	NA	NA	NA
Lithium	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA
Manganese	NA	NA	NA	NA
Molybdenum	NA	NA	NA	NA
Nickel	NA	NA	NA	NA
Palladium	NA	NA	NA	NA
Phosphorus	NA	NA	NA	NA
Potassium	<0.5	89.8	100	89.8%
Selenium	NA	NA	NA	NA
Silicon	NA	NA	NA	NA
Silver	NA	NA	NA	NA
Sodium	2.31	91.9	100	89.6%
Strontium	NA	NA	NA	NA
Sulfur	NA	NA	NA	NA
Thallium	NA	NA	NA	NA
Thorium	NA	NA	NA	NA
Tin	NA	NA	NA	NA
Titanium	NA	NA	NA	NA
Tungsten	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA
Yttrium	NA	NA	NA	NA
Zinc	NA	NA	NA	NA
Zirconium	NA	NA	NA	NA

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010008
Sample ID
CAT-0A-3

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218744

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.58	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	413	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.6	0.25
Silver	<0.05	0.05
Sodium	10.4	0.25
Strontium	0.269	0.05
Sulfur	0.274	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010009

Sample ID
CAT-0A-4

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218745

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.717	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	413	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.4	0.25
Silver	<0.05	0.05
Sodium	2.76	0.25
Strontium	0.266	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.093	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010010

Sample ID
CAT-0A-5

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218746

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.807	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	418	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.9	0.25
Silver	<0.05	0.05
Sodium	1.99	0.25
Strontium	0.271	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.197	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010011

Sample ID
CAT-0A-6

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218747

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.597	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	426	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.1	0.25
Silver	<0.05	0.05
Sodium	2.07	0.25
Strontium	0.274	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010012

Sample ID
CAT-0A-7

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218748

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.664	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	431	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.6	0.25
Silver	<0.05	0.05
Sodium	2.42	0.25
Strontium	0.279	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.051	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010013

Sample ID

CAT-0A-8

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218749

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.40	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	432	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.6	0.25
Silver	<0.05	0.05
Sodium	10.1	0.25
Strontium	0.279	0.05
Sulfur	0.302	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.081	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010014

Sample ID
CAT-0A-9

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218750

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.43	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	438	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	33.0	0.25
Silver	<0.05	0.05
Sodium	10.5	0.25
Strontium	0.284	0.05
Sulfur	0.329	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.068	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010015

Sample ID
CAT-1A-2

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218751

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	489	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	1.36	0.5
Selenium	<0.1	0.1
Silicon	27.9	0.25
Silver	<0.05	0.05
Sodium	0.731	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010016

Sample ID
CAT-1A-3

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218752

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	467	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	0.537	0.5
Selenium	<0.1	0.1
Silicon	39.2	0.25
Silver	<0.05	0.05
Sodium	1.46	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010017

Sample ID
CAT-1A-4

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218753

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	430	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	2.04	0.5
Selenium	<0.1	0.1
Silicon	41.2	0.25
Silver	<0.05	0.05
Sodium	1.22	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010018

Sample ID
CAT-1A-5

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218754

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	451	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	35.5	0.25
Silver	<0.05	0.05
Sodium	1.95	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010019

Sample ID
CAT-1A-6

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218755

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	394	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	0.682	0.5
Selenium	<0.1	0.1
Silicon	37.5	0.25
Silver	<0.05	0.05
Sodium	0.693	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010020

Sample ID
CAT-1A-8

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218756

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	391	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	0.561	0.5
Selenium	<0.1	0.1
Silicon	33.8	0.25
Silver	<0.05	0.05
Sodium	2.48	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

DUPLICATE SUMMARY

010021

Sample ID
CAT-1A-8

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218756

Work Order: 23658

Analysis	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD
Aluminum	<0.5	<0.5	0.00%
Antimony	<0.1	<0.1	0.00%
Arsenic	<0.1	<0.1	0.00%
Barium	<0.025	<0.025	0.00%
Beryllium	<0.025	<0.025	0.00%
Bismuth	<0.1	<0.1	0.00%
Boron	<0.5	<0.5	0.00%
Cadmium	<0.025	<0.025	0.00%
Calcium	391	392	0.44%
Chromium	<0.05	<0.05	0.00%
Cobalt	<0.025	<0.025	0.00%
Copper	<0.05	<0.05	0.00%
Iron	<0.5	<0.5	0.00%
Lanthanum	<0.05	<0.05	0.00%
Lead	<0.1	<0.1	0.00%
Lithium	<0.025	<0.025	0.00%
Magnesium	<0.5	<0.5	0.00%
Manganese	<0.025	<0.025	0.00%
Molybdenum	<0.05	<0.05	0.00%
Nickel	<0.05	<0.05	0.00%
Palladium	<0.1	<0.1	0.00%
Phosphorus	<0.25	<0.25	0.00%
Potassium	0.561	0.558	0.56%
Selenium	<0.1	<0.1	0.00%
Silicon	33.8	33.7	0.39%
Silver	<0.05	<0.05	0.00%
Sodium	2.48	2.51	1.02%
Strontium	<0.05	<0.05	0.00%
Sulfur	<0.25	<0.25	0.00%
Thallium	<0.1	<0.1	0.00%
Thorium	<0.1	<0.1	0.00%
Tin	<0.05	<0.05	0.00%
Titanium	<0.05	<0.05	0.00%
Tungsten	<0.1	<0.1	0.00%
Vanadium	<0.05	<0.05	0.00%
Yttrium	<0.05	<0.05	0.00%
Zinc	<0.05	<0.05	0.00%
Zirconium	<0.05	<0.05	0.00%

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SOUTHWEST RESEARCH INSTITUTE

MATRIX SPIKE SUMMARY 010022

Sample ID
CAT-1A-8

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218756

Work Order: 23658

Analysis	Sample Result (mg/L)	Spike Result (mg/L)	Spike Added (mg/L)	Recovery
Aluminum	NA	NA	NA	NA
Antimony	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA
Barium	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA
Bismuth	NA	NA	NA	NA
Boron	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA
Calcium	NA	NA	NA	NA
Chromium	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA
Copper	NA	NA	NA	NA
Iron	NA	NA	NA	NA
Lanthanum	NA	NA	NA	NA
Lead	NA	NA	NA	NA
Lithium	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA
Manganese	NA	NA	NA	NA
Molybdenum	NA	NA	NA	NA
Nickel	NA	NA	NA	NA
Palladium	NA	NA	NA	NA
Phosphorus	NA	NA	NA	NA
Potassium	0.561	90.0	100	89.4%
Selenium	NA	NA	NA	NA
Silicon	NA	NA	NA	NA
Silver	NA	NA	NA	NA
Sodium	2.48	89.4	100	87.0%
Strontium	NA	NA	NA	NA
Sulfur	NA	NA	NA	NA
Thallium	NA	NA	NA	NA
Thorium	NA	NA	NA	NA
Tin	NA	NA	NA	NA
Titanium	NA	NA	NA	NA
Tungsten	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA
Yttrium	NA	NA	NA	NA
Zinc	NA	NA	NA	NA
Zirconium	NA	NA	NA	NA

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010023

Sample ID
CAT-7B-1

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218757

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.30	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	401	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.2	0.25
Silver	<0.05	0.05
Sodium	10.7	0.25
Strontium	0.261	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.067	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

MATRIX SPIKE SUMMARY 010024

Sample ID
CAT-7B-1

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218757

Work Order: 23658

Analysis	Sample Result (mg/L)	Spike Result (mg/L)	Spike Added (mg/L)	Recovery
Aluminum	<0.5	19.3	20.0	96.7%
Antimony	<0.1	5.08	5.00	101.7%
Arsenic	<0.1	20.7	20.0	103.3%
Barium	1.30	21.3	20.0	99.8%
Beryllium	<0.025	0.509	0.500	101.9%
Bismuth	NA	NA	NA	NA
Boron	NA	NA	NA	NA
Cadmium	<0.025	0.499	0.500	99.8%
Calcium	401	597	200	98.0%
Chromium	<0.05	2.02	2.00	101.2%
Cobalt	<0.025	5.00	5.00	100.1%
Copper	<0.05	2.52	2.50	100.6%
Iron	<0.5	10.6	10.0	106.1%
Lanthanum	NA	NA	NA	NA
Lead	<0.1	5.06	5.00	101.2%
Lithium	NA	NA	NA	NA
Magnesium	<0.5	204	200	102.1%
Manganese	<0.025	5.04	5.00	100.7%
Molybdenum	NA	NA	NA	NA
Nickel	<0.05	4.94	5.00	98.7%
Palladium	NA	NA	NA	NA
Phosphorus	NA	NA	NA	NA
Potassium	NA	NA	NA	NA
Selenium	<0.1	21.3	20.0	106.3%
Silicon	31.2	72.5	40.0	103.3%
Silver	<0.05	0.505	0.500	100.9%
Sodium	NA	NA	NA	NA
Strontium	NA	NA	NA	NA
Sulfur	NA	NA	NA	NA
Thallium	<0.1	21.3	20.0	106.5%
Thorium	NA	NA	NA	NA
Tin	NA	NA	NA	NA
Titanium	NA	NA	NA	NA
Tungsten	NA	NA	NA	NA
Vanadium	<0.05	5.03	5.00	100.6%
Yttrium	NA	NA	NA	NA
Zinc	0.067	5.15	5.00	101.7%
Zirconium	NA	NA	NA	NA

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010025

Sample ID
CAT-7B-10

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218758

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.653	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	430	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.2	0.25
Silver	<0.05	0.05
Sodium	2.59	0.25
Strontium	0.286	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.095	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET 010026

Sample ID
CAT-7B-2

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218759

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.626	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	401	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	30.5	0.25
Silver	<0.05	0.05
Sodium	2.93	0.25
Strontium	0.262	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.128	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010027
Sample ID
CAT-7B-3

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218760

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.55	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	397	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	30.2	0.25
Silver	<0.05	0.05
Sodium	10.2	0.25
Strontium	0.264	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.064	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010028

Sample ID
CAT-7B-4

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218761

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.650	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	408	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	30.8	0.25
Silver	<0.05	0.05
Sodium	2.90	0.25
Strontium	0.270	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.077	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET 010029

Sample ID
CAT-7B-5

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218762

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.646	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	413	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	30.8	0.25
Silver	<0.05	0.05
Sodium	1.81	0.25
Strontium	0.271	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.114	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET 010030

Sample ID
CAT-7B-6

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218763

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.623	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	433	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.4	0.25
Silver	<0.05	0.05
Sodium	2.10	0.25
Strontium	0.276	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.059	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET 010031

Sample ID
CAT-7B-7

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218764

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.615	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	447	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.4	0.25
Silver	<0.05	0.05
Sodium	2.41	0.25
Strontium	0.288	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.104	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET

010032

Sample ID
CAT-7B-8

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218765

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	1.52	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	432	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.9	0.25
Silver	<0.05	0.05
Sodium	10.1	0.25
Strontium	0.281	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.225	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

010033

Sample ID
CAT-7B-9

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218766

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	0.678	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	432	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.5	0.25
Silver	<0.05	0.05
Sodium	2.53	0.25
Strontium	0.280	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	0.137	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET

010034

Sample ID
UMB-0A

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218767

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	409	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.1	0.25
Silver	<0.05	0.05
Sodium	<0.25	0.25
Strontium	0.251	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET 010035

Sample ID
UMB-0B

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218768

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	405	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.1	0.25
Silver	<0.05	0.05
Sodium	<0.25	0.25
Strontium	0.249	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET

010036

Sample ID
UMB-7A

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218769

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	413	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	32.6	0.25
Silver	<0.05	0.05
Sodium	<0.25	0.25
Strontium	0.261	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SAMPLE ANALYSIS DATA SHEET 010037

Sample ID
UMB-7B

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 01/15/03

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: 218770

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	398	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	31.6	0.25
Silver	<0.05	0.05
Sodium	<0.25	0.25
Strontium	0.253	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

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SOUTHWEST RESEARCH INSTITUTE

LABORATORY CONTROL SAMPLE

010038

Sample ID
LCSW

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: NA

Work Order: 23658

Analysis	Sample Result (mg/L)	True Value (mg/L)	Recovery
Aluminum	19.4	20.0	97.1%
Antimony	5.12	5.00	102.4%
Arsenic	20.9	20.0	104.4%
Barium	20.4	20.0	101.8%
Beryllium	0.518	0.500	103.5%
Bismuth	NA	NA	NA
Boron	NA	NA	NA
Cadmium	0.516	0.500	103.1%
Calcium	199	200	99.7%
Chromium	2.06	2.00	102.9%
Cobalt	5.11	5.00	102.1%
Copper	2.53	2.50	101.3%
Iron	10.9	10.0	109.3%
Lanthanum	NA	NA	NA
Lead	5.15	5.00	103.1%
Lithium	NA	NA	NA
Magnesium	204	200	102.0%
Manganese	5.12	5.00	102.3%
Molybdenum	NA	NA	NA
Nickel	5.05	5.00	100.9%
Palladium	NA	NA	NA
Phosphorus	NA	NA	NA
Potassium	82.1	100	82.1%
Selenium	21.6	20.0	108.1%
Silicon	41.4	40.0	103.5%
Silver	0.519	0.500	103.8%
Sodium	86.2	100	86.2%
Strontium	NA	NA	NA
Sulfur	NA	NA	NA
Thallium	21.7	20.0	108.4%
Thorium	NA	NA	NA
Tin	NA	NA	NA
Titanium	NA	NA	NA
Tungsten	NA	NA	NA
Vanadium	5.09	5.00	101.8%
Yttrium	NA	NA	NA
Zinc	5.22	5.00	104.4%
Zirconium	NA	NA	NA

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

LABORATORY CONTROL SAMPLE

010039

Sample ID
LCSW

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: NA

Work Order: 23658

Analysis	Sample Result (mg/L)	True Value (mg/L)	Recovery
Aluminum	19.3	20.0	96.5%
Antimony	5.09	5.00	101.7%
Arsenic	20.7	20.0	103.4%
Barium	20.2	20.0	100.9%
Beryllium	0.512	0.500	102.4%
Bismuth	NA	NA	NA
Boron	NA	NA	NA
Cadmium	0.505	0.500	101.1%
Calcium	199	200	99.6%
Chromium	2.04	2.00	102.0%
Cobalt	5.05	5.00	101.0%
Copper	2.52	2.50	100.8%
Iron	9.58	10.0	95.8%
Lanthanum	NA	NA	NA
Lead	5.11	5.00	102.3%
Lithium	NA	NA	NA
Magnesium	204	200	102.0%
Manganese	5.07	5.00	101.5%
Molybdenum	NA	NA	NA
Nickel	4.99	5.00	99.9%
Palladium	NA	NA	NA
Phosphorus	NA	NA	NA
Potassium	81.3	100	81.3%
Selenium	21.4	20.0	107.2%
Silicon	41.3	40.0	103.3%
Silver	0.506	0.500	101.1%
Sodium	85.5	100	85.5%
Strontium	NA	NA	NA
Sulfur	NA	NA	NA
Thallium	21.4	20.0	106.8%
Thorium	NA	NA	NA
Tin	NA	NA	NA
Titanium	NA	NA	NA
Tungsten	NA	NA	NA
Vanadium	5.05	5.00	101.0%
Yttrium	NA	NA	NA
Zinc	5.15	5.00	103.0%
Zirconium	NA	NA	NA

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

BLANK SUMMARY

010040

Sample ID
PBW

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: NA

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	<0.5	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	<0.25	0.25
Silver	<0.05	0.05
Sodium	<0.25	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE

BLANK SUMMARY

010041

Sample ID
PBW

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Water

Project No.: 20.06002.01.071

Lab System ID: NA

Work Order: 23658

Analysis	Sample Result (mg/L)	Reporting Limit (mg/L)
Aluminum	<0.5	0.5
Antimony	<0.1	0.1
Arsenic	<0.1	0.1
Barium	<0.025	0.025
Beryllium	<0.025	0.025
Bismuth	<0.1	0.1
Boron	<0.5	0.5
Cadmium	<0.025	0.025
Calcium	<0.5	0.5
Chromium	<0.05	0.05
Cobalt	<0.025	0.025
Copper	<0.05	0.05
Iron	<0.5	0.5
Lanthanum	<0.05	0.05
Lead	<0.1	0.1
Lithium	<0.025	0.025
Magnesium	<0.5	0.5
Manganese	<0.025	0.025
Molybdenum	<0.05	0.05
Nickel	<0.05	0.05
Palladium	<0.1	0.1
Phosphorus	<0.25	0.25
Potassium	<0.5	0.5
Selenium	<0.1	0.1
Silicon	<0.25	0.25
Silver	<0.05	0.05
Sodium	<0.25	0.25
Strontium	<0.05	0.05
Sulfur	<0.25	0.25
Thallium	<0.1	0.1
Thorium	<0.1	0.1
Tin	<0.05	0.05
Titanium	<0.05	0.05
Tungsten	<0.1	0.1
Vanadium	<0.05	0.05
Yttrium	<0.05	0.05
Zinc	<0.05	0.05
Zirconium	<0.05	0.05

NA- Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

Work Orders/01-QPP-015

Southwest Research Institute

Laboratory Task Order

TO #: 030115-2 Revision: 0

010042

SDG: 218741

SRR #'s: 23658
Client(s): DIV 20

Instructions

See original SRR #23658

Documents Related to this task order: 4358

Test: ICP
Section: OLDINORG

Holding: 180 days from CED
ANALYSIS BY ICP

System ID	Type	Cont	Customer ID	CED	Method Date
218741		1	CAT-0A-1	17 Oct 02	15 Apr 03
218742		1	CAT-0A-10	17 Oct 02	15 Apr 03
218743		1	CAT-0A-2	17 Oct 02	15 Apr 03
218744		1	CAT-0A-3	17 Oct 02	15 Apr 03
218745		1	CAT-0A-4	17 Oct 02	15 Apr 03
218746		1	CAT-0A-5	17 Oct 02	15 Apr 03
218747		1	CAT-0A-6	17 Oct 02	15 Apr 03
218748		1	CAT-0A-7	17 Oct 02	15 Apr 03
218749		1	CAT-0A-8	17 Oct 02	15 Apr 03
218750		1	CAT-0A-9	17 Oct 02	15 Apr 03
218751		1	CAT-1A-2	17 Oct 02	15 Apr 03
218752		1	CAT-1A-3	17 Oct 02	15 Apr 03
218753		1	CAT-1A-4	17 Oct 02	15 Apr 03
218754		1	CAT-1A-5	17 Oct 02	15 Apr 03
218755		1	CAT-1A-6	17 Oct 02	15 Apr 03
218756		1	CAT-1A-8	17 Oct 02	15 Apr 03
218757		1	CAT-7B-1	17 Oct 02	15 Apr 03
218758		1	CAT-7B-10	17 Oct 02	15 Apr 03
218759		1	CAT-7B-2	17 Oct 02	15 Apr 03
218760		1	CAT-7B-3	17 Oct 02	15 Apr 03
218761		1	CAT-7B-4	17 Oct 02	15 Apr 03
218762		1	CAT-7B-5	17 Oct 02	15 Apr 03
218763		1	CAT-7B-6	17 Oct 02	15 Apr 03
218764		1	CAT-7B-7	17 Oct 02	15 Apr 03
218765		1	CAT-7B-8	17 Oct 02	15 Apr 03
218766		1	CAT-7B-9	17 Oct 02	15 Apr 03
218767		1	UMB-0A	17 Oct 02	15 Apr 03
218768		1	UMB-0B	17 Oct 02	15 Apr 03
218769		1	UMB-7A	17 Oct 02	15 Apr 03
218770		1	UMB-7B	17 Oct 02	15 Apr 03

Test: SI
Section: OLDINORG

Holding: 180 days from CED
SILICON ANALYSIS

System ID	Type	Cont	Customer ID	CED	Method Date
218741		1	CAT-0A-1	17 Oct 02	15 Apr 03
218742		1	CAT-0A-10	17 Oct 02	15 Apr 03
218743		1	CAT-0A-2	17 Oct 02	15 Apr 03
218744		1	CAT-0A-3	17 Oct 02	15 Apr 03
218745		1	CAT-0A-4	17 Oct 02	15 Apr 03
218746		1	CAT-0A-5	17 Oct 02	15 Apr 03
218747		1	CAT-0A-6	17 Oct 02	15 Apr 03

Southwest Research Institute

Laboratory Task Order

TO #: 030115-2 Revision: 0

010043

SDG: 218741

SRR #'s: 23658
Client(s): DIV 20

To PM:
To QA: 02/08/03
To Client: 02/11/03

System ID	Type	Cont	Customer ID	CED	Method Date
218748		1	CAT-0A-7	17 Oct 02	15 Apr 03
218749		1	CAT-0A-8	17 Oct 02	15 Apr 03
218750		1	CAT-0A-9	17 Oct 02	15 Apr 03
218751		1	CAT-1A-2	17 Oct 02	15 Apr 03
218752		1	CAT-1A-3	17 Oct 02	15 Apr 03
218753		1	CAT-1A-4	17 Oct 02	15 Apr 03
218754		1	CAT-1A-5	17 Oct 02	15 Apr 03
218755		1	CAT-1A-6	17 Oct 02	15 Apr 03
218756		1	CAT-1A-8	17 Oct 02	15 Apr 03
218757		1	CAT-7B-1	17 Oct 02	15 Apr 03
218758		1	CAT-7B-10	17 Oct 02	15 Apr 03
218759		1	CAT-7B-2	17 Oct 02	15 Apr 03
218760		1	CAT-7B-3	17 Oct 02	15 Apr 03
218761		1	CAT-7B-4	17 Oct 02	15 Apr 03
218762		1	CAT-7B-5	17 Oct 02	15 Apr 03
218763		1	CAT-7B-6	17 Oct 02	15 Apr 03
218764		1	CAT-7B-7	17 Oct 02	15 Apr 03
218765		1	CAT-7B-8	17 Oct 02	15 Apr 03
218766		1	CAT-7B-9	17 Oct 02	15 Apr 03
218767		1	UMB-0A	17 Oct 02	15 Apr 03
218768		1	UMB-0B	17 Oct 02	15 Apr 03
218769		1	UMB-7A	17 Oct 02	15 Apr 03
218770		1	UMB-7B	17 Oct 02	15 Apr 03

Sample Receipt

Sample Receipt Number: 23658
Revision: 3
This Receipt was Revised Feb 4 2003 3:31PM

Southwest Research Institute

Project: 06002.01.071
Case #: CNWRA
Client: DIV 20

VTSR: 01/15/03

Time: 13:55:00

Manager: DAMMANN, MIKE
Logged in by: kedrisi
Creation Date: 01/15/03

Notes

Samples were received at ambient temperature @ 20.0° C.

Qc Note: As per method.

Parameters: Analysis for Cations including Si by ICP and U by ICP-MS as per COC.

Note: Cations of particuler interest and their range of concentration are listed below to assist in ICP calibration:
U - 0.001 to 2.0 ppm
Si - 25 to 45 ppm
Ca - 350 to 550 ppm
Na - 0.2 to 5.0 ppm
K - 02 to 5.0 pmm

Note: See chain of custody as part of the work order system for more information. Contact Project Manager for questions.

Note: Turnaround time is 28 days from.

Note: Samples were received intact.

Note: Project is Nuclear Safety Related, 10 CFR 50, Part 21, Appendix B.

Note: Contact Joann Boyd @ 2169 or Pager 351-1617. For Institute QA contact before starting any work on this project.

Note: Have SPQP (Latest Revision) on the bench at the time of prep or analysis of samples.

Note: All personnel must be QA Nuclear Certified.

Note: Outside of the sample containers were screened for radioactivity, all samples were above login background (40 CPM).

*** kedrisi Jan 15 2003 3:22PM ***

Rev.1: Revised to add ICP-MS analysis as per Danny Ramirez. See attached.
*** kedrisi Feb 3 2003 10:58AM ***

Rev.2: Revised to add ICP analysis to sample ID # 218741.
*** kedrisi Feb 3 2003 11:07AM ***

Rev.3: Please remove the ICP-MS and U test codes from this work order. This analysis was cancelled as per Jim Prikryl. See attached email from Jackie Ranger.
*** kedrisi Feb 4 2003 3:31PM ***

System ID	Customer ID	CED	Matrix	Containers
218741	CAT-0A-1	10/17/02	Water	1
218742	CAT-0A-10	10/17/02	Water	1
218743	CAT-0A-2	10/17/02	Water	1
218744	CAT-0A-3	10/17/02	Water	1
218745	CAT-0A-4	10/17/02	Water	1
218746	CAT-0A-5	10/17/02	Water	1
218747	CAT-0A-6	10/17/02	Water	1
218748	CAT-0A-7	10/17/02	Water	1
218749	CAT-0A-8	10/17/02	Water	1
218750	CAT-0A-9	10/17/02	Water	1
218751	CAT-1A-2	10/17/02	Water	1

Client: DIV 20
SR#: 23658
FRM-002

010045

Southwest Research Institute

Sample Receipt

Sample Receipt Number: 23658
Revision: 3
This Receipt was Revised Feb 4 2003 3:31PM

VTSR: 01/15/03

Time: 13:55:00

Project: 06002.01.071
Case #: CNWRA
Client: DIV 20

Manager: DAMMANN, MIKE
Logged in by: kedrisi
Creation Date: 01/15/03

218752	CAT-1A-3	10/17/02	Water	1
218753	CAT-1A-4	10/17/02	Water	1
218754	CAT-1A-5	10/17/02	Water	1
218755	CAT-1A-6	10/17/02	Water	1
218756	CAT-1A-8	10/17/02	Water	1
218757	CAT-7B-1	10/17/02	Water	1
218758	CAT-7B-10	10/17/02	Water	1
218759	CAT-7B-2	10/17/02	Water	1
218760	CAT-7B-3	10/17/02	Water	1
218761	CAT-7B-4	10/17/02	Water	1
218762	CAT-7B-5	10/17/02	Water	1
218763	CAT-7B-6	10/17/02	Water	1
218764	CAT-7B-7	10/17/02	Water	1
218765	CAT-7B-8	10/17/02	Water	1
218766	CAT-7B-9	10/17/02	Water	1
218767	UMB-0A	10/17/02	Water	1
218768	UMB-0B	10/17/02	Water	1
218769	UMB-7A	10/17/02	Water	1
218770	UMB-7B	10/17/02	Water	1
Containers: 30				**Samples: 30**

These documents are associated with this receipt: 4358

Thermometer: 026
Temperature: 20.0

Client: DIV 20

SR#: 23658

FRM-002

Page Printed: 11 Mar 2003 8:38:48
ver (03/08/2003)

010046

01-QPP-015
Division 01
Revision 4
November 2002

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Document No. 3

Chemistry and Chemical
Engineering Division

QUALITY PROJECT PLAN FOR

PERFORMANCE OF CHEMICAL ANALYSES FOR COMMERCIAL NUCLEAR POWER PLANTS WITHIN THE DEPARTMENT OF ANALYTICAL AND ENVIRONMENTAL CHEMISTRY

SOUTHWEST RESEARCH INSTITUTE
Chemistry and Chemical Engineering Division
6220 CULEBRA ROAD, SAN ANTONIO, TEXAS 78238

010047

QUALITY PROJECT PLAN FOR PERFORMANCE OF CHEMICAL ANALYSES FOR COMMERCIAL NUCLEAR POWER PLANTS WITHIN THE DEPARTMENT OF ANALYTICAL AND ENVIONMENTAL CHEMISTRY

SwRI AUTHORIZATION SIGNATORIES

This is to certify that this Quality Project Plan of Southwest Research Institute (SwRI) has been reviewed and approved by the following personnel:

JOANN BOYD (210) 522-2169 — DATE 10/30/02
Quality Assurance Manager

REZA KARIMI (210) 522-2412 — DATE 10/30/02
Director, Department of Analytical and Environmental Chemistry

MICHAEL G. MACNAUGHTON (210) 522-5162 — DATE 10/30/02
Vice President, Chemistry and Chemical Engineering Division

CHRISTOPHER HOBSON (210) 522-5838 — DATE 10/30/02
Quality Assurance Engineer

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

2.0 SCOPE 1

3.0 REFERENCES 1

4.0 APPLICABLE SECTIONS OF SwRI PROGRAM QUALITY PLAN (PQP-NUCLEAR) 1

4.1 Indoctrination and Training 1
4.2 Qualification of Personnel 2
4.3 Design Control 2
4.4 Right of Access 2
4.5 Control of Supplier-Generated Documents 2
4.6 Acceptance of Services Only 2
4.7 Commercial Grade Items 3
4.8 Inspection 4
4.9 Inspection and Testing 5
4.10 Handling, Storage, Packaging, Preservation, and Delivery 5
4.11 Quality Assurance Records 5
4.12 10 CFR, Part 21 6
4.13 Certified Test Report 6
4.14 Valid Documents List 6

5.0 HISTORY OF REVISIONS 6

PERFORMANCE OF CHEMICAL ANALYSES FOR COMMERCIAL NUCLEAR POWER PLANTS WITHIN THE DEPARTMENT OF ANALYTICAL AND ENVIRONMENTAL CHEMISTRY

1.0 INTRODUCTION

This Quality Project Plan (QPP) defines the Quality Assurance (QA) program requirements for personnel providing the chemical analyses for commercial nuclear power plants. Southwest Research Institute (SwRI) ***Program Quality Plan (PQP-Nuclear)***, *Nuclear Services* shall implement the QA requirements. Project activities controlled by the PQP-Nuclear shall be accomplished as specified by the appropriate sections of **01-QAP-004**, *Quality Assurance Plan for Analytical and Environmental Services* and/or nationally recognized testing methods as specified on individual purchase orders. This QPP shall be applied to all projects initiated for nuclear utilities in the Department of Analytical and Environmental Chemistry. If, as a result of complexity, duration, or other factors, it is determined that a unique, project-specific quality plan is required, the project QAE shall notify the Project Manager and a project-specific quality plan shall be generated in accordance with **SOP-01-5.2**, *Preparation and Revision of Plans*.

2.0 SCOPE

This Quality Project Plan shall be applied to the chemical analyses performed for commercial nuclear power plants by the Department of Analytical and Environmental Chemistry within the Chemistry and Chemical Engineering Division. Although the majority of the work performed for nuclear facilities resides within the Department of Analytical and Environmental Chemistry, other departments within the division may utilize this Quality Project Plan as deemed necessary when nuclear projects are conducted.

3.0 REFERENCES

3.1 *SwRI Quality System Manual – 2000*

3.2 *10 CFR 50, Appendix B, ASME NQA-1*

3.3 *SwRI Program Quality Plan (PQP-Nuclear), Nuclear Services*

3.4 01-QAP-004, *Quality Assurance Plan for Analytical and Environmental Services*

4.0 APPLICABLE SECTIONS OF SwRI PROGRAM QUALITY PLAN (PQP-NUCLEAR)

4.1 Indoctrination and Training

4.1.1 Personnel performing duties affecting quality shall receive quality training to the *SwRI Program Quality Plan (PQP-Nuclear), Nuclear Services* prior to performing any work on projects for nuclear utilities. Institute Quality Systems (IQS) personnel shall perform this training and documentation shall be evident in the personnel training files maintained in Division Quality Assurance.

4.1.2 Indoctrination and training of personnel shall be conducted in accordance with **SOP-01-18.1**, *Qualification and Training*.

4.2 Qualification of Personnel

4.2.1 Testing personnel shall be designated as qualified to perform applicable project activities as specified in **SOP-01-18.1**, *Qualification and Training*.

4.2.2 During the performance of each testing process, testing personnel shall have access to the necessary documented procedures, i.e., QPP, QAP, Work Order, Division Quality System Standard Operating Procedures (SOPs), and applicable test/analytical procedures (TAPs) available for ready reference.

4.2.3 Any person who has not performed testing activities associated with any particular method being used for nuclear utilities projects for a period of one year shall be reevaluated prior to the conduct of the test.

4.2.4 Quality Assurance personnel witnessing the testing process for nuclear utilities shall have documented evidence of qualifications maintained by Institute Quality Systems.

4.3 Design Control

Not applicable to activities conducted within the Department of Analytical and Environmental Chemistry.

4.4 Right of Access

4.4.1 Procurement documents shall provide for access to the suppliers' facilities and records for surveillance, inspection, or audit by SwRI and clients.

4.4.2 Where appropriate, quality clause **Q32** shall be noted on the procurement documents to indicate that right of access for inspection and surveillance of activities associated with the order shall be afforded to SwRI and clients.

4.5 Control of Supplier-Generated Documents

4.5.1 Client documents shall be controlled in accordance with procedures under **SOP-01-5.0**, *Document and Data Control*, depending on the type of document supplied. These procedures provide the requirements for the preparation, review, approval, issue, distribution, and revision of documents controlled by the Chemistry and Chemical Engineering Division.

4.5.2 Documents may be controlled as Plans or Work Instructions and shall be accessible through the Division Intranet link, ***Contract Requirements*** as PDF files.

4.5.3 Nationally recognized test methods shall be of the most current issue or as specified in the purchase order. Work orders shall identify the applicable test methods to be used on the nuclear project.

4.6 Acceptance of Services Only

Not applicable to activities conducted within the Department of Analytical and Environmental Chemistry.

4.7 Commercial Grade Items

4.7.1 Where an item is to be incorporated into a test or deliverable to a client, and that item is not subject to design or specification requirements that are unique to nuclear facilities, used in applications other then nuclear facilities, and procured from the supplier on the specifications set forth in the manufacturers' published product and description, the item shall be considered "commercial grade".

4.7.2 Chemical reagents and standards used for testing purposes shall be ordered to specific chemical grades and certificates of analysis shall be required with each lot.

4.7.3 Controls for procurement planning, supplier selection, supplier performance evaluation, and acceptance of procured items and services other than chemical reagents and standards shall be as identified in **SOP-01-6.1**, *Purchasing*, and any referenced document within that procedure.

4.7.4 Receipt inspection of chemical reagents, standards, and test items for use on nuclear safety-related projects shall be performed by department personnel and documented on the *SwRI Receipt Traveler* or **FRM-109**, *Item Receipt Report*, as specified in **SOP-01-10.1**, *Inspection and Test Conduct*. Any discrepancy such as a damaged container or container label shall be documented on the form and the client shall be contacted for disposition.

4.7.5 Prior or acceptance of a commercial grade item, the receipt inspection shall determine the following:

(a) Damage was not sustained during shipment;

(b) The item has satisfied the specified acceptance criteria; and

(c) Specified documentation, as applicable to the item, was received and is acceptable.

4.7.6 Receipt inspection of chemical reagents and standards shall also consist of verification of chemical type, grade, container integrity, certificate of analysis, and shelf life, where applicable. Upon acceptance of chemical reagents and standards, the containers shall be labeled with the following:

(a) Chemical name;

(b) Chemical grade;

(c) Lot code;

(d) Date received; and

(e) Shelf life, when applicable.

4.7.7 Expired shelf life items shall not be used for testing purposes.

4.7.8 Lot codes of chemical reagents and standards used during equipment standardization and testing shall be recorded on the individual testing data sheets to provide traceability.

4.7.9 Samples supplied to SwRI for testing shall be received by the Sample Custodian and logged into the laboratory logbook. Sample documentation and sample custody shall be maintained in accordance with **TAP-01-0407-001**, *Sample Receipt and Login*, and **TAP-01-0407-035**, *Sample/Extract Storage and Custody*.

4.7.10 Samples supplied to SwRI for testing shall be labeled with the following:

(a) Sample control number;

(b) Purchase order number;

(c) Purchase order line item number, as applicable;

(d) Work order number;

(e) Nuclear QA label; and

(f) Sample retention date, when applicable.

4.7.11 In the event that samples are damaged upon receipt, a ***Sample Discrepancy Record*** shall be generated from the Division Intranet.

4.7.12 The testing work order shall list the project number, tests required, test methods required, and shall be labeled *Nuclear Quality*.

4.7.13 Identification and traceability shall be maintained in accordance with **SOP-01-8.1**, *Item Identification and Traceability*.

4.8 Inspection

4.8.1 Inspection for acceptance shall be performed by qualified persons other than those who conduct or directly supervise the work being inspected.

4.8.2 Institute Quality System (IQS) personnel shall perform surveillance activities as required to ensure compliance with the contract and this Quality Project Plan. Specific areas in which IQS may perform surveillance activities include, but are not limited to, the following:

(a) Receiving inspection and labeling of chemical reagents, standards, and testing samples;

(b) Testing processes;

(c) Calibration and major equipment;

(d) Sample and record retention; and

(e) Test records.

4.9 Inspection and Testing

4.9.1 Required tests for acceptance shall be conducted under appropriate environmental conditions using the tools and equipment necessary to conduct the test in a manner to fulfill test requirements and acceptance criteria.

4.9.2 Tests shall be conducted, controlled, and verified in accordance with **SOP-01-10.1**, *Inspection and Test Conduct*.

4.9.3 Controls for measuring and test equipment shall be as specified in **SOP-01-11.1**, *Control of Measuring and Test Equipment*.

4.9.4 Controls for identification, segregation, reporting, and resolution of nonconforming items and conditions shall be as specified in **SOP-01-13.1**, *Nonconformance Reporting*.

4.10 Handling, Storage, Packaging, Preservation, and Delivery

4.10.1 Controls for handling, storage, packaging, preservation, and delivery of items are identified in **SOP-01-15.1**, *Handling, Storage, Packaging, Preservation, and Delivery of Items*.

4.10.2 Samples specified on the purchase order to be returned to the client shall be prepared and packaged as specified on the purchase order. Each package shall be marked legibly and indelibly with the purchase order/release number and line item number(s) relevant to the package.

4.11 Quality Assurance Records

4.11.1 Quality assurance records shall furnish documentary evidence that items or activities meet specified quality requirements. Documents that ensure this evidence include **TAP-01-0407-014**, *Inventory of Case File Purges*, and **SOP-01-16.1**, *Storage and Maintenance of Quality Records*. These documents and this QPP ensure that QA records shall be legible, identifiable, retrievable, and maintained in dual storage.

4.11.2 Records shall be traceable to associated items and activities and shall accurately reflect the work accomplished or information required.

4.11.3 Documents shall be considered valid records only if stamped, initialed or signed and dated by authorized personnel or otherwise authenticated.

4.11.4 Records of test analyses performed by the Department of Analytical and Environmental Chemistry are classified as *nonpermanent* and shall be retained for a minimum of five years. Nonpermanent records are those required to show evidence that an activity was performed in accordance with the applicable requirements, but need not be retained for the life of the item. Based on the use of the final data, the client shall be responsible for determining and implementing permanent storage requirements.

4.11.5 In order to satisfy duplicate storage requirements, one copy of the QA record shall maintained by the Project Manager in Building 70 and a separate copy shall be maintained in the Division Quality Assurance Archives in Building 201. Storage requirements shall be as stated in **SOP-01-16.1**, *Storage and Maintenance of Quality Records*, to ensure protection against the risk of damage or destruction.

4.12 10 CFR, Part 21

4.12.1 SwRI procurement documents shall include requirements for reporting and approving disposition of supplier nonconformances and, when required, compliance to 10 CFR, Part 21.

4.12.2 The Manager of Institute Quality Assurance or Director of Institute Quality Systems shall determine if a nonconforming condition is reportable under 10 CFR, Part 21, and initiate reporting and condition in accordance with the SwRI Operating Policies and Procedures (OPP). Safety hazards or defects that could create a substantial safety hazard shall be reported. Substantial safety hazard means a loss of safety function to the extent that there is a major reduction in the degree of protection provided to public health and safety.

4.13 Certified Test Report

The Project Manager and Institute Quality Assurance Manager as complying with all contractual requirements shall certify test reports. The certified test report shall reference the purchase order/release number, the test methods performed, and the purchase order/release line item number.

4.14 Valid Documents List

The Department of Analytical and Environmental Chemistry work order shall specify all applicable documents and appropriate document revision level for each document. The work order shall then serve as the Valid Documents List (VDL) for each individual project.

5.0 HISTORY OF REVISIONS

Revision 4
Title of document changed from the Standard Project Quality Plan *SPQP-CH/AN* to Quality Project Plan, *QPP-015*
Extensive revision to comply with Project Quality Plan PQP-Nuclear, *Nuclear Services*, which replaces SwRI NQAPM, *Nuclear Quality Assurance Program Manual*.

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

Chain of Custody/Login Paperwork

4358

SAMPLE LIST/CHAIN OF CUSTODY

Southwest Research Institute
Chemistry and Chemical Engineering Division
6220 Culebra Road
San Antonio, Texas 78238-5166

Shipper Name/ Address: Jim Prikryl
CNWRA, Div 20, Bldg 57

Client:

Client Purchase Order/Other ID:

Site/Zone ID:

Requested Turnaround:
- ☐ 2 Weeks
- ☐ 3 Weeks
- ☒ Other: 4 weeks

SwRI Contact: Mike Damann

Analyses Requested

Sample ID	Sample Collection Date (mm/dd/yy)	Sample Collection Time	Matrix Type	Sample Type	# of Containers	Cations by ICP, include Si	Uranium by ICP/MS
CAT-OA-1	10/17/02	0900	W		1	✓	✓
CAT-OA-2					1	✓	✓
CAT-OA-3					1	✓	✓
CAT-OA-4					1	✓	✓
CAT-OA-5					1	✓	✓
CAT-OA-6					1	✓	✓
CAT-OA-7					1	✓	✓
CAT-OA-8					1	✓	✓
CAT-OA-9					1	✓	✓
CAT-OA-10					1	✓	✓

*Note - cations of particular interest and their range of concentration are listed below to assist in ICP calibration -

U - 0.001 to 2.0 ppm
Si - 25 to 45 ppm
Ca - 350 - 550 ppm
Na - 0.2 to 5.0 ppm
K - 0.2 to 5.0 ppm

ORIGINAL

REMARKS

Preservation
- **a** = HCl to pH <2
- **b** = ~~HNO_3~~ to pH <2
- **c** = H_2SO_4 to pH <2
- **d** = NaOH to pH >12
- **e** = Cool (4°C±2°C)
- **f** = Other (specify)

POC Jim Prikryl x5667

Nuclear safety related - use appropriate QA procedures.

20.06002.01.071

SwRI Project#:

Relinquished by (Print/Signature)	Date	Time
James D. Prikryl	1/15/03	1355
Received by (Print/Signature)	Date	Time
Relinquished by (Print/Signature)	Date	Time
Received by (Print/Signature)	Date	Time
Relinquished by (Print/Signature)	Date	Time

Received by SwRI Lab: (Signature)

Date: 1/15/03 Time: 1355

Samples Disposed: Date / Time

Samples Disposed by:

Matrix Types:
- **A** – Air
- **B** – Biota
- **D** - Dust
- **E** – Emission/Stack
- **P** – Product
- **S** – Soil
- **SED** – Sediment
- **T** - Tissue
- **W** - Water
- **WP** - Wipe

Sample Types:
- **D** - Duplicate
- **ER** – Equipment Rinsate
- **FB** – Field Blank
- **FD** – Field Duplicate
- **MS** – Matrix Spike
- **MSD** – Matrix Spike Dup
- **TB** – Trip Blank

Temp: 20°C

Therm #: 026

Comments:

325/210 Recd. intact

010055

4358

SAMPLE LIST/CHAIN OF CUSTODY

Southwest Research Institute
Chemistry and Chemical Engineering Division
6220 Culebra Road
San Antonio, Texas 78238-5166

Shipper Name/ Address: Jim Pikul
CNWRA, Div 20, Bldg 57

Client:

Client Purchase Order/Other ID:

Site/Zone ID:

Requested Turnaround:
- ☐ 2 Weeks
- ☐ 3 Weeks
- ☒ Other: 4 weeks

SwRI Contact: Mike Damian

Analyses Requested

Sample ID	Sample Collection Date (mm/dd/yy)	Sample Collection Time	Matrix Type	Sample Type	# of Containers	Cations by ICP include Si.	Uranium by ICP/MS							
CAT-7B-1	10/17/02	0900	W		1	✓	✓	* see note on page 1						
CAT-7B-2	"	"	"		1	✓	✓							
CAT-7B-3					1	✓	✓							
CAT-7B-4					1	✓	✓							
CAT-7B-5					1	✓	✓							
CAT-7B-6					1	✓	✓							
CAT-7B-7					1	✓	✓							
CAT-7B-8					1	✓	✓							
CAT-7B-9					1	✓	✓							
CAT-7B-10					1	✓	✓							

ORIGINAL

REMARKS
Preservation
- a = HCl to pH <2
- b = HNO_3 to pH <2
- c = H_2SO_4 to pH <2
- d = NaOH to pH >12
- e = Cool (4°C±2°C)
- f = Other (specify)

POC - Jim Pikul x5567

Nuclear safety related - use appropriate QA procedures

20.06002.01.071

Matrix Types:
- **A** – Air
- **B** – Biota
- **D** - Dust
- **E** – Emission/Stack
- **P** – Product
- **S** – Soil
- **SED** – Sediment
- **T** - Tissue
- **W** - Water
- **WP** - Wipe

Sample Types:
- **D** - Duplicate
- **ER** – Equipment Rinsate
- **FB** – Field Blank
- **FD** – Field Duplicate
- **MS** – Matrix Spike
- **MSD** – Matrix Spike Dup
- **TB** – Trip Blank

Temp: 20°C
Therm #: 026

Comments:
325/210 Recd. intact

	Date	Time
Relinquished by (Print/Signature): James D. Pikul	1/15/03	13:55
Received by (Print/Signature):		
Relinquished by (Print/Signature):		
Received by (Print/Signature):		
Relinquished by (Print/Signature):		

SwRI Project#:
Received by SwRI Lab: (Signature)
Date: 1/15/03 Time: 1355
Samples Disposed: Date / Time
Samples Disposed by:

01005G

4358

SAMPLE LIST/CHAIN OF CUSTODY

Southwest Research Institute
Chemistry and Chemical Engineering Division
6220 Culebra Road
San Antonio, Texas 78238-5166

Shipper Name/ Address: Jim Prikryl
CNWRA-Div 20, Bldg 57

Client:

Client Purchase Order/Other ID:

Site/Zone ID:

Requested Turnaround:
- ☐ 2 Weeks
- ☐ 3 Weeks
- ☒ Other: 4 weeks

SwRI Contact: Mike Dunawn

Analyses Requested

Sample ID	Sample Collection Date (mm/dd/yy)	Sample Collection Time	Matrix Type	Sample Type	# of Containers	Cations by ICP include Si	Uranium by ICP/MS	* See Note on page 1
CAT-1A-2	10/17/02	0902	W		1	✓	✓	
CAT-1A-3					1	✓	✓	
CAT-1A-4					1	✓	✓	
CAT-1A-5					1	✓	✓	
CAT-1A-6					1	✓	✓	
CAT-1A-8					1	✓	✓	
UMB-0A					1	✓	✓	
UMB-0B					1	✓	✓	
UMB-7A					1	✓	✓	
UMB-7B	—	—	—		1	✓	✓	

ORIGINAL

REMARKS

Preservation
- **a** = HCl to pH <2
- **b** = HNO_3 to pH <2
- **c** = H_2SO_4 to pH <2
- **d** = NaOH to pH >12
- **e** = Cool (4°C±2°C)
- **f** = Other (specify)

POC - Jim Prikryl
x5067

Nuclear safety related - use appropriate QA procedures.

20.06002.01.071

SwRI Project#:

Matrix Types:
- **A** – Air
- **B** – Biota
- **D** - Dust
- **E** – Emission/Stack
- **P** – Product
- **S** – Soil
- **SED** – Sediment
- **T** - Tissue
- **W** - Water
- **WP** - Wipe

Sample Types:
- **D** - Duplicate
- **ER** – Equipment Rinsate
- **FB** – Field Blank
- **FD** – Field Duplicate
- **MS** – Matrix Spike
- **MSD** – Matrix Spike Dup
- **TB** – Trip Blank

Temp: 20°C

Therm #: 026

Comments:
325/210 Rec'd. intact

	Date	Time
Relinquished by (Print/Signature): James D. Prikryl	1/15/03	1355
Received by (Print/Signature):		
Relinquished by (Print/Signature):		
Received by (Print/Signature):		
Relinquished by (Print/Signature):		

Received by SwRI Lab: (Signature)

Date: 1/15/03 Time: 1355

Samples Disposed: Date / Time

Samples Disposed by:

Div 01 COC Form 01-01-001, Rev 4/02

0100557

Southwest Research Institute

LOG-IN CHECKLIST

Work Order No.: 23658

010058

Project Information All product information shall be derived from a contract, statement of work (SOW), or project manager (PM).		
Previous PM information	Yes ☑	No ☐
Current PM information	Yes ☑	No ☐
Sponsor's Documentation All original documentation must be attached to the work order and sent to Div 01 Quality Assurance (DQA).		
Delivery documentation (*) = (Tape on 8 ½ x 11 white paper)	Yes ☑ KE 1/15/03	No ☑
Hand carried	Yes ☑	No ☐
Correspondence	Yes ☐	No ☑
Custody seals*	Yes ☐	No ☑
Chain-of-custody/Traffic report	Yes ☐	No ☑
Sample tags* (Confirm with container information before removal)	Yes ☐	No ☑
Hazard notifications	Yes ☑	No ☐
Product Condition Sample(s) shall not be left unattended once an ice chest has been opened.		
Sample(s) received intact	Yes ☑	No ☐
Container(s) received leaking	Yes ☐	No ☑
Container(s) received damaged	Yes ☐	No ☑
Lid(s) received damaged	Yes ☐	No ☑
Product Preparation		
FRM-115 (pH) Preservation Report / Metals & Wetchem H2O	Yes ☐	No ☑
Product Storage Sample(s) shall be stored in a designated location with their corresponding sample control records (SCR).		
VSCR/SCR in descending order in laboratory notebook or clipboard	Yes ☑	No ☐
Sample(s) in designated location	Yes ☑	No ☐
Work Order All copies must be legible.		
Computerized work order with original documents	Yes ☑	No ☐
Sample custodian signature and date on all original documents.	Yes ☑	No ☐
Copy of work order to PM	Yes ☑	No ☐
PM work order approval with initial and date	Yes ☑	No ☐
Case file documents to DQA	Yes ☑	No ☐
Print sample log-in page and place in log-in notebook	Yes ☑	No ☐
Chain-of-Custody/Traffic Report		
Sample Custodian's signature, date, and time	Yes ☑	No ☐
Document thermometer no. / temperature (Confirm calibration is current)	Yes ☑	No ☐
Document condition of sample(s)	Yes ☑	No ☐
FRM-109		
Discrepancies	Yes ☐	No ☑
FRM-109 to PM	Yes ☐	No ☑
FRM-109 to Client (Only for required contracts)	Yes ☐	No ☑
FRM-109 to Inorganics for discrepancies of FRM-115	Yes ☐	No ☑
Ice Chest Shipment		
Clean ice chest/Discard used bags and ice/Return Sponsor's packing material	Yes ☑	No ☐
SwRI shipping ticket with project identification	Yes ☐	No ☑
Log-In Closure Documents must consist of project number, case, sample delivery group (SDG), and validated time sample received (VTSR).		
Sample Custodian's Signature Khaled E	Date 1/15/03	Time 1355

SAMPLE LOG-IN SHEET

010059

Lab Name: Southwest Research Institute

Received By (Print Name): Khaled Edrisi

Log-in Date: 01/15/2003

Received By (Signature): Khaled El

Case Number: CNWRA

Sample Delivery Group No.: 218741

SAS Number: N/A

Remarks: 20.06002.01.071

1. Custody Seal(s): N/A Present/Absent* Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of Custody Records: Present/Absent*
4. Traffic Reports or Packing Lists: Present/Absent*
5. Airbill: Airbill/Sticker Present/Absent*
6. Airbill No.: HAND DELIVERED
7. Sample Tags: Present/Absent*
   Sample Tag Numbers: Listed/Not listed on Chain of Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Cooler Temperature: 20.0C
10. Does Information on custody records, traffic reports, and sample tags agree? Yes/No*
11. Date Received at Lab: 01/15/2003
12. Time Received: 13:55:00

EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc
CAT-0A-1	None	218741	Intact
CAT-0A-10	None	218742	Intact
CAT-0A-2	None	218743	Intact
CAT-0A-3	None	218744	Intact
CAT-0A-4	None	218745	Intact
CAT-0A-5	None	218746	Intact
CAT-0A-6	None	218747	Intact
CAT-0A-7	None	218748	Intact
CAT-0A-8	None	218749	Intact
CAT-0A-9	None	218750	Intact
CAT-1A-2	None	218751	Intact
CAT-1A-3	None	218752	Intact
CAT-1A-4	None	218753	Intact
CAT-1A-5	None	218754	Intact
CAT-1A-6	None	218755	Intact
CAT-1A-8	None	218756	Intact
CAT-7B-1	None	218757	Intact
CAT-7B-10	None	218758	Intact
CAT-7B-2	None	218759	Intact
CAT-7B-3	None	218760	Intact
CAT-7B-4	None	218761	Intact
CAT-7B-5	None	218762	Intact
CAT-7B-6	None	218763	Intact

Sample Transfer

Fraction: See attached	Fraction: 1/15/03
Area #: Rf-64-Rt.B	Area #: ICE
By: KE	By:
On: 1/15/03	On:

* Contact SMO and attach record of resolution

Reviewed By: Marie G Palomo

Date: 1-22-03.

Logbook No.: Work Order (23658)

Logbook Page No.: 4587 1,2 of 2

SAMPLE LOG-IN SHEET

010060

Lab Name: Southwest Research Institute

Received By (Print Name): Khaled Edrisi

Log-in Date: 01/15/2003

Received By (Signature): Khaled Edrisi

Case Number: CNWRA

Sample Delivery Group No.: 218741

SAS Number:

Remarks: 20.06002-01.071

1. Custody Seal(s)	N/A	Present/Absent* Intact/Broken
2. Custody Seal Nos.	N/A	
3. Chain-of Custody Records		(Present)/Absent*
4. Traffic Reports or Packing Lists		Present/(Absent)
5. Airbill		Airbill/Sticker (Present)/Absent*
6. Airbill No.		HAND DELIVERED
7. Sample Tags		Present/(Absent)
Sample Tag Numbers		Listed/(Not) listed on Chain of Custody
8. Sample Condition		(Intact)/Broken*/Leaking
9. Cooler Temperature		20.0C
10. Does Information on custody records, traffic reports, and sample tags agree?		(Yes)/No*
11. Date Received at Lab		01/15/2003
12. Time Received		13:55:00

EPA Sample #	Corresponding: Sample Tag #	Corresponding: Assigned Lab #	Remarks: Condition of Sample Shipment, etc
CAT-7B-7	None	218764	Intact
CAT-7B-8	None	218765	Intact
CAT-7B-9	None	218766	Intact
UMB-0A	None	218767	Intact
UMB-0B	None	218768	Intact
UMB-7A	None	218769	Intact
UMB-7B	None	218770	Intact

Sample Transfer

Fraction: See attached	Fraction:
Area #: RF-64-RF-B	Area #: 1/15/03
By: KE	By: KE
On: 1/15/03	On:

* Contact SMO and attach record of resolution

Reviewed By: Maria G Palomo

Date: 1-22-03

Logbook No.: Work Order (23658)

Logbook Page No.: 4587 1,2 of 2

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

Copies of Login Book

Sample Login Book

Jan 15, 2003

010061

SwRI Login Area
Division 1

Sample Receipt: 23657	Project: 06002.01.071	Client: DIV 20
VTSR Date: Jan 15, 2003	VTSR Time: 13:55:00	Manager: DAMMANN, MIKE

System ID	Customer Sample ID	Matrix
218711	AN-0A-1	Water
218712	AN-0A-10	Water
218713	AN-0A-2	Water
218714	AN-0A-3	Water
218715	AN-0A-4	Water
218716	AN-0A-5	Water
218717	AN-0A-6	Water
218718	AN-0A-7	Water
218719	AN-0A-8	Water
218720	AN-0A-9	Water
218721	AN-1A-2	Water
218722	AN-1A-3	Water
218723	AN-1A-4	Water
218724	AN-1A-5	Water
218725	AN-1A-6	Water
218726	AN-1A-7	Water
218727	AN-7B-1	Water
218728	AN-7B-10	Water
218729	AN-7B-2	Water
218730	AN-7B-3	Water
218731	AN-7B-4	Water
218732	AN-7B-5	Water
218733	AN-7B-6	Water
218734	AN-7B-7	Water
218735	AN-7B-8	Water
218736	AN-7B-9	Water
218737	UMB-0C	Water
218738	UMB-0D	Water
218739	UMB-7C	Water
218740	UMB-7D	Water

Sample Receipt: 23658	Project: 06002.01.071	Client: DIV 20
VTSR Date: Jan 15, 2003	VTSR Time: 13:55:00	Manager: DAMMANN, MIKE

System ID	Customer Sample ID	Matrix
218741	CAT-0A-1	Water

SwRI Login Area
Division 1

Sample Receipt: 23658	Project: 06002.01.071	Client: DIV 20
VTSR Date: Jan 15, 2003	VTSR Time: 13:55:00	Manager: DAMMANN, MIKE

System ID	Customer Sample ID	Matrix
218742	CAT-0A-10	Water
218743	CAT-0A-2	Water
218744	CAT-0A-3	Water
218745	CAT-0A-4	Water
218746	CAT-0A-5	Water
218747	CAT-0A-6	Water
218748	CAT-0A-7	Water
218749	CAT-0A-8	Water
218750	CAT-0A-9	Water
218751	CAT-1A-2	Water
218752	CAT-1A-3	Water
218753	CAT-1A-4	Water
218754	CAT-1A-5	Water
218755	CAT-1A-6	Water
218756	CAT-1A-8	Water
218757	CAT-7B-1	Water
218758	CAT-7B-10	Water
218759	CAT-7B-2	Water
218760	CAT-7B-3	Water
218761	CAT-7B-4	Water
218762	CAT-7B-5	Water
218763	CAT-7B-6	Water
218764	CAT-7B-7	Water
218765	CAT-7B-8	Water
218766	CAT-7B-9	Water
218767	UMB-0A	Water
218768	UMB-0B	Water
218769	UMB-7A	Water
218770	UMB-7B	Water

Sample Receipt: 23659	Project: 03988.03.006	Client: COLUMBIA UNIVERS
VTSR Date: Jan 15, 2003	VTSR Time: 13:12:00	Manager: CAMANN, DAVID

System ID	Customer Sample ID	Matrix
218771	M1735	Puf

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

RAW DATA

Div 20
wo#23658
06002.01.071

010063

system id	elem	result	qual	units	rl	tv	rec	date	time
218741	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:20
218741	Al3082	0.5	U	mg/L	0.5			01/17/03	15:20
218741	As1890	0.1	U	mg/L	0.1			01/17/03	15:20
218741	B_2496	0.5	U	mg/L	0.5			01/17/03	15:20
218741	Ba4934	1.39		mg/L	0.025			01/17/03	15:20
218741	Be3130	0.025	U	mg/L	0.025			01/17/03	15:20
218741	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:20
218741	Ca3179	399		mg/L	0.5			01/17/03	15:20
218741	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:20
218741	Co2286	0.025	U	mg/L	0.025			01/17/03	15:20
218741	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:20
218741	Cu3247	0.05	U	mg/L	0.05			02/05/03	13:12
218741	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:20
218741	K_7664	0.5	U	mg/L	0.5			02/05/03	14:52
218741	La3988	0.05	U	mg/L	0.05			01/17/03	15:20
218741	Li6707	0.025	U	mg/L	0.025			01/17/03	15:20
218741	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:20
218741	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:20
218741	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:20
218741	Na5889	10.2		mg/L	0.25			02/05/03	14:52
218741	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:20
218741	P_1782	0.25	U	mg/L	0.25			01/17/03	15:20
218741	Pb220	0.1	U	mg/L	0.1			01/17/03	15:20
218741	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:20
218741	S_1820	0.25	U	mg/L	0.25			01/17/03	15:20
218741	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:20
218741	Se196	0.1	U	mg/L	0.1			01/17/03	15:20
218741	Si2881	31.4		mg/L	0.25			01/17/03	15:20
218741	Sn1899	0.05	U	mg/L	0.05			02/05/03	13:12
218741	Sr4215	0.256		mg/L	0.05			01/17/03	15:20
218741	Th2837	0.1	U	mg/L	0.1			01/17/03	15:20
218741	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:20
218741	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:20
218741	U_4090	NR						01/17/03	15:20
218741	V_2924	0.05	U	mg/L	0.05			01/17/03	15:20
218741	W_2079	0.1	U	mg/L	0.1			01/17/03	15:20
218741	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:20
218741	Zn2062	0.05	U	mg/L	0.05			02/05/03	13:12
218741	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:20
218741d	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Al3082	0.5	U	mg/L	0.5			01/17/03	15:25
218741d	As1890	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	B_2496	0.5	U	mg/L	0.5			01/17/03	15:25
218741d	Ba4934	1.39		mg/L	0.025			01/17/03	15:25
218741d	Be3130	0.025	U	mg/L	0.025			01/17/03	15:25
218741d	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	Ca3179	400		mg/L	0.5			01/17/03	15:25
218741d	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:25
218741d	Co2286	0.025	U	mg/L	0.025			01/17/03	15:25
218741d	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:25
218741d	La3988	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Li6707	0.025	U	mg/L	0.025			01/17/03	15:25

2/16/03

2/10/03

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7 Mar 03

Div 20
wo#23658
06002.01.071

010064

system id	elem	result	qual	units	rl	tv	rec	date	time
218741d	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:25
218741d	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:25
218741d	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	P_1782	0.25	U	mg/L	0.25			01/17/03	15:25
218741d	Pb220	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	S_1820	0.256		mg/L	0.25			01/17/03	15:25
218741d	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	Se196	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	Si2881	31.5		mg/L	0.25			01/17/03	15:25
218741d	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Sr4215	0.256		mg/L	0.05			01/17/03	15:25
218741d	Th2837	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	U_4090	NR						01/17/03	15:25
218741d	V_2924	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	W_2079	0.1	U	mg/L	0.1			01/17/03	15:25
218741d	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Zn2062	0.05	U	mg/L	0.05			01/17/03	15:25
218741d	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:25
218742	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Al3082	0.5	U	mg/L	0.5			01/17/03	15:30
218742	As1890	0.1	U	mg/L	0.1			01/17/03	15:30
218742	B_2496	0.5	U	mg/L	0.5			01/17/03	15:30
218742	Ba4934	0.727		mg/L	0.025			01/17/03	15:30
218742	Be3130	0.025	U	mg/L	0.025			01/17/03	15:30
218742	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:30
218742	Ca3179	452		mg/L	0.5			01/17/03	15:30
218742	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:30
218742	Co2286	0.025	U	mg/L	0.025			01/17/03	15:30
218742	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:30
218742	K_7664	0.5	U	mg/L	0.5			02/05/03	14:56
218742	La3988	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Li6707	0.025	U	mg/L	0.025			01/17/03	15:30
218742	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:30
218742	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:30
218742	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Na5889	3.13		mg/L	0.25			02/05/03	14:56
218742	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:30
218742	P_1782	0.25	U	mg/L	0.25			01/17/03	15:30
218742	Pb220	0.1	U	mg/L	0.1			01/17/03	15:30
218742	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:30
218742	S_1820	0.25	U	mg/L	0.25			01/17/03	15:30
218742	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:30
218742	Se196	0.1	U	mg/L	0.1			01/17/03	15:30
218742	Si2881	33.9		mg/L	0.25			01/17/03	15:30
218742	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Sr4215	0.292		mg/L	0.05			01/17/03	15:30
218742	Th2837	0.1	U	mg/L	0.1			01/17/03	15:30
218742	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:30

Div 20
wo#23658
06002.01.071

010065

system id	elem	result	qual	units	rl	tv	rec	date	time
218742	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:30
218742	U_4090	NR						01/17/03	15:30
218742	V_2924	0.05	U	mg/L	0.05			01/17/03	15:30
218742	W_2079	0.1	U	mg/L	0.1			01/17/03	15:30
218742	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:30
218742	Zn2062	0.196		mg/L	0.05			01/17/03	15:30
218742	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:30
218742s	Ag3280	0.512		mg/L	0.05	0.5	102.4%	01/17/03	15:34
218742s	Al3082	19.6		mg/L	0.5	20	97.8%	01/17/03	15:34
218742s	As1890	20.8		mg/L	0.1	20	103.9%	01/17/03	15:34
218742s	B_2496	0.5	U	mg/L	0.5			01/17/03	15:34
218742s	Ba4934	21.0		mg/L	0.025	20	101.2%	01/17/03	15:34
218742s	Be3130	0.510		mg/L	0.025	0.5	101.9%	01/17/03	15:34
218742s	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:34
218742s	Ca3179	652		mg/L	0.5	200	99.9%	01/17/03	15:34
218742s	Cd2265	0.499		mg/L	0.025	0.5	99.8%	01/17/03	15:34
218742s	Co2286	5.03		mg/L	0.025	5	100.6%	01/17/03	15:34
218742s	Cr2677	2.02		mg/L	0.05	2	101.2%	01/17/03	15:34
218742s	Cu3247	2.56		mg/L	0.05	2.5	102.3%	01/17/03	15:34
218742s	Fe2714	10.7		mg/L	0.5	10	106.7%	01/17/03	15:34
218742s	La3988	0.05	U	mg/L	0.05			01/17/03	15:34
218742s	Li6707	0.025	U	mg/L	0.025			01/17/03	15:34
218742s	Mg2790	205		mg/L	0.5	200	102.6%	01/17/03	15:34
218742s	Mn2576	5.07		mg/L	0.025	5	101.4%	01/17/03	15:34
218742s	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:34
218742s	Ni2316	4.95		mg/L	0.05	5	99.1%	01/17/03	15:34
218742s	P_1782	0.25	U	mg/L	0.25			01/17/03	15:34
218742s	Pb220	5.11		mg/L	0.1	5	102.2%	01/17/03	15:34
218742s	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:34
218742s	S_1820	0.305		mg/L	0.25			01/17/03	15:34
218742s	Sb2068	5.10		mg/L	0.1	5	102.1%	01/17/03	15:34
218742s	Se196	21.4		mg/L	0.1	20	107.1%	01/17/03	15:34
218742s	Si2881	76.3		mg/L	0.25	40	105.9%	01/17/03	15:34
218742s	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:34
218742s	Sr4215	0.299		mg/L	0.05			01/17/03	15:34
218742s	Th2837	0.1	U	mg/L	0.1			01/17/03	15:34
218742s	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:34
218742s	Tl1908	21.5		mg/L	0.1	20	107.5%	01/17/03	15:34
218742s	U_4090	NR						01/17/03	15:34
218742s	V_2924	5.06		mg/L	0.05	5	101.3%	01/17/03	15:34
218742s	W_2079	0.1	U	mg/L	0.1			01/17/03	15:34
218742s	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:34
218742s	Zn2062	5.25		mg/L	0.05	5	101.1%	01/17/03	15:34
218742s	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:34
218743	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Al3082	0.5	U	mg/L	0.5			01/17/03	15:39
218743	As1890	0.1	U	mg/L	0.1			01/17/03	15:39
218743	B_2496	0.5	U	mg/L	0.5			01/17/03	15:39
218743	Ba4934	0.555		mg/L	0.025			01/17/03	15:39
218743	Be3130	0.025	U	mg/L	0.025			01/17/03	15:39
218743	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:39
218743	Ca3179	406		mg/L	0.5			01/17/03	15:39
218743	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:39
218743	Co2286	0.025	U	mg/L	0.025			01/17/03	15:39

Div 20
wo#23658
06002.01.071

010066

system id	elem	result	qual	units	rl	tv	rec	date	time
218743	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:39
218743	K_7664	0.5	U	mg/L	0.5			02/05/03	15:01
218743	La3988	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Li6707	0.025	U	mg/L	0.025			01/17/03	15:39
218743	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:39
218743	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:39
218743	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Na5889	2.31		mg/L	0.25			02/05/03	15:01
218743	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:39
218743	P_1782	0.25	U	mg/L	0.25			01/17/03	15:39
218743	Pb220	0.1	U	mg/L	0.1			01/17/03	15:39
218743	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:39
218743	S_1820	0.25	U	mg/L	0.25			01/17/03	15:39
218743	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:39
218743	Se196	0.1	U	mg/L	0.1			01/17/03	15:39
218743	Si2881	31.1		mg/L	0.25			01/17/03	15:39
218743	Sn1899	0.05	U	mg/L	0.05			02/05/03	13:17
218743	Sr4215	0.260		mg/L	0.05			01/17/03	15:39
218743	Th2837	0.1	U	mg/L	0.1			01/17/03	15:39
218743	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:39
218743	U_4090	NR						01/17/03	15:39
218743	V_2924	0.05	U	mg/L	0.05			01/17/03	15:39
218743	W_2079	0.1	U	mg/L	0.1			01/17/03	15:39
218743	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:39
218743	Zn2062	0.157		mg/L	0.05			01/17/03	15:39
218743	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:39
218743d	K_7664	0.5	U	mg/L	0.5			02/05/03	15:05
218743d	Na5889	2.21		mg/L	0.25			02/05/03	15:05
218743s	K_7664	89.8		mg/L	0.5	100	89.8%	02/05/03	15:10
218743s	Na3302	91.9		mg/L	0.25	100	89.6%	02/05/03	15:10
218744	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Al3082	0.5	U	mg/L	0.5			01/17/03	15:44
218744	As1890	0.1	U	mg/L	0.1			01/17/03	15:44
218744	B_2496	0.5	U	mg/L	0.5			01/17/03	15:44
218744	Ba4934	1.58		mg/L	0.025			01/17/03	15:44
218744	Be3130	0.025	U	mg/L	0.025			01/17/03	15:44
218744	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:44
218744	Ca3179	413		mg/L	0.5			01/17/03	15:44
218744	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:44
218744	Co2286	0.025	U	mg/L	0.025			01/17/03	15:44
218744	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:44
218744	K_7664	0.5	U	mg/L	0.5			02/05/03	15:14
218744	La3988	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Li6707	0.025	U	mg/L	0.025			01/17/03	15:44
218744	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:44
218744	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:44
218744	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Na5889	10.4		mg/L	0.25			02/05/03	15:14
218744	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:44

Div 20
wo#23658
06002.01.071

010067

system id	elem	result	qual	units	rl	tv	rec	date	time
218744	P_1782	0.25	U	mg/L	0.25			01/17/03	15:44
218744	Pb220	0.1	U	mg/L	0.1			01/17/03	15:44
218744	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:44
218744	S_1820	0.274		mg/L	0.25			01/17/03	15:44
218744	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:44
218744	Se196	0.1	U	mg/L	0.1			01/17/03	15:44
218744	Si2881	31.6		mg/L	0.25			01/17/03	15:44
218744	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Sr4215	0.269		mg/L	0.05			01/17/03	15:44
218744	Th2837	0.1	U	mg/L	0.1			01/17/03	15:44
218744	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:44
218744	U_4090	NR						01/17/03	15:44
218744	V_2924	0.05	U	mg/L	0.05			01/17/03	15:44
218744	W_2079	0.1	U	mg/L	0.1			01/17/03	15:44
218744	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Zn2062	0.05	U	mg/L	0.05			01/17/03	15:44
218744	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:44
218745	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Al3082	0.5	U	mg/L	0.5			01/17/03	15:48
218745	As1890	0.1	U	mg/L	0.1			01/17/03	15:48
218745	B_2496	0.5	U	mg/L	0.5			01/17/03	15:48
218745	Ba4934	0.717		mg/L	0.025			01/17/03	15:48
218745	Be3130	0.025	U	mg/L	0.025			01/17/03	15:48
218745	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:48
218745	Ca3179	413		mg/L	0.5			01/17/03	15:48
218745	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:48
218745	Co2286	0.025	U	mg/L	0.025			01/17/03	15:48
218745	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:48
218745	K_7664	0.5	U	mg/L	0.5			02/05/03	15:19
218745	La3988	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Li6707	0.025	U	mg/L	0.025			01/17/03	15:48
218745	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:48
218745	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:48
218745	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Na5889	2.76		mg/L	0.25			02/05/03	15:19
218745	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:48
218745	P_1782	0.25	U	mg/L	0.25			01/17/03	15:48
218745	Pb220	0.1	U	mg/L	0.1			01/17/03	15:48
218745	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:48
218745	S_1820	0.25	U	mg/L	0.25			01/17/03	15:48
218745	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:48
218745	Se196	0.1	U	mg/L	0.1			01/17/03	15:48
218745	Si2881	31.4		mg/L	0.25			01/17/03	15:48
218745	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Sr4215	0.266		mg/L	0.05			01/17/03	15:48
218745	Th2837	0.1	U	mg/L	0.1			01/17/03	15:48
218745	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:48
218745	U_4090	NR						01/17/03	15:48
218745	V_2924	0.05	U	mg/L	0.05			01/17/03	15:48
218745	W_2079	0.1	U	mg/L	0.1			01/17/03	15:48

Div 20
wo#23658
06002.01.071

010068

system id	elem	result	qual	units	rl	tv	rec	date	time
218745	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:48
218745	Zn2062	0.093		mg/L	0.05			01/17/03	15:48
218745	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:48
218746	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Al3082	0.5	U	mg/L	0.5			01/17/03	15:53
218746	As1890	0.1	U	mg/L	0.1			01/17/03	15:53
218746	B_2496	0.5	U	mg/L	0.5			01/17/03	15:53
218746	Ba4934	0.807		mg/L	0.025			01/17/03	15:53
218746	Be3130	0.025	U	mg/L	0.025			01/17/03	15:53
218746	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:53
218746	Ca3179	418		mg/L	0.5			01/17/03	15:53
218746	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:53
218746	Co2286	0.025	U	mg/L	0.025			01/17/03	15:53
218746	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:53
218746	K_7664	0.5	U	mg/L	0.5			02/05/03	15:24
218746	La3988	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Li6707	0.025	U	mg/L	0.025			01/17/03	15:53
218746	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:53
218746	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:53
218746	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Na5889	1.99		mg/L	0.25			02/05/03	15:24
218746	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:53
218746	P_1782	0.25	U	mg/L	0.25			01/17/03	15:53
218746	Pb220	0.1	U	mg/L	0.1			01/17/03	15:53
218746	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:53
218746	S_1820	0.25	U	mg/L	0.25			01/17/03	15:53
218746	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:53
218746	Se196	0.1	U	mg/L	0.1			01/17/03	15:53
218746	Si2881	31.9		mg/L	0.25			01/17/03	15:53
218746	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Sr4215	0.271		mg/L	0.05			01/17/03	15:53
218746	Th2837	0.1	U	mg/L	0.1			01/17/03	15:53
218746	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:53
218746	U_4090	NR						01/17/03	15:53
218746	V_2924	0.05	U	mg/L	0.05			01/17/03	15:53
218746	W_2079	0.1	U	mg/L	0.1			01/17/03	15:53
218746	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:53
218746	Zn2062	0.197		mg/L	0.05			01/17/03	15:53
218746	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:53
218747	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Al3082	0.5	U	mg/L	0.5			01/17/03	16:11
218747	As1890	0.1	U	mg/L	0.1			01/17/03	16:11
218747	B_2496	0.5	U	mg/L	0.5			01/17/03	16:11
218747	Ba4934	0.597		mg/L	0.025			01/17/03	16:11
218747	Be3130	0.025	U	mg/L	0.025			01/17/03	16:11
218747	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:11
218747	Ca3179	426		mg/L	0.5			01/17/03	16:11
218747	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:11
218747	Co2286	0.025	U	mg/L	0.025			01/17/03	16:11
218747	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:11

Div 20
wo#23658
06002.01.071

010069

system id	elem	result	qual	units	rl	tv	rec	date	time
218747	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:11
218747	K_7664	0.5	U	mg/L	0.5			02/05/03	15:44
218747	La3988	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Li6707	0.025	U	mg/L	0.025			01/17/03	16:11
218747	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:11
218747	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:11
218747	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Na5889	2.07		mg/L	0.25			02/05/03	15:44
218747	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:11
218747	P_1782	0.25	U	mg/L	0.25			01/17/03	16:11
218747	Pb220	0.1	U	mg/L	0.1			01/17/03	16:11
218747	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:11
218747	S_1820	0.25	U	mg/L	0.25			01/17/03	16:11
218747	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:11
218747	Se196	0.1	U	mg/L	0.1			01/17/03	16:11
218747	Si2881	32.1		mg/L	0.25			01/17/03	16:11
218747	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Sr4215	0.274		mg/L	0.05			01/17/03	16:11
218747	Th2837	0.1	U	mg/L	0.1			01/17/03	16:11
218747	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:11
218747	U_4090	NR						01/17/03	16:11
218747	V_2924	0.05	U	mg/L	0.05			01/17/03	16:11
218747	W_2079	0.1	U	mg/L	0.1			01/17/03	16:11
218747	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Zn2062	0.05	U	mg/L	0.05			01/17/03	16:11
218747	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:11
218748	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Al3082	0.5	U	mg/L	0.5			01/17/03	16:16
218748	As1890	0.1	U	mg/L	0.1			01/17/03	16:16
218748	B_2496	0.5	U	mg/L	0.5			01/17/03	16:16
218748	Ba4934	0.664		mg/L	0.025			01/17/03	16:16
218748	Be3130	0.025	U	mg/L	0.025			01/17/03	16:16
218748	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:16
218748	Ca3179	431		mg/L	0.5			01/17/03	16:16
218748	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:16
218748	Co2286	0.025	U	mg/L	0.025			01/17/03	16:16
218748	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:16
218748	K_7664	0.5	U	mg/L	0.5			02/05/03	15:49
218748	La3988	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Li6707	0.025	U	mg/L	0.025			01/17/03	16:16
218748	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:16
218748	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:16
218748	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Na5889	2.42		mg/L	0.25			02/05/03	15:49
218748	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:16
218748	P_1782	0.25	U	mg/L	0.25			01/17/03	16:16
218748	Pb220	0.1	U	mg/L	0.1			01/17/03	16:16
218748	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:16
218748	S_1820	0.25	U	mg/L	0.25			01/17/03	16:16
218748	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:16
218748	Se196	0.1	U	mg/L	0.1			01/17/03	16:16

Div 20
wo#23658
06002.01.071

010070

system id	elem	result	qual	units	rl	tv	rec	date	time
218748	Si2881	32.6		mg/L	0.25			01/17/03	16:16
218748	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Sr4215	0.279		mg/L	0.05			01/17/03	16:16
218748	Th2837	0.1	U	mg/L	0.1			01/17/03	16:16
218748	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:16
218748	U_4090	NR						01/17/03	16:16
218748	V_2924	0.05	U	mg/L	0.05			01/17/03	16:16
218748	W_2079	0.1	U	mg/L	0.1			01/17/03	16:16
218748	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:16
218748	Zn2062	0.051		mg/L	0.05			01/17/03	16:16
218748	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:16
218749	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Al3082	0.5	U	mg/L	0.5			01/17/03	16:20
218749	As1890	0.1	U	mg/L	0.1			01/17/03	16:20
218749	B_2496	0.5	U	mg/L	0.5			01/17/03	16:20
218749	Ba4934	1.40		mg/L	0.025			01/17/03	16:20
218749	Be3130	0.025	U	mg/L	0.025			01/17/03	16:20
218749	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:20
218749	Ca3179	432		mg/L	0.5			01/17/03	16:20
218749	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:20
218749	Co2286	0.025	U	mg/L	0.025			01/17/03	16:20
218749	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:20
218749	K_7664	0.5	U	mg/L	0.5			02/05/03	15:53
218749	La3988	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Li6707	0.025	U	mg/L	0.025			01/17/03	16:20
218749	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:20
218749	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:20
218749	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Na5889	10.1		mg/L	0.25			02/05/03	15:53
218749	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:20
218749	P_1782	0.25	U	mg/L	0.25			01/17/03	16:20
218749	Pb220	0.1	U	mg/L	0.1			01/17/03	16:20
218749	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:20
218749	S_1820	0.302		mg/L	0.25			01/17/03	16:20
218749	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:20
218749	Se196	0.1	U	mg/L	0.1			01/17/03	16:20
218749	Si2881	32.6		mg/L	0.25			01/17/03	16:20
218749	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Sr4215	0.279		mg/L	0.05			01/17/03	16:20
218749	Th2837	0.1	U	mg/L	0.1			01/17/03	16:20
218749	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:20
218749	U_4090	NR						01/17/03	16:20
218749	V_2924	0.05	U	mg/L	0.05			01/17/03	16:20
218749	W_2079	0.1	U	mg/L	0.1			01/17/03	16:20
218749	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:20
218749	Zn2062	0.081		mg/L	0.05			01/17/03	16:20
218749	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:20
218750	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Al3082	0.5	U	mg/L	0.5			01/17/03	16:25
218750	As1890	0.1	U	mg/L	0.1			01/17/03	16:25

Div 20
wo#23658
06002.01.071

010071

system id	elem	result	qual	units	rl	tv	rec	date	time
218750	B_2496	0.5	U	mg/L	0.5			01/17/03	16:25
218750	Ba4934	1.43		mg/L	0.025			01/17/03	16:25
218750	Be3130	0.025	U	mg/L	0.025			01/17/03	16:25
218750	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:25
218750	Ca3179	438		mg/L	0.5			01/17/03	16:25
218750	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:25
218750	Co2286	0.025	U	mg/L	0.025			01/17/03	16:25
218750	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:25
218750	K_7664	0.5	U	mg/L	0.5			02/05/03	15:58
218750	La3988	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Li6707	0.025	U	mg/L	0.025			01/17/03	16:25
218750	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:25
218750	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:25
218750	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Na5889	10.5		mg/L	0.25			02/05/03	15:58
218750	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:25
218750	P_1782	0.25	U	mg/L	0.25			01/17/03	16:25
218750	Pb220	0.1	U	mg/L	0.1			01/17/03	16:25
218750	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:25
218750	S_1820	0.329		mg/L	0.25			01/17/03	16:25
218750	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:25
218750	Se196	0.1	U	mg/L	0.1			01/17/03	16:25
218750	Si2881	33.0		mg/L	0.25			01/17/03	16:25
218750	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Sr4215	0.284		mg/L	0.05			01/17/03	16:25
218750	Th2837	0.1	U	mg/L	0.1			01/17/03	16:25
218750	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:25
218750	U_4090	NR						01/17/03	16:25
218750	V_2924	0.05	U	mg/L	0.05			01/17/03	16:25
218750	W_2079	0.1	U	mg/L	0.1			01/17/03	16:25
218750	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:25
218750	Zn2062	0.068		mg/L	0.05			01/17/03	16:25
218750	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:25
218751	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Al3082	0.5	U	mg/L	0.5			01/17/03	16:30
218751	As1890	0.1	U	mg/L	0.1			01/17/03	16:30
218751	B_2496	0.5	U	mg/L	0.5			01/17/03	16:30
218751	Ba4934	0.025	U	mg/L	0.025			01/17/03	16:30
218751	Be3130	0.025	U	mg/L	0.025			01/17/03	16:30
218751	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:30
218751	Ca3179	489		mg/L	0.5			01/17/03	16:30
218751	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:30
218751	Co2286	0.025	U	mg/L	0.025			01/17/03	16:30
218751	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:30
218751	K_7664	1.36		mg/L	0.5			02/05/03	16:02
218751	La3988	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Li6707	0.025	U	mg/L	0.025			01/17/03	16:30
218751	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:30
218751	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:30

Div 20
wo#23658
06002.01.071

010072

system id	elem	result	qual	units	rl	tv	rec	date	time
218751	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Na5889	0.731		mg/L	0.25			02/05/03	16:02
218751	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:30
218751	P_1782	0.25	U	mg/L	0.25			01/17/03	16:30
218751	Pb220	0.1	U	mg/L	0.1			01/17/03	16:30
218751	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:30
218751	S_1820	0.25	U	mg/L	0.25			01/17/03	16:30
218751	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:30
218751	Se196	0.1	U	mg/L	0.1			01/17/03	16:30
218751	Si2881	27.9		mg/L	0.25			01/17/03	16:30
218751	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Sr4215	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Th2837	0.1	U	mg/L	0.1			01/17/03	16:30
218751	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:30
218751	U_4090	NR						01/17/03	16:30
218751	V_2924	0.05	U	mg/L	0.05			01/17/03	16:30
218751	W_2079	0.1	U	mg/L	0.1			01/17/03	16:30
218751	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Zn2062	0.05	U	mg/L	0.05			01/17/03	16:30
218751	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:30
218752	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Al3082	0.5	U	mg/L	0.5			01/17/03	16:35
218752	As1890	0.1	U	mg/L	0.1			01/17/03	16:35
218752	B_2496	0.5	U	mg/L	0.5			01/17/03	16:35
218752	Ba4934	0.025	U	mg/L	0.025			01/17/03	16:35
218752	Be3130	0.025	U	mg/L	0.025			01/17/03	16:35
218752	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:35
218752	Ca3179	467		mg/L	0.5			01/17/03	16:35
218752	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:35
218752	Co2286	0.025	U	mg/L	0.025			01/17/03	16:35
218752	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:35
218752	K_7664	0.537		mg/L	0.5			02/05/03	16:07
218752	La3988	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Li6707	0.025	U	mg/L	0.025			01/17/03	16:35
218752	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:35
218752	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:35
218752	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Na5889	1.46		mg/L	0.25			02/05/03	16:07
218752	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:35
218752	P_1782	0.25	U	mg/L	0.25			01/17/03	16:35
218752	Pb220	0.1	U	mg/L	0.1			01/17/03	16:35
218752	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:35
218752	S_1820	0.25	U	mg/L	0.25			01/17/03	16:35
218752	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:35
218752	Se196	0.1	U	mg/L	0.1			01/17/03	16:35
218752	Si2881	39.2		mg/L	0.25			01/17/03	16:35
218752	Sn1899	0.05	U	mg/L	0.05			02/05/03	13:21
218752	Sr4215	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Th2837	0.1	U	mg/L	0.1			01/17/03	16:35
218752	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:35

Div 20
wo#23658
06002.01.071

010073

system id	elem	result	qual	units	rl	tv	rec	date	time
218752	U_4090	NR						01/17/03	16:35
218752	V_2924	0.05	U	mg/L	0.05			01/17/03	16:35
218752	W_2079	0.1	U	mg/L	0.1			01/17/03	16:35
218752	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Zn2062	0.05	U	mg/L	0.05			01/17/03	16:35
218752	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:35
218753	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Al3082	0.5	U	mg/L	0.5			01/17/03	16:39
218753	As1890	0.1	U	mg/L	0.1			01/17/03	16:39
218753	B_2496	0.5	U	mg/L	0.5			01/17/03	16:39
218753	Ba4934	0.025	U	mg/L	0.025			01/17/03	16:39
218753	Be3130	0.025	U	mg/L	0.025			01/17/03	16:39
218753	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:39
218753	Ca3179	430		mg/L	0.5			01/17/03	16:39
218753	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:39
218753	Co2286	0.025	U	mg/L	0.025			01/17/03	16:39
218753	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:39
218753	K_7664	2.04		mg/L	0.5			02/05/03	16:12
218753	La3988	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Li6707	0.025	U	mg/L	0.025			01/17/03	16:39
218753	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:39
218753	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:39
218753	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Na5889	1.22		mg/L	0.25			02/05/03	16:12
218753	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:39
218753	P_1782	0.25	U	mg/L	0.25			01/17/03	16:39
218753	Pb220	0.1	U	mg/L	0.1			01/17/03	16:39
218753	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:39
218753	S_1820	0.25	U	mg/L	0.25			01/17/03	16:39
218753	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:39
218753	Se196	0.1	U	mg/L	0.1			01/17/03	16:39
218753	Si2881	41.2		mg/L	0.25			01/17/03	16:39
218753	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Sr4215	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Th2837	0.1	U	mg/L	0.1			01/17/03	16:39
218753	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:39
218753	U_4090	NR						01/17/03	16:39
218753	V_2924	0.05	U	mg/L	0.05			01/17/03	16:39
218753	W_2079	0.1	U	mg/L	0.1			01/17/03	16:39
218753	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Zn2062	0.05	U	mg/L	0.05			01/17/03	16:39
218753	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:39
218754	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Al3082	0.5	U	mg/L	0.5			01/17/03	16:44
218754	As1890	0.1	U	mg/L	0.1			01/17/03	16:44
218754	B_2496	0.5	U	mg/L	0.5			01/17/03	16:44
218754	Ba4934	0.025	U	mg/L	0.025			02/05/03	16:16
218754	Be3130	0.025	U	mg/L	0.025			01/17/03	16:44
218754	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:44
218754	Ca3179	451		mg/L	0.5			01/17/03	16:44
218754	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:44

Div 20
wo#23658
06002.01.071

010074

system id	elem	result	qual	units	rl	tv	rec	date	time
218754	Co2286	0.025	U	mg/L	0.025			01/17/03	16:44
218754	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:44
218754	K 7664	0.5	U	mg/L	0.5			02/05/03	16:16
218754	La3988	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Li6707	0.025	U	mg/L	0.025			01/17/03	16:44
218754	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:44
218754	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:44
218754	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Na5889	1.95		mg/L	0.25			02/05/03	16:16
218754	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:44
218754	P 1782	0.25	U	mg/L	0.25			01/17/03	16:44
218754	Pb220	0.1	U	mg/L	0.1			01/17/03	16:44
218754	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:44
218754	S 1820	0.25	U	mg/L	0.25			01/17/03	16:44
218754	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:44
218754	Se196	0.1	U	mg/L	0.1			01/17/03	16:44
218754	Si2881	35.5		mg/L	0.25			01/17/03	16:44
218754	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Sr4215	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Th2837	0.1	U	mg/L	0.1			01/17/03	16:44
218754	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:44
218754	U 4090	NR						01/17/03	16:44
218754	V 2924	0.05	U	mg/L	0.05			01/17/03	16:44
218754	W 2079	0.1	U	mg/L	0.1			01/17/03	16:44
218754	Y 3710	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Zn2062	0.05	U	mg/L	0.05			01/17/03	16:44
218754	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:44
218755	Ag3280	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Al3082	0.5	U	mg/L	0.5			01/17/03	16:49
218755	As1890	0.1	U	mg/L	0.1			01/17/03	16:49
218755	B 2496	0.5	U	mg/L	0.5			01/17/03	16:49
218755	Ba4934	0.025	U	mg/L	0.025			01/17/03	16:49
218755	Be3130	0.025	U	mg/L	0.025			01/17/03	16:49
218755	Bi2230	0.1	U	mg/L	0.1			01/17/03	16:49
218755	Ca3179	394		mg/L	0.5			01/17/03	16:49
218755	Cd2265	0.025	U	mg/L	0.025			01/17/03	16:49
218755	Co2286	0.025	U	mg/L	0.025			01/17/03	16:49
218755	Cr2677	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Cu3247	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Fe2714	0.5	U	mg/L	0.5			01/17/03	16:49
218755	K 7664	0.682		mg/L	0.5			02/05/03	16:21
218755	La3988	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Li6707	0.025	U	mg/L	0.025			01/17/03	16:49
218755	Mg2790	0.5	U	mg/L	0.5			01/17/03	16:49
218755	Mn2576	0.025	U	mg/L	0.025			01/17/03	16:49
218755	Mo2020	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Na5889	0.693		mg/L	0.25			02/05/03	16:21
218755	Ni2316	0.05	U	mg/L	0.05			01/17/03	16:49
218755	P 1782	0.25	U	mg/L	0.25			01/17/03	16:49
218755	Pb220	0.1	U	mg/L	0.1			01/17/03	16:49
218755	Pd3404	0.1	U	mg/L	0.1			01/17/03	16:49

Div 20
wo#23658
06002.01.071

010075

system id	elem	result	qual	units	rl	tv	rec	date	time
218755	S_1820	0.25	U	mg/L	0.25			01/17/03	16:49
218755	Sb2068	0.1	U	mg/L	0.1			01/17/03	16:49
218755	Se196	0.1	U	mg/L	0.1			01/17/03	16:49
218755	Si2881	37.5		mg/L	0.25			01/17/03	16:49
218755	Sn1899	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Sr4215	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Th2837	0.1	U	mg/L	0.1			01/17/03	16:49
218755	Ti3349	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Tl1908	0.1	U	mg/L	0.1			01/17/03	16:49
218755	U_4090	NR						01/17/03	16:49
218755	V_2924	0.05	U	mg/L	0.05			01/17/03	16:49
218755	W_2079	0.1	U	mg/L	0.1			01/17/03	16:49
218755	Y_3710	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Zn2062	0.05	U	mg/L	0.05			01/17/03	16:49
218755	Zr3496	0.05	U	mg/L	0.05			01/17/03	16:49
218756	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Al3082	0.5	U	mg/L	0.5			01/17/03	17:20
218756	As1890	0.1	U	mg/L	0.1			01/17/03	17:20
218756	B_2496	0.5	U	mg/L	0.5			01/17/03	17:20
218756	Ba4934	0.025	U	mg/L	0.025			01/17/03	17:20
218756	Be3130	0.025	U	mg/L	0.025			01/17/03	17:20
218756	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:20
218756	Ca3179	391		mg/L	0.5			01/17/03	17:20
218756	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:20
218756	Co2286	0.025	U	mg/L	0.025			01/17/03	17:20
218756	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:20
218756	K_7664	0.561		mg/L	0.5			02/05/03	16:51
218756	La3988	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Li6707	0.025	U	mg/L	0.025			01/17/03	17:20
218756	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:20
218756	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:20
218756	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Na5889	2.48		mg/L	0.25			02/05/03	16:51
218756	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:20
218756	P_1782	0.25	U	mg/L	0.25			01/17/03	17:20
218756	Pb220	0.1	U	mg/L	0.1			01/17/03	17:20
218756	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:20
218756	S_1820	0.25	U	mg/L	0.25			01/17/03	17:20
218756	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:20
218756	Se196	0.1	U	mg/L	0.1			01/17/03	17:20
218756	Si2881	33.8		mg/L	0.25			01/17/03	17:20
218756	Sn1899	0.05	U	mg/L	0.05			02/05/03	13:26
218756	Sr4215	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Th2837	0.1	U	mg/L	0.1			01/17/03	17:20
218756	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:20
218756	U_4090	NR						01/17/03	17:20
218756	V_2924	0.05	U	mg/L	0.05			01/17/03	17:20
218756	W_2079	0.1	U	mg/L	0.1			01/17/03	17:20
218756	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Zn2062	0.05	U	mg/L	0.05			01/17/03	17:20
218756	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:20

Div 20
wo#23658
06002.01.071

010076

system id	elem	result	qual	units	rl	tv	rec	date	time
218756d	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Al3082	0.5	U	mg/L	0.5			01/17/03	17:24
218756d	As1890	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	B_2496	0.5	U	mg/L	0.5			01/17/03	17:24
218756d	Ba4934	0.025	U	mg/L	0.025			01/17/03	17:24
218756d	Be3130	0.025	U	mg/L	0.025			01/17/03	17:24
218756d	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	Ca3179	392		mg/L	0.5			01/17/03	17:24
218756d	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:24
218756d	Co2286	0.025	U	mg/L	0.025			01/17/03	17:24
218756d	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:24
218756d	K_7664	0.558		mg/L	0.5			02/05/03	16:56
218756d	La3988	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Li6707	0.025	U	mg/L	0.025			01/17/03	17:24
218756d	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:24
218756d	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:24
218756d	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Na5889	2.51		mg/L	0.25			02/05/03	16:56
218756d	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	P_1782	0.25	U	mg/L	0.25			01/17/03	17:24
218756d	Pb220	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	S_1820	0.25	U	mg/L	0.25			01/17/03	17:24
218756d	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	Se196	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	Si2881	33.7		mg/L	0.25			01/17/03	17:24
218756d	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Sr4215	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Th2837	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	U_4090	NR						01/17/03	17:24
218756d	V_2924	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	W_2079	0.1	U	mg/L	0.1			01/17/03	17:24
218756d	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Zn2062	0.05	U	mg/L	0.05			01/17/03	17:24
218756d	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:24
218756s	K_7664	90.0		mg/L	0.5	100	89.4%	02/05/03	17:01
218756s	Na3302	89.4		mg/L	0.25	100	87.0%	02/05/03	17:01
218757	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Al3082	0.5	U	mg/L	0.5			01/17/03	17:29
218757	As1890	0.1	U	mg/L	0.1			01/17/03	17:29
218757	B_2496	0.5	U	mg/L	0.5			01/17/03	17:29
218757	Ba4934	1.30		mg/L	0.025			01/17/03	17:29
218757	Be3130	0.025	U	mg/L	0.025			01/17/03	17:29
218757	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:29
218757	Ca3179	401		mg/L	0.5			01/17/03	17:29
218757	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:29
218757	Co2286	0.025	U	mg/L	0.025			01/17/03	17:29
218757	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:29

Div 20
wo#23658
06002.01.071

010077

system id	elem	result	qual	units	rl	tv	rec	date	time
218757	K_7664	0.5	U	mg/L	0.5			02/05/03	17:06
218757	La3988	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Li6707	0.025	U	mg/L	0.025			01/17/03	17:29
218757	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:29
218757	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:29
218757	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Na5889	10.7		mg/L	0.25			02/05/03	17:06
218757	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:29
218757	P_1782	0.25	U	mg/L	0.25			01/17/03	17:29
218757	Pb220	0.1	U	mg/L	0.1			01/17/03	17:29
218757	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:29
218757	S_1820	0.25	U	mg/L	0.25			01/17/03	17:29
218757	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:29
218757	Se196	0.1	U	mg/L	0.1			01/17/03	17:29
218757	Si2881	31.2		mg/L	0.25			01/17/03	17:29
218757	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Sr4215	0.261		mg/L	0.05			01/17/03	17:29
218757	Th2837	0.1	U	mg/L	0.1			01/17/03	17:29
218757	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:29
218757	U_4090	NR						01/17/03	17:29
218757	V_2924	0.05	U	mg/L	0.05			01/17/03	17:29
218757	W_2079	0.1	U	mg/L	0.1			01/17/03	17:29
218757	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:29
218757	Zn2062	0.067		mg/L	0.05			01/17/03	17:29
218757	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:29
218757s	Ag3280	0.505		mg/L	0.05	0.5	100.9%	01/17/03	17:34
218757s	Al3082	19.3		mg/L	0.5	20	96.7%	01/17/03	17:34
218757s	As1890	20.7		mg/L	0.1	20	103.3%	01/17/03	17:34
218757s	B_2496	0.5	U	mg/L	0.5			01/17/03	17:34
218757s	Ba4934	21.3		mg/L	0.025	20	99.8%	01/17/03	17:34
218757s	Be3130	0.509		mg/L	0.025	0.5	101.9%	01/17/03	17:34
218757s	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:34
218757s	Ca3179	597		mg/L	0.5	200	98.2%	01/17/03	17:34
218757s	Cd2265	0.499		mg/L	0.025	0.5	99.8%	01/17/03	17:34
218757s	Co2286	5.00		mg/L	0.025	5	100.1%	01/17/03	17:34
218757s	Cr2677	2.02		mg/L	0.05	2	101.2%	01/17/03	17:34
218757s	Cu3247	2.52		mg/L	0.05	2.5	100.6%	01/17/03	17:34
218757s	Fe2714	10.6		mg/L	0.5	10	106.1%	01/17/03	17:34
218757s	La3988	0.05	U	mg/L	0.05			01/17/03	17:34
218757s	Li6707	0.025	U	mg/L	0.025			01/17/03	17:34
218757s	Mg2790	204		mg/L	0.5	200	102.1%	01/17/03	17:34
218757s	Mn2576	5.04		mg/L	0.025	5	100.7%	01/17/03	17:34
218757s	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:34
218757s	Ni2316	4.94		mg/L	0.05	5	98.7%	01/17/03	17:34
218757s	P_1782	0.25	U	mg/L	0.25			01/17/03	17:34
218757s	Pb220	5.06		mg/L	0.1	5	101.2%	01/17/03	17:34
218757s	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:34
218757s	S_1820	0.25	U	mg/L	0.25			01/17/03	17:34
218757s	Sb2068	5.08		mg/L	0.1	5	101.7%	01/17/03	17:34
218757s	Se196	21.3		mg/L	0.1	20	106.3%	01/17/03	17:34
218757s	Si2881	72.5		mg/L	0.25	40	103.3%	01/17/03	17:34
218757s	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:34
218757s	Sr4215	0.265		mg/L	0.05			01/17/03	17:34

Div 20
wo#23658
06002.01.071

010078

system id	elem	result	qual	units	rl	tv	rec	date	time
218757s	Th2837	0.1	U	mg/L	0.1			01/17/03	17:34
218757s	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:34
218757s	Tl1908	21.3		mg/L	0.1	20	106.5%	01/17/03	17:34
218757s	U_4090	NR						01/17/03	17:34
218757s	V_2924	5.03		mg/L	0.05	5	100.6%	01/17/03	17:34
218757s	W_2079	0.1	U	mg/L	0.1			01/17/03	17:34
218757s	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:34
218757s	Zn2062	5.15		mg/L	0.05	5	101.7%	01/17/03	17:34
218757s	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:34
218758	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Al3082	0.5	U	mg/L	0.5			01/17/03	17:38
218758	As1890	0.1	U	mg/L	0.1			01/17/03	17:38
218758	B_2496	0.5	U	mg/L	0.5			01/17/03	17:38
218758	Ba4934	0.653		mg/L	0.025			01/17/03	17:38
218758	Be3130	0.025	U	mg/L	0.025			01/17/03	17:38
218758	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:38
218758	Ca3179	430		mg/L	0.5			01/17/03	17:38
218758	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:38
218758	Co2286	0.025	U	mg/L	0.025			01/17/03	17:38
218758	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:38
218758	K_7664	0.5	U	mg/L	0.5			02/05/03	17:11
218758	La3988	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Li6707	0.025	U	mg/L	0.025			01/17/03	17:38
218758	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:38
218758	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:38
218758	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Na5889	2.59		mg/L	0.25			02/05/03	17:11
218758	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:38
218758	P_1782	0.25	U	mg/L	0.25			01/17/03	17:38
218758	Pb220	0.1	U	mg/L	0.1			01/17/03	17:38
218758	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:38
218758	S_1820	0.25	U	mg/L	0.25			01/17/03	17:38
218758	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:38
218758	Se196	0.1	U	mg/L	0.1			01/17/03	17:38
218758	Si2881	32.2		mg/L	0.25			01/17/03	17:38
218758	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Sr4215	0.286		mg/L	0.05			01/17/03	17:38
218758	Th2837	0.1	U	mg/L	0.1			01/17/03	17:38
218758	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:38
218758	U_4090	NR						01/17/03	17:38
218758	V_2924	0.05	U	mg/L	0.05			01/17/03	17:38
218758	W_2079	0.1	U	mg/L	0.1			01/17/03	17:38
218758	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:38
218758	Zn2062	0.095		mg/L	0.05			01/17/03	17:38
218758	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:38
218759	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Al3082	0.5	U	mg/L	0.5			01/17/03	17:43
218759	As1890	0.1	U	mg/L	0.1			01/17/03	17:43
218759	B_2496	0.5	U	mg/L	0.5			01/17/03	17:43
218759	Ba4934	0.626		mg/L	0.025			01/17/03	17:43
218759	Be3130	0.025	U	mg/L	0.025			01/17/03	17:43

Div 20
wo#23658
06002.01.071

010079

system id	elem	result	qual	units	rl	tv	rec	date	time
218759	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:43
218759	Ca3179	401		mg/L	0.5			01/17/03	17:43
218759	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:43
218759	Co2286	0.025	U	mg/L	0.025			01/17/03	17:43
218759	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:43
218759	K_7664	0.5	U	mg/L	0.5			02/05/03	17:16
218759	La3988	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Li6707	0.025	U	mg/L	0.025			01/17/03	17:43
218759	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:43
218759	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:43
218759	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Na5889	2.93		mg/L	0.25			02/05/03	17:16
218759	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:43
218759	P_1782	0.25	U	mg/L	0.25			01/17/03	17:43
218759	Pb220	0.1	U	mg/L	0.1			01/17/03	17:43
218759	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:43
218759	S_1820	0.25	U	mg/L	0.25			01/17/03	17:43
218759	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:43
218759	Se196	0.1	U	mg/L	0.1			01/17/03	17:43
218759	Si2881	30.5		mg/L	0.25			01/17/03	17:43
218759	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Sr4215	0.262		mg/L	0.05			01/17/03	17:43
218759	Th2837	0.1	U	mg/L	0.1			01/17/03	17:43
218759	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:43
218759	U_4090	NR						01/17/03	17:43
218759	V_2924	0.05	U	mg/L	0.05			01/17/03	17:43
218759	W_2079	0.1	U	mg/L	0.1			01/17/03	17:43
218759	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:43
218759	Zn2062	0.128		mg/L	0.05			01/17/03	17:43
218759	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:43
218760	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Al3082	0.5	U	mg/L	0.5			01/17/03	17:48
218760	As1890	0.1	U	mg/L	0.1			01/17/03	17:48
218760	B_2496	0.5	U	mg/L	0.5			01/17/03	17:48
218760	Ba4934	1.55		mg/L	0.025			01/17/03	17:48
218760	Be3130	0.025	U	mg/L	0.025			01/17/03	17:48
218760	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:48
218760	Ca3179	397		mg/L	0.5			01/17/03	17:48
218760	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:48
218760	Co2286	0.025	U	mg/L	0.025			01/17/03	17:48
218760	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:48
218760	K_7664	0.5	U	mg/L	0.5			02/05/03	17:21
218760	La3988	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Li6707	0.025	U	mg/L	0.025			01/17/03	17:48
218760	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:48
218760	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:48
218760	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Na5889	10.2		mg/L	0.25			02/05/03	17:21
218760	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:48

Div 20
wo#23658
06002.01.071

010080

system id	elem	result	qual	units	rl	tv	rec	date	time
218760	P_1782	0.25	U	mg/L	0.25			01/17/03	17:48
218760	Pb220	0.1	U	mg/L	0.1			01/17/03	17:48
218760	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:48
218760	S_1820	0.25	U	mg/L	0.25			01/17/03	17:48
218760	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:48
218760	Se196	0.1	U	mg/L	0.1			01/17/03	17:48
218760	Si2881	30.2		mg/L	0.25			01/17/03	17:48
218760	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Sr4215	0.264		mg/L	0.05			01/17/03	17:48
218760	Th2837	0.1	U	mg/L	0.1			01/17/03	17:48
218760	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:48
218760	U_4090	NR						01/17/03	17:48
218760	V_2924	0.05	U	mg/L	0.05			01/17/03	17:48
218760	W_2079	0.1	U	mg/L	0.1			01/17/03	17:48
218760	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:48
218760	Zn2062	0.064		mg/L	0.05			01/17/03	17:48
218760	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:48
218761	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Al3082	0.5	U	mg/L	0.5			01/17/03	17:52
218761	As1890	0.1	U	mg/L	0.1			01/17/03	17:52
218761	B_2496	0.5	U	mg/L	0.5			01/17/03	17:52
218761	Ba4934	0.650		mg/L	0.025			01/17/03	17:52
218761	Be3130	0.025	U	mg/L	0.025			01/17/03	17:52
218761	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:52
218761	Ca3179	408		mg/L	0.5			01/17/03	17:52
218761	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:52
218761	Co2286	0.025	U	mg/L	0.025			01/17/03	17:52
218761	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Fe2714	0.5	U	mg/L	0.5			01/17/03	17:52
218761	K_7664	0.5	U	mg/L	0.5			02/05/03	17:25
218761	La3988	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Li6707	0.025	U	mg/L	0.025			01/17/03	17:52
218761	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:52
218761	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:52
218761	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Na5889	2.90		mg/L	0.25			02/05/03	17:25
218761	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:52
218761	P_1782	0.25	U	mg/L	0.25			01/17/03	17:52
218761	Pb220	0.1	U	mg/L	0.1			01/17/03	17:52
218761	Pd3404	0.1	U	mg/L	0.1			01/17/03	17:52
218761	S_1820	0.25	U	mg/L	0.25			01/17/03	17:52
218761	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:52
218761	Se196	0.1	U	mg/L	0.1			01/17/03	17:52
218761	Si2881	30.8		mg/L	0.25			01/17/03	17:52
218761	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Sr4215	0.270		mg/L	0.05			01/17/03	17:52
218761	Th2837	0.1	U	mg/L	0.1			01/17/03	17:52
218761	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:52
218761	U_4090	NR						01/17/03	17:52
218761	V_2924	0.05	U	mg/L	0.05			01/17/03	17:52
218761	W_2079	0.1	U	mg/L	0.1			01/17/03	17:52

Div 20
wo#23658
06002.01.071

010081

system id	elem	result	qual	units	rl	tv	rec	date	time
218761	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:52
218761	Zn2062	0.077		mg/L	0.05			01/17/03	17:52
218761	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:52
218762	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Al3082	0.5	U	mg/L	0.5			01/20/03	10:15
218762	As1890	0.1	U	mg/L	0.1			01/20/03	10:15
218762	B_2496	0.5	U	mg/L	0.5			01/20/03	10:15
218762	Ba4934	0.646		mg/L	0.025			01/20/03	10:15
218762	Be3130	0.025	U	mg/L	0.025			01/20/03	10:15
218762	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:15
218762	Ca3179	413		mg/L	0.5			01/20/03	10:15
218762	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:15
218762	Co2286	0.025	U	mg/L	0.025			01/20/03	10:15
218762	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Fe2714	0.5	U	mg/L	0.5			02/05/03	13:30
218762	K_7664	0.5	U	mg/L	0.5			02/05/03	13:30
218762	La3988	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Li6707	0.025	U	mg/L	0.025			01/20/03	10:15
218762	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:15
218762	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:15
218762	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Na5889	1.81		mg/L	0.25			02/05/03	13:30
218762	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:15
218762	P_1782	0.25	U	mg/L	0.25			01/20/03	10:15
218762	Pb220	0.1	U	mg/L	0.1			01/20/03	10:15
218762	Pd3404	0.1	U	mg/L	0.1			02/05/03	13:30
218762	S_1820	0.25	U	mg/L	0.25			01/20/03	10:15
218762	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:15
218762	Se196	0.1	U	mg/L	0.1			01/20/03	10:15
218762	Si2881	30.8		mg/L	0.25			01/20/03	10:15
218762	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Sr4215	0.271		mg/L	0.05			01/20/03	10:15
218762	Th2837	0.1	U	mg/L	0.1			01/20/03	10:15
218762	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:15
218762	U_4090	NR						01/20/03	10:15
218762	V_2924	0.05	U	mg/L	0.05			01/20/03	10:15
218762	W_2079	0.1	U	mg/L	0.1			01/20/03	10:15
218762	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:15
218762	Zn2062	0.114		mg/L	0.05			01/20/03	10:15
218762	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:15
218763	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Al3082	0.5	U	mg/L	0.5			01/20/03	10:20
218763	As1890	0.1	U	mg/L	0.1			01/20/03	10:20
218763	B_2496	0.5	U	mg/L	0.5			01/20/03	10:20
218763	Ba4934	0.623		mg/L	0.025			01/20/03	10:20
218763	Be3130	0.025	U	mg/L	0.025			01/20/03	10:20
218763	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:20
218763	Ca3179	433		mg/L	0.5			01/20/03	10:20
218763	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:20
218763	Co2286	0.025	U	mg/L	0.025			01/20/03	10:20
218763	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:20

Div 20
wo#23658
06002.01.071

010082

system id	elem	result	qual	units	rl	tv	rec	date	time
218763	Fe2714	0.5	U	mg/L	0.5			02/05/03	13:35
218763	K_7664	0.5	U	mg/L	0.5			02/05/03	17:51
218763	La3988	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Li6707	0.025	U	mg/L	0.025			01/20/03	10:20
218763	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:20
218763	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:20
218763	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Na5889	2.10		mg/L	0.25			02/05/03	17:51
218763	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:20
218763	P_1782	0.25	U	mg/L	0.25			01/20/03	10:20
218763	Pb220	0.1	U	mg/L	0.1			01/20/03	10:20
218763	Pd3404	0.1	U	mg/L	0.1			02/05/03	13:35
218763	S_1820	0.25	U	mg/L	0.25			01/20/03	10:20
218763	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:20
218763	Se196	0.1	U	mg/L	0.1			01/20/03	10:20
218763	Si2881	31.4		mg/L	0.25			01/20/03	10:20
218763	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Sr4215	0.276		mg/L	0.05			01/20/03	10:20
218763	Th2837	0.1	U	mg/L	0.1			01/20/03	10:20
218763	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:20
218763	U_4090	NR						01/20/03	10:20
218763	V_2924	0.05	U	mg/L	0.05			01/20/03	10:20
218763	W_2079	0.1	U	mg/L	0.1			01/20/03	10:20
218763	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:20
218763	Zn2062	0.059		mg/L	0.05			02/05/03	13:35
218763	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:20
218764	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Al3082	0.5	U	mg/L	0.5			01/20/03	10:25
218764	As1890	0.1	U	mg/L	0.1			01/20/03	10:25
218764	B_2496	0.5	U	mg/L	0.5			01/20/03	10:25
218764	Ba4934	0.615		mg/L	0.025			01/20/03	10:25
218764	Be3130	0.025	U	mg/L	0.025			01/20/03	10:25
218764	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:25
218764	Ca3179	447		mg/L	0.5			01/20/03	10:25
218764	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:25
218764	Co2286	0.025	U	mg/L	0.025			01/20/03	10:25
218764	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Fe2714	0.5	U	mg/L	0.5			02/05/03	13:40
218764	K_7664	0.5	U	mg/L	0.5			02/05/03	17:56
218764	La3988	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Li6707	0.025	U	mg/L	0.025			01/20/03	10:25
218764	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:25
218764	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:25
218764	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Na5889	2.41		mg/L	0.25			02/05/03	17:56
218764	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:25
218764	P_1782	0.25	U	mg/L	0.25			01/20/03	10:25
218764	Pb220	0.1	U	mg/L	0.1			01/20/03	10:25
218764	Pd3404	0.1	U	mg/L	0.1			02/05/03	13:40
218764	S_1820	0.25	U	mg/L	0.25			01/20/03	10:25
218764	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:25
218764	Se196	0.1	U	mg/L	0.1			01/20/03	10:25

Div 20
wo#23658
06002.01.071

010083

system id	elem	result	qual	units	rl	tv	rec	date	time
218764	Si2881	32.4		mg/L	0.25			01/20/03	10:25
218764	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Sr4215	0.288		mg/L	0.05			01/20/03	10:25
218764	Th2837	0.1	U	mg/L	0.1			01/20/03	10:25
218764	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:25
218764	U_4090	NR						01/20/03	10:25
218764	V_2924	0.05	U	mg/L	0.05			01/20/03	10:25
218764	W_2079	0.1	U	mg/L	0.1			01/20/03	10:25
218764	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:25
218764	Zn2062	0.104		mg/L	0.05			01/20/03	10:25
218764	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:25
218765	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Al3082	0.5	U	mg/L	0.5			01/20/03	10:29
218765	As1890	0.1	U	mg/L	0.1			01/20/03	10:29
218765	B_2496	0.5	U	mg/L	0.5			01/20/03	10:29
218765	Ba4934	1.52		mg/L	0.025			01/20/03	10:29
218765	Be3130	0.025	U	mg/L	0.025			01/20/03	10:29
218765	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:29
218765	Ca3179	432		mg/L	0.5			01/20/03	10:29
218765	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:29
218765	Co2286	0.025	U	mg/L	0.025			01/20/03	10:29
218765	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Cu3247	0.05	U	mg/L	0.05			02/05/03	13:44
218765	Fe2714	0.5	U	mg/L	0.5			02/05/03	13:44
218765	K_7664	0.5	U	mg/L	0.5			02/05/03	18:01
218765	La3988	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Li6707	0.025	U	mg/L	0.025			01/20/03	10:29
218765	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:29
218765	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:29
218765	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Na5889	10.1		mg/L	0.25			02/05/03	18:01
218765	Ni2316	0.05	U	mg/L	0.05			02/05/03	13:44
218765	P_1782	0.25	U	mg/L	0.25			01/20/03	10:29
218765	Pb220	0.1	U	mg/L	0.1			01/20/03	10:29
218765	Pd3404	0.1	U	mg/L	0.1			02/05/03	13:44
218765	S_1820	0.25	U	mg/L	0.25			01/20/03	10:29
218765	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:29
218765	Se196	0.1	U	mg/L	0.1			01/20/03	10:29
218765	Si2881	31.9		mg/L	0.25			01/20/03	10:29
218765	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Sr4215	0.281		mg/L	0.05			01/20/03	10:29
218765	Th2837	0.1	U	mg/L	0.1			01/20/03	10:29
218765	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:29
218765	U_4090	NR						01/20/03	10:29
218765	V_2924	0.05	U	mg/L	0.05			01/20/03	10:29
218765	W_2079	0.1	U	mg/L	0.1			01/20/03	10:29
218765	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:29
218765	Zn2062	0.225		mg/L	0.05			01/20/03	10:29
218765	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:29
218766	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Al3082	0.5	U	mg/L	0.5			01/20/03	10:34
218766	As1890	0.1	U	mg/L	0.1			01/20/03	10:34

Div 20
wo#23658
06002.01.071

010084

system id	elem	result	qual	units	rl	tv	rec	date	time
218766	B_2496	0.5	U	mg/L	0.5			01/20/03	10:34
218766	Ba4934	0.678		mg/L	0.025			01/20/03	10:34
218766	Be3130	0.025	U	mg/L	0.025			01/20/03	10:34
218766	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:34
218766	Ca3179	432		mg/L	0.5			01/20/03	10:34
218766	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:34
218766	Co2286	0.025	U	mg/L	0.025			01/20/03	10:34
218766	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Fe2714	0.5	U	mg/L	0.5			02/05/03	14:04
218766	K_7664	0.5	U	mg/L	0.5			02/05/03	18:06
218766	La3988	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Li6707	0.025	U	mg/L	0.025			01/20/03	10:34
218766	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:34
218766	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:34
218766	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Na5889	2.53		mg/L	0.25			02/05/03	18:06
218766	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:34
218766	P_1782	0.25	U	mg/L	0.25			01/20/03	10:34
218766	Pb220	0.1	U	mg/L	0.1			01/20/03	10:34
218766	Pd3404	0.1	U	mg/L	0.1			02/05/03	14:04
218766	S_1820	0.25	U	mg/L	0.25			01/20/03	10:34
218766	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:34
218766	Se196	0.1	U	mg/L	0.1			01/20/03	10:34
218766	Si2881	31.5		mg/L	0.25			01/20/03	10:34
218766	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Sr4215	0.280		mg/L	0.05			01/20/03	10:34
218766	Th2837	0.1	U	mg/L	0.1			01/20/03	10:34
218766	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:34
218766	U_4090	NR						01/20/03	10:34
218766	V_2924	0.05	U	mg/L	0.05			01/20/03	10:34
218766	W_2079	0.1	U	mg/L	0.1			01/20/03	10:34
218766	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:34
218766	Zn2062	0.137		mg/L	0.05			01/20/03	10:34
218766	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:34
218767	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Al3082	0.5	U	mg/L	0.5			01/20/03	10:39
218767	As1890	0.1	U	mg/L	0.1			01/20/03	10:39
218767	B_2496	0.5	U	mg/L	0.5			01/20/03	10:39
218767	Ba4934	0.025	U	mg/L	0.025			01/20/03	10:39
218767	Be3130	0.025	U	mg/L	0.025			01/20/03	10:39
218767	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:39
218767	Ca3179	409		mg/L	0.5			01/20/03	10:39
218767	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:39
218767	Co2286	0.025	U	mg/L	0.025			01/20/03	10:39
218767	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Fe2714	0.5	U	mg/L	0.5			02/05/03	14:09
218767	K_7664	0.5	U	mg/L	0.5			02/05/03	18:11
218767	La3988	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Li6707	0.025	U	mg/L	0.025			01/20/03	10:39
218767	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:39
218767	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:39

Div 20
wo#23658
06002.01.071

010085

system id	elem	result	qual	units	rl	tv	rec	date	time
218767	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Na5889	0.25	U	mg/L	0.25			02/05/03	18:11
218767	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:39
218767	P_1782	0.25	U	mg/L	0.25			01/20/03	10:39
218767	Pb220	0.1	U	mg/L	0.1			01/20/03	10:39
218767	Pd3404	0.1	U	mg/L	0.1			02/05/03	14:09
218767	S_1820	0.25	U	mg/L	0.25			01/20/03	10:39
218767	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:39
218767	Se196	0.1	U	mg/L	0.1			01/20/03	10:39
218767	Si2881	32.1		mg/L	0.25			01/20/03	10:39
218767	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Sr4215	0.251		mg/L	0.05			01/20/03	10:39
218767	Th2837	0.1	U	mg/L	0.1			01/20/03	10:39
218767	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:39
218767	U_4090	NR						01/20/03	10:39
218767	V_2924	0.05	U	mg/L	0.05			01/20/03	10:39
218767	W_2079	0.1	U	mg/L	0.1			01/20/03	10:39
218767	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Zn2062	0.05	U	mg/L	0.05			01/20/03	10:39
218767	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:39
218768	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Al3082	0.5	U	mg/L	0.5			01/20/03	10:43
218768	As1890	0.1	U	mg/L	0.1			01/20/03	10:43
218768	B_2496	0.5	U	mg/L	0.5			01/20/03	10:43
218768	Ba4934	0.025	U	mg/L	0.025			01/20/03	10:43
218768	Be3130	0.025	U	mg/L	0.025			01/20/03	10:43
218768	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:43
218768	Ca3179	405		mg/L	0.5			01/20/03	10:43
218768	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:43
218768	Co2286	0.025	U	mg/L	0.025			01/20/03	10:43
218768	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Fe2714	0.5	U	mg/L	0.5			02/05/03	14:14
218768	K_7664	0.5	U	mg/L	0.5			02/05/03	18:16
218768	La3988	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Li6707	0.025	U	mg/L	0.025			01/20/03	10:43
218768	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:43
218768	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:43
218768	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Na5889	0.25	U	mg/L	0.25			02/05/03	18:16
218768	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:43
218768	P_1782	0.25	U	mg/L	0.25			01/20/03	10:43
218768	Pb220	0.1	U	mg/L	0.1			01/20/03	10:43
218768	Pd3404	0.1	U	mg/L	0.1			02/05/03	14:14
218768	S_1820	0.25	U	mg/L	0.25			01/20/03	10:43
218768	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:43
218768	Se196	0.1	U	mg/L	0.1			01/20/03	10:43
218768	Si2881	32.1		mg/L	0.25			01/20/03	10:43
218768	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Sr4215	0.249		mg/L	0.05			01/20/03	10:43
218768	Th2837	0.1	U	mg/L	0.1			01/20/03	10:43
218768	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:43

Div 20
wo#23658
06002.01.071

010086

system id	elem	result	qual	units	rl	tv	rec	date	time
218768	U_4090	NR						01/20/03	10:43
218768	V_2924	0.05	U	mg/L	0.05			01/20/03	10:43
218768	W_2079	0.1	U	mg/L	0.1			01/20/03	10:43
218768	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Zn2062	0.05	U	mg/L	0.05			01/20/03	10:43
218768	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:43
218769	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Al3082	0.5	U	mg/L	0.5			01/20/03	10:48
218769	As1890	0.1	U	mg/L	0.1			01/20/03	10:48
218769	B_2496	0.5	U	mg/L	0.5			01/20/03	10:48
218769	Ba4934	0.025	U	mg/L	0.025			01/20/03	10:48
218769	Be3130	0.025	U	mg/L	0.025			01/20/03	10:48
218769	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:48
218769	Ca3179	413		mg/L	0.5			01/20/03	10:48
218769	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:48
218769	Co2286	0.025	U	mg/L	0.025			01/20/03	10:48
218769	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Fe2714	0.5	U	mg/L	0.5			02/05/03	14:19
218769	K_7664	0.5	U	mg/L	0.5			02/05/03	18:21
218769	La3988	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Li6707	0.025	U	mg/L	0.025			01/20/03	10:48
218769	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:48
218769	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:48
218769	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Na5889	0.25	U	mg/L	0.25			02/05/03	18:21
218769	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:48
218769	P_1782	0.25	U	mg/L	0.25			01/20/03	10:48
218769	Pb220	0.1	U	mg/L	0.1			01/20/03	10:48
218769	Pd3404	0.1	U	mg/L	0.1			02/05/03	14:19
218769	S_1820	0.25	U	mg/L	0.25			01/20/03	10:48
218769	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:48
218769	Se196	0.1	U	mg/L	0.1			01/20/03	10:48
218769	Si2881	32.6		mg/L	0.25			01/20/03	10:48
218769	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Sr4215	0.261		mg/L	0.05			01/20/03	10:48
218769	Th2837	0.1	U	mg/L	0.1			01/20/03	10:48
218769	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:48
218769	U_4090	NR						01/20/03	10:48
218769	V_2924	0.05	U	mg/L	0.05			01/20/03	10:48
218769	W_2079	0.1	U	mg/L	0.1			01/20/03	10:48
218769	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Zn2062	0.05	U	mg/L	0.05			01/20/03	10:48
218769	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:48
218770	Ag3280	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Al3082	0.5	U	mg/L	0.5			01/20/03	10:53
218770	As1890	0.1	U	mg/L	0.1			01/20/03	10:53
218770	B_2496	0.5	U	mg/L	0.5			01/20/03	10:53
218770	Ba4934	0.025	U	mg/L	0.025			01/20/03	10:53
218770	Be3130	0.025	U	mg/L	0.025			01/20/03	10:53
218770	Bi2230	0.1	U	mg/L	0.1			01/20/03	10:53
218770	Ca3179	398		mg/L	0.5			01/20/03	10:53
218770	Cd2265	0.025	U	mg/L	0.025			01/20/03	10:53

Div 20
wo#23658
06002.01.071

010087

system id	elem	result	qual	units	rl	tv	rec	date	time
218770	Co2286	0.025	U	mg/L	0.025			01/20/03	10:53
218770	Cr2677	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Cu3247	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Fe2714	0.5	U	mg/L	0.5			02/05/03	14:23
218770	K_7664	0.5	U	mg/L	0.5			02/05/03	18:25
218770	La3988	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Li6707	0.025	U	mg/L	0.025			01/20/03	10:53
218770	Mg2790	0.5	U	mg/L	0.5			01/20/03	10:53
218770	Mn2576	0.025	U	mg/L	0.025			01/20/03	10:53
218770	Mo2020	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Na5889	0.25	U	mg/L	0.25			02/05/03	18:25
218770	Ni2316	0.05	U	mg/L	0.05			01/20/03	10:53
218770	P_1782	0.25	U	mg/L	0.25			01/20/03	10:53
218770	Pb220	0.1	U	mg/L	0.1			01/20/03	10:53
218770	Pd3404	0.1	U	mg/L	0.1			02/05/03	14:23
218770	S_1820	0.25	U	mg/L	0.25			01/20/03	10:53
218770	Sb2068	0.1	U	mg/L	0.1			01/20/03	10:53
218770	Se196	0.1	U	mg/L	0.1			01/20/03	10:53
218770	Si2881	31.6		mg/L	0.25			01/20/03	10:53
218770	Sn1899	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Sr4215	0.253		mg/L	0.05			01/20/03	10:53
218770	Th2837	0.1	U	mg/L	0.1			01/20/03	10:53
218770	Ti3349	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Tl1908	0.1	U	mg/L	0.1			01/20/03	10:53
218770	U_4090	NR						01/20/03	10:53
218770	V_2924	0.05	U	mg/L	0.05			01/20/03	10:53
218770	W_2079	0.1	U	mg/L	0.1			01/20/03	10:53
218770	Y_3710	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Zn2062	0.05	U	mg/L	0.05			01/20/03	10:53
218770	Zr3496	0.05	U	mg/L	0.05			01/20/03	10:53
lcsw-a16w2	Ag3280	0.519		mg/L	0.05	0.5	103.8%	01/17/03	15:16
lcsw-a16w2	Al3082	19.4		mg/L	0.5	20	97.1%	01/17/03	15:16
lcsw-a16w2	As1890	20.9		mg/L	0.1	20	104.4%	01/17/03	15:16
lcsw-a16w2	B_2496	0.5	U	mg/L	0.5			01/17/03	15:16
lcsw-a16w2	Ba4934	20.4		mg/L	0.025	20	101.8%	01/17/03	15:16
lcsw-a16w2	Be3130	0.518		mg/L	0.025	0.5	103.5%	01/17/03	15:16
lcsw-a16w2	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:16
lcsw-a16w2	Ca3179	199		mg/L	0.5	200	99.7%	01/17/03	15:16
lcsw-a16w2	Cd2265	0.516		mg/L	0.025	0.5	103.1%	01/17/03	15:16
lcsw-a16w2	Co2286	5.11		mg/L	0.025	5	102.1%	01/17/03	15:16
lcsw-a16w2	Cr2677	2.06		mg/L	0.05	2	102.9%	01/17/03	15:16
lcsw-a16w2	Cu3247	2.53		mg/L	0.05	2.5	101.3%	01/17/03	15:16
lcsw-a16w2	Fe2714	10.9		mg/L	0.5	10	109.3%	01/17/03	15:16
lcsw-b05w1	K_7664	82.1		mg/L	0.5	100	82.1%	02/05/03	16:46
lcsw-a16w2	La3988	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-a16w2	Li6707	0.025	U	mg/L	0.025			01/17/03	15:16
lcsw-a16w2	Mg2790	204		mg/L	0.5	200	102.0%	01/17/03	15:16
lcsw-a16w2	Mn2576	5.12		mg/L	0.025	5	102.3%	01/17/03	15:16
lcsw-a16w2	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-b05w1	Na3302	86.2		mg/L	0.25	100	86.2%	02/05/03	14:47
lcsw-a16w2	Ni2316	5.05		mg/L	0.05	5	100.9%	01/17/03	15:16
lcsw-a16w2	P_1782	0.25	U	mg/L	0.25			01/17/03	15:16
lcsw-a16w2	Pb220	5.15		mg/L	0.1	5	103.1%	01/17/03	15:16
lcsw-a16w2	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:16

Div 20
wo#23658
06002.01.071

010088

system id	elem	result	qual	units	rl	tv	rec	date	time
lcsw-a16w2	S_1820	0.25	U	mg/L	0.25			01/17/03	15:16
lcsw-a16w2	Sb2068	5.12		mg/L	0.1	5	102.4%	01/17/03	15:16
lcsw-a16w2	Se196	21.6		mg/L	0.1	20	108.1%	01/17/03	15:16
lcsw-a16w2	Si2881	41.4		mg/L	0.25	40	103.5%	01/17/03	15:16
lcsw-a16w2	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-a16w2	Sr4215	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-a16w2	Th2837	0.1	U	mg/L	0.1			01/17/03	15:16
lcsw-a16w2	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-a16w2	Tl1908	21.7		mg/L	0.1	20	108.4%	01/17/03	15:16
lcsw-a16w2	U_4090	NR						01/17/03	15:16
lcsw-a16w2	V_2924	5.09		mg/L	0.05	5	101.8%	01/17/03	15:16
lcsw-a16w2	W_2079	0.1	U	mg/L	0.1			01/17/03	15:16
lcsw-a16w2	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-a16w2	Zn2062	5.22		mg/L	0.05	5	104.4%	01/17/03	15:16
lcsw-a16w2	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:16
lcsw-a16w3	Ag3280	0.506		mg/L	0.05	0.5	101.1%	01/17/03	17:15
lcsw-a16w3	Al3082	19.3		mg/L	0.5	20	96.5%	01/17/03	17:15
lcsw-a16w3	As1890	20.7		mg/L	0.1	20	103.4%	01/17/03	17:15
lcsw-a16w3	B_2496	0.5	U	mg/L	0.5			01/17/03	17:15
lcsw-a16w3	Ba4934	20.2		mg/L	0.025	20	100.9%	01/17/03	17:15
lcsw-a16w3	Be3130	0.512		mg/L	0.025	0.5	102.4%	01/17/03	17:15
lcsw-a16w3	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:15
lcsw-a16w3	Ca3179	199		mg/L	0.5	200	99.6%	01/17/03	17:15
lcsw-a16w3	Cd2265	0.505		mg/L	0.025	0.5	101.1%	01/17/03	17:15
lcsw-a16w3	Co2286	5.05		mg/L	0.025	5	101.0%	01/17/03	17:15
lcsw-a16w3	Cr2677	2.04		mg/L	0.05	2	102.0%	01/17/03	17:15
lcsw-a16w3	Cu3247	2.52		mg/L	0.05	2.5	100.8%	01/17/03	17:15
lcsw-b05w3	Fe2714	9.58		mg/L	0.5	10	95.8%	02/05/03	13:07
lcsw-b05w1	K_7664	81.3		mg/L	0.5	100	81.3%	02/05/03	14:47
lcsw-a16w3	La3988	0.05	U	mg/L	0.05			01/17/03	17:15
lcsw-a16w3	Li6707	0.025	U	mg/L	0.025			01/17/03	17:15
lcsw-a16w3	Mg2790	204		mg/L	0.5	200	102.0%	01/17/03	17:15
lcsw-a16w3	Mn2576	5.07		mg/L	0.025	5	101.5%	01/17/03	17:15
lcsw-a16w3	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:15
lcsw-b05w1	Na3302	85.5		mg/L	0.25	100	85.5%	02/05/03	16:46
lcsw-a16w3	Ni2316	4.99		mg/L	0.05	5	99.9%	01/17/03	17:15
lcsw-a16w3	P_1782	0.25	U	mg/L	0.25			01/17/03	17:15
lcsw-a16w3	Pb220	5.11		mg/L	0.1	5	102.3%	01/17/03	17:15
lcsw-b05w3	Pd3404	0.1	U	mg/L	0.1			02/05/03	13:07
lcsw-a16w3	S_1820	0.25	U	mg/L	0.25			01/17/03	17:15
lcsw-a16w3	Sb2068	5.09		mg/L	0.1	5	101.7%	01/17/03	17:15
lcsw-a16w3	Se196	21.4		mg/L	0.1	20	107.2%	01/17/03	17:15
lcsw-a16w3	Si2881	41.3		mg/L	0.25	40	103.3%	01/17/03	17:15
lcsw-a16w3	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:15
lcsw-a16w3	Sr4215	0.05	U	mg/L	0.05			01/17/03	17:15
lcsw-a16w3	Th2837	0.1	U	mg/L	0.1			01/17/03	17:15
lcsw-a16w3	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:15
lcsw-a16w3	Tl1908	21.4		mg/L	0.1	20	106.8%	01/17/03	17:15
lcsw-a16w3	U_4090	NR						01/17/03	17:15
lcsw-a16w3	V_2924	5.05		mg/L	0.05	5	101.0%	01/17/03	17:15
lcsw-a16w3	W_2079	0.1	U	mg/L	0.1			01/17/03	17:15
lcsw-a16w3	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:15
lcsw-a16w3	Zn2062	5.15		mg/L	0.05	5	103.0%	01/17/03	17:15
lcsw-a16w3	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:15

Div 20
wo#23658
06002.01.071

010089

system id	elem	result	qual	units	rl	tv	rec	date	time
pbw-a16w2	Ag3280	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Al3082	0.5	U	mg/L	0.5			01/17/03	15:11
pbw-a16w2	As1890	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	B_2496	0.5	U	mg/L	0.5			01/17/03	15:11
pbw-a16w2	Ba4934	0.025	U	mg/L	0.025			01/17/03	15:11
pbw-a16w2	Be3130	0.025	U	mg/L	0.025			01/17/03	15:11
pbw-a16w2	Bi2230	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	Ca3179	0.5	U	mg/L	0.5			01/17/03	15:11
pbw-a16w2	Cd2265	0.025	U	mg/L	0.025			01/17/03	15:11
pbw-a16w2	Co2286	0.025	U	mg/L	0.025			01/17/03	15:11
pbw-a16w2	Cr2677	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Cu3247	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Fe2714	0.5	U	mg/L	0.5			01/17/03	15:11
pbw-b05w1	K_7664	0.5	U	mg/L	0.5			02/05/03	14:42
pbw-a16w2	La3988	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Li6707	0.025	U	mg/L	0.025			01/17/03	15:11
pbw-a16w2	Mg2790	0.5	U	mg/L	0.5			01/17/03	15:11
pbw-a16w2	Mn2576	0.025	U	mg/L	0.025			01/17/03	15:11
pbw-a16w2	Mo2020	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-b05w1	Na5889	0.25	U	mg/L	0.25			02/05/03	16:42
pbw-a16w2	Ni2316	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	P_1782	0.25	U	mg/L	0.25			01/17/03	15:11
pbw-a16w2	Pb220	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	Pd3404	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	S_1820	0.25	U	mg/L	0.25			01/17/03	15:11
pbw-a16w2	Sb2068	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	Se196	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	Si2881	0.25	U	mg/L	0.25			01/17/03	15:11
pbw-a16w2	Sn1899	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Sr4215	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Th2837	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	Ti3349	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Tl1908	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	U_4090	NR						01/17/03	15:11
pbw-a16w2	V_2924	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	W_2079	0.1	U	mg/L	0.1			01/17/03	15:11
pbw-a16w2	Y_3710	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Zn2062	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w2	Zr3496	0.05	U	mg/L	0.05			01/17/03	15:11
pbw-a16w3	Ag3280	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Al3082	0.5	U	mg/L	0.5			01/17/03	17:10
pbw-a16w3	As1890	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	B_2496	0.5	U	mg/L	0.5			01/17/03	17:10
pbw-a16w3	Ba4934	0.025	U	mg/L	0.025			01/17/03	17:10
pbw-a16w3	Be3130	0.025	U	mg/L	0.025			01/17/03	17:10
pbw-a16w3	Bi2230	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	Ca3179	0.5	U	mg/L	0.5			01/17/03	17:10
pbw-a16w3	Cd2265	0.025	U	mg/L	0.025			01/17/03	17:10
pbw-a16w3	Co2286	0.025	U	mg/L	0.025			01/17/03	17:10
pbw-a16w3	Cr2677	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Cu3247	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-b05w3	Fe2714	0.5	U	mg/L	0.5			02/05/03	13:03
pbw-b05w1	K_7664	0.5	U	mg/L	0.5			02/05/03	16:42
pbw-a16w3	La3988	0.05	U	mg/L	0.05			01/17/03	17:10

Div 20
wo#23658
06002.01.071

010090

system id	elem	result	qual	units	rl	tv	rec	date	time
pbw-a16w3	Li6707	0.025	U	mg/L	0.025			01/17/03	17:10
pbw-a16w3	Mg2790	0.5	U	mg/L	0.5			01/17/03	17:10
pbw-a16w3	Mn2576	0.025	U	mg/L	0.025			01/17/03	17:10
pbw-a16w3	Mo2020	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-b05w1	Na5889	0.25	U	mg/L	0.25			02/05/03	14:42
pbw-a16w3	Ni2316	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	P_1782	0.25	U	mg/L	0.25			01/17/03	17:10
pbw-a16w3	Pb220	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-b05w3	Pd3404	0.1	U	mg/L	0.1			02/05/03	13:03
pbw-a16w3	S_1820	0.25	U	mg/L	0.25			01/17/03	17:10
pbw-a16w3	Sb2068	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	Se196	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	Si2881	0.25	U	mg/L	0.25			01/17/03	17:10
pbw-a16w3	Sn1899	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Sr4215	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Th2837	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	Ti3349	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Tl1908	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	U_4090	NR						01/17/03	17:10
pbw-a16w3	V_2924	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	W_2079	0.1	U	mg/L	0.1			01/17/03	17:10
pbw-a16w3	Y_3710	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Zn2062	0.05	U	mg/L	0.05			01/17/03	17:10
pbw-a16w3	Zr3496	0.05	U	mg/L	0.05			01/17/03	17:10

010091

ICP ANALYSIS

PROJ. NO.	PROJECT	WO#	DATE	MATRIX	LOGBK PG
060020107	Div. 20	23658	1-17-03	Liquid	SZ 034
			1-20-03		

INSTRUMENT: Trace # 2 FILENAME: B23658/B23658A

INSTRUMENT DL _____

Method: DAILY2 Standard: blk
Run Time: 01/17/03 13:38:32

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Avge	-.0000	.0003	-.0001	-.0000	-.0000	.0001	-.0000
SDev	.0000	.0000	.0000	.0000	.0000	.0000	.0000
%RSD	181.8	1.120	59.91	315.0	32.74	15.60	1569.
#1	-.0000	.0003	-.0000	-.0000	-.0000	.0000	.0000
#2	.0000	.0003	-.0001	.0000	-.0000	.0001	-.0000

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	.0000	.0000	-.0000	-.0000	.0004	.0000	.0002
SDev	.0000	.0000	.0000	.0000	.0000	.0000	.0000
%RSD	2.663	41.16	16.67	134.5	2.836	2.371	10.21
#1	.0000	.0000	-.0000	-.0000	.0004	.0000	.0002
#2	.0000	.0000	-.0000	-.0000	.0004	.0000	.0002

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Avge	.0000	.0000	-.0000	.0000	-.0001	-.0002	-.0076
SDev	.0000	.0000	.0000	.0000	.0000	.0000	.0000
%RSD	226.1	11.89	24.85	235.9	2.461	10.04	.1392
#1	.0000	.0000	-.0000	-.0000	-.0001	-.0002	-.0076
#2	-.0000	.0000	-.0000	.0000	-.0001	-.0002	-.0076

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Avge	.0000	.0001	.0002	-.0000	.0000	-.0000	-.0014
SDev	.0000	.0000	.0002	.0001	.0000	.0000	.0000
%RSD	37.61	10.77	69.23	240.6	17.36	360.8	.3377
#1	.0000	.0001	.0003	-.0001	.0000	-.0000	-.0014
#2	.0000	.0001	.0001	.0000	.0000	.0000	-.0014

Elem	Sc3613	1960/1	1960/2	Si2881	Sn1899	Sr4215	Th2837
Avge	89.75	-.0004	.0002	.0021	.0000	.0000	.0000
SDev	.09	.0002	.0001	.0000	.0000	.0000	.0000
%RSD	.1016	62.86	43.16	.5555	120.1	20.31	28.18
#1	89.69	-.0002	.0002	.0021	.0001	.0000	.0000
#2	89.82	-.0005	.0003	.0021	.0000	.0000	.0000

Elem	Ti3349	Tl1908	U_4090	V_2924	W_2079	Y_3710	Zn2062
Avge	-.0002	-.0005	-.0003	-.0000	.0007	-.0000	-.0000
SDev	.0001	.0001	.0000	.0000	.0001	.0000	.0000
%RSD	56.18	11.92	3.998	30.99	15.81	111.7	259.5
#1	-.0002	-.0006	-.0003	-.0001	.0006	-.0000	.0000
#2	-.0001	-.0005	-.0003	-.0000	.0007	-.0000	-.0000

Elem	Zr3496
Avge	.0001
SDev	.0001
%RSD	105.4
#1	.0000
#2	.0002

1-17-03

SwRI 54 QA 7 mar 03

1/16/03

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	897447	10000	--	--	--	--	--
SDev	988.5353	.0000000	--	--	--	--	--
%RSD	.1101497	.0000000	--	--	--	--	--
#1	896748	10000	--	--	--	--	--
#2	898146	10000	--	--	--	--	--

Standardization Rpt. 01/17/03 01:47:20 PM page 1

Method: DAILY2 Standard: clp_std4
Run Time: 01/17/03 13:43:12

Elem	Ag3280	As1890	2203/1	2203/2	Sb2068	1960/1	1960/2
Avge	.0839	.1461	.3834	.3218	.2228	.3416	.3342
SDev	.0000	.0002	.0005	.0030	.0004	.0007	.0043
%RSD	.0160	.1112	.1390	.9275	.1749	.2040	1.273
#1	.0839	.1460	.3838	.3197	.2226	.3421	.3312
#2	.0839	.1462	.3830	.3239	.2231	.3411	.3372

Elem	T11908
Avge	.2863
SDev	.0005
%RSD	.1651
#1	.2860
#2	.2867

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	930320	10000	--	--	--	--	--
SDev	3787.971	.0000000	--	--	--	--	--
%RSD	.4071684	.0000000	--	--	--	--	--
#1	932999	10000	--	--	--	--	--
#2	927642	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std1
Run Time: 01/17/03 13:47:31

Elem	Al3082	Ca3179	Fe2714	K_7664	Li6707	Mg2790	Na3302
Avge	.1210	.2029	.1091	.1838	3.060	.0926	.0098
SDev	.0002	.0001	.0001	.0000	.002	.0001	.0000
%RSD	.1654	.0370	.1064	.0166	.0658	.0989	.2085
#1	.1211	.2028	.1090	.1838	3.062	.0925	.0099
#2	.1208	.2029	.1091	.1838	3.059	.0927	.0098

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	900526	10000	--	--	--	--	--
SDev	1211.274	.0000000	--	--	--	--	--
%RSD	.1345075	.0000000	--	--	--	--	--
#1	901382	10000	--	--	--	--	--
#2	899669	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std5
Run Time: 01/17/03 13:51:07

Elem	B_2496	Bi2230	Mo2020	P_1782	Si2881	Sn1899	Sr4215
Avge	.1947	.0450	.4792	.0239	.1814	.2080	2.482
SDev	.0012	.0001	.0018	.0001	.0000	.0002	.000
%RSD	.6276	.2685	.3757	.4118	.0052	.0961	.0054
#1	.1938	.0449	.4779	.0240	.1814	.2078	2.482
#2	.1956	.0451	.4804	.0238	.1814	.2081	2.482

Elem	Ti3349
Avge	2.825
SDev	.003
%RSD	.0945
#1	2.823
#2	2.827

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	929954	10000	--	--	--	--	--
SDev	4035.459	.0000000	--	--	--	--	--
%RSD	.4339420	.0000000	--	--	--	--	--
#1	932807	10000	--	--	--	--	--
#2	927100	10000	--	--	--	--	--

Standardization Rpt. 01/17/03 01:57:46 PM page 1

Method: DAILY2 Standard: clp_std2
Run Time: 01/17/03 13:54:43

Elem	Ba4934	Be3130	Cr2677	Cu3247	Ni2316
Avge	1.129	1.247	.4430	.3384	.4185
SDev	.005	.006	.0022	.0027	.0016
%RSD	.4694	.4548	.4952	.7943	.3754
#1	1.125	1.251	.4446	.3365	.4196
#2	1.132	1.243	.4415	.3403	.4173

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	928240	10000	--	--	--	--	--
SDev	22966.12	.0000000	--	--	--	--	--
%RSD	2.474156	.0000000	--	--	--	--	--
#1	912001	10000	--	--	--	--	--
#2	944480	10000	--	--	--	--	--

Standardization Rpt. , 01/17/03 02:01:22 PM page 1

Method: DAILY2 Standard: clp_std3
Run Time: 01/17/03 13:57:57

Elem	Cd2265	Co2286	Mn2576	V_2924	Zn2062
Avge	1.189	.2686	.9941	.2042	.3580
SDev	.002	.0001	.0016	.0002	.0008
%RSD	.1509	.0390	.1629	.0822	.2300
#1	1.187	.2685	.9929	.2041	.3574
#2	1.190	.2687	.9952	.2044	.3585

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	942606	10000	--	--	--	--	--
SDev	8558.113	.0000000	--	--	--	--	--
%RSD	.9079201	.0000000	--	--	--	--	--
#1	948658	10000	--	--	--	--	--
#2	936555	10000	--	--	--	--	--

Standardization Rpt. 01/17/03 02:05:20 PM page 1

Method: DAILY2 Standard: clp_std6
Run Time: 01/17/03 14:01:34

Elem	La3988	Na5889	Pd3404	S_1820	Th2837	U_4090	W_2079
Avge	.4857	.0551	.2225	.0424	.1216	.0829	.2409
SDev	.0006	.0006	.0005	.0001	.0000	.0004	.0006
%RSD	.1235	1.037	.2391	.1471	.0008	.4833	.2521
#1	.4861	.0555	.2229	.0424	.1216	.0831	.2404
#2	.4853	.0547	.2221	.0425	.1216	.0826	.2413

Elem	Y_3710	Zr3496
Avge	.8001	2.003
SDev	.0006	.001
%RSD	.0785	.0605
#1	.8005	2.004
#2	.7997	2.002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	928870	10000	--	--	--	--	--
SDev	4684.583	.0000000	--	--	--	--	--
%RSD	.5043311	.0000000	--	--	--	--	--
#1	932183	10000	--	--	--	--	--
#2	925558	10000	--	--	--	--	--

Standardization Report 01/17/03 02:05:20 PM page 1

Method: DAILY2 Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag3280	328.068	clp_std4	blk	23.8254	.000279	01/17/03 02:01:34
Al3082	308.215	clp_std1	blk	414.487	-.132781	01/17/03 02:01:34
As1890	189.042	clp_std4	blk	68.4038	.005029	01/17/03 02:01:34
B_2496	249.678	clp_std5	blk	51.3565	.000373	01/17/03 02:01:34
Ba4934	493.409	clp_std2	blk	8.85926	.000257	01/17/03 02:01:34
Be3130	313.042	clp_std2	blk	4.01067	-.000201	01/17/03 02:01:34
Bi2230	223.061	clp_std5	blk	110.097	.000061	01/17/03 02:01:34
Ca3179	317.933	clp_std1	blk	246.564	-.007006	01/17/03 02:01:34
Cd2265	226.502	clp_std3	blk	8.41077	-.000145	01/17/03 02:01:34
Co2286	228.616	clp_std3	blk	37.2273	.001224	01/17/03 02:01:34
Cr2677	267.716	clp_std2	blk	22.5710	.000516	01/17/03 02:01:34
Cu3247	324.753	clp_std2	blk	29.5839	-.011076	01/17/03 02:01:34
Fe2714	271.441	clp_std1	blk	458.875	-.014572	01/17/03 02:01:34
K_7664	766.491	clp_std1	blk	272.333	-.050983	01/17/03 02:01:34
La3988	398.853	clp_std6	blk	20.6070	-.000115	01/17/03 02:01:34
Li6707	670.784	clp_std1	blk	3.26750	-.000087	01/17/03 02:01:34
Mg2790	279.078	clp_std1	blk	269.906	.002556	01/17/03 02:01:34
Mn2576	257.610	clp_std3	blk	10.0606	-.000067	01/17/03 02:01:34
Mo2020	202.030	clp_std5	blk	20.8685	.001918	01/17/03 02:01:34
Na3302	330.232	clp_std1	blk	4964.27	1.07859	01/17/03 02:01:34
Na5889	588.991	clp_std6	blk	16.0316	.121597	01/17/03 02:01:34
Ni2316	231.604	clp_std2	blk	23.8983	-.000399	01/17/03 02:01:34
P_1782	178.287	clp_std5	blk	419.565	-.033425	01/17/03 02:01:34
2203/1	220.351	clp_std4	blk	26.0985	-.005920	01/17/03 02:01:34
2203/2	220.352	clp_std4	blk	31.0757	.000641	01/17/03 02:01:34
Pd3404	340.458	clp_std6	blk	46.1490	-.001054	01/17/03 02:01:34
S_1820	182.040	clp_std6	blk	235.545	.001183	01/17/03 02:01:34
Sb2068	206.838	clp_std4	blk	44.5994	.061772	01/17/03 02:01:34
Sc3613	361.384	blk	dark	1.11420	.000000	01/17/03 02:01:34
1960/1	196.021	clp_std4	blk	29.2458	.010685	01/17/03 02:01:34
1960/2	196.022	clp_std4	blk	29.9434	-.006488	01/17/03 02:01:34
Si2881	288.158	clp_std5	blk	55.5637	-.118377	01/17/03 02:01:34
Pb220	220.353	NONE	NONE	1.00000	.000000	*NOT STANDARDIZED
Se196	196.026	NONE	NONE	1.00000	.000000	*NOT STANDARDIZED
Sn1899	189.989	clp_std5	blk	48.1236	-.001422	01/17/03 02:01:34
Sr4215	421.552	clp_std5	blk	4.02940	-.000016	01/17/03 02:01:34
Th2837	283.730	clp_std6	blk	85.8404	-.002152	01/17/03 02:01:34
Ti3349	334.941	clp_std5	blk	3.53979	.000582	01/17/03 02:01:34
Tl1908	190.864	clp_std4	blk	34.8523	.019069	01/17/03 02:01:34
U_4090	409.014	clp_std6	blk	127.215	.034161	01/17/03 02:01:34
V_2924	292.402	clp_std3	blk	48.9510	.002373	01/17/03 02:01:34
W_2079	207.914	clp_std6	blk	20.8084	-.014003	01/17/03 02:01:34
Y_3710	371.030	clp_std6	blk	12.4959	.000132	01/17/03 02:01:34
Zn2062	206.200	clp_std3	blk	27.9364	.000187	01/17/03 02:01:34
Zr3496	349.621	clp_std6	blk	5.45819	-.000717	01/17/03 02:01:34

Method: DAILY2 Sample Name: icv/ccv Operator:
Run Time: 01/17/03 14:07:22
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9997	9.992	5.147	4.853	9.986	1.023	5.019
SDev	.0008	.043	.036	.011	.026	.000	.020
%RSD	.0780	.4338	.6931	.2261	.2558	.0459	.4001
#1	1.000	10.02	5.172	4.861	10.00	1.022	5.033
#2	.9992	9.961	5.122	4.846	9.968	1.023	5.005
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.93	1.018	5.080	2.020	2.024	10.22	18.44
SDev	.05	.000	.001	.002	.016	.01	.14
%RSD	.2464	.0252	.0119	.1009	.7928	.0779	.7862
#1	19.90	1.019	5.081	2.018	2.035	10.22	18.54
#2	19.97	1.018	5.080	2.021	2.013	10.23	18.33
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.992	4.851	20.23	1.023	5.174	28.18	Q39.64
SDev	.018	.037	.04	.002	.006	.10	.34
%RSD	.3556	.7627	.2160	.1650	.1192	.3495	.8669
#1	5.005	4.878	20.26	1.022	5.170	28.25	Q39.89
#2	4.980	4.825	20.20	1.025	5.178	28.11	Q39.40
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.992	5.263	5.053	5.129	1.010	1.039	1.036
SDev	.013	.068	.084	.019	.007	.006	.016
%RSD	.2641	1.287	1.659	.3664	.6771	.5728	1.559
#1	5.002	5.311	4.994	5.116	1.015	1.035	1.047
#2	4.983	5.215	5.112	5.142	1.005	1.043	1.024
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	901702	10000	--	--	--	--	--
SDev	39695.56	.0000000	--	--	--	--	--
%RSD	4.402293	.0000000	--	--	--	--	--
#1	929771	10000	--	--	--	--	--
#2	873633	10000	--	--	--	--	--

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Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.5	5.359	5.465	5.031	5.104	5.429	5.001
SDev	4.4	.080	.007	.012	.040	.032	.005
%RSD	4.405	1.498	.1332	.2303	.7930	.5821	.1088
#1	103.6	5.302	5.459	5.039	5.075	5.407	5.004
#2	97.35	5.415	5.470	5.023	5.132	5.452	4.997
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.104	.9988	4.885	5.386	1.001	5.050	1.013
SDev	.009	.0039	.009	.028	.010	.004	.002
%RSD	.1766	.3884	.1900	.5114	1.042	.0825	.2317
#1	5.110	1.002	4.892	5.405	1.008	5.053	1.015
#2	5.098	.9960	4.879	5.366	.9932	5.047	1.011
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.037	1.031	4.919
SDev	.010	.004	.017
%RSD	.1933	.4023	.3472
#1	5.044	1.028	4.931
#2	5.030	1.034	4.907
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

Analysis Report Blank Sample 01/17/03 02:18:23 PM page 1

Method: DAILY2 Sample Name: icb/ccb Operator:
Run Time: 01/17/03 14:13:53
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0031	-.0021	H.0169	.0003	-.0000	-.0013
SDev	.0000	.0014	.0014	.0034	.0001	.0000	.0008
%RSD	1.305	45.17	69.13	19.87	38.18	20.52	56.97
#1	-.0003	.0021	-.0011	H.0193	.0004	-.0000	-.0019
#2	-.0003	.0041	-.0031	H.0145	.0002	-.0000	-.0008
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0100	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0100	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0064	-.0001	-.0001	.0008	.0008	.0003	.0060
SDev	.0003	.0001	.0005	.0009	.0003	.0008	.0013
%RSD	4.130	69.60	337.7	105.7	40.72	321.7	20.91
#1	.0066	-.0001	.0002	.0014	.0010	-.0003	.0068
#2	.0062	-.0002	-.0005	.0002	.0005	.0008	.0051
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0002	-.0008	.0002	.0027	L-.0867	.0076
SDev	.0002	.0001	.0002	.0001	.0003	.0968	.0001
%RSD	158.1	38.07	27.65	68.38	12.55	111.6	1.063
#1	-.0003	.0003	-.0009	.0003	.0030	-.0183	.0076
#2	.0000	.0002	-.0006	.0001	.0025	L-.1551	.0075
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0011	-.0006	.0015	.0016	.0027	.0007
SDev	.0007	.0012	.0001	.0001	.0023	.0015	.0000
%RSD	232.4	107.5	15.52	3.627	141.0	53.61	3.750
#1	-.0002	.0003	-.0006	.0015	.0032	.0038	.0008
#2	.0008	.0020	-.0007	.0016	.0000	.0017	.0007
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.5	-.0013	.0015	.0029	.0008	.0006	-.0014
SDev	.3	.0041	.0003	.0009	.0000	.0012	.0022
%RSD	.3317	327.1	19.17	29.58	.4571	204.0	157.7
#1	101.3	-.0042	.0017	.0023	.0008	-.0003	-.0030
#2	101.8	.0017	.0013	.0035	.0008	.0014	.0002
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0020	.0004	.0053	-.0052	.0011	-.0012
SDev	.0000	.0026	.0003	.0001	.0074	.0005	.0006
%RSD	40.60	131.5	67.26	1.768	141.3	45.47	47.38
#1	.0001	.0038	.0005	.0053	-.0000	.0014	-.0016
#2	.0001	.0001	.0002	.0054	-.0104	.0007	-.0008
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0004	.0010	.0008
SDev	.0002	.0000	.0008
%RSD	46.20	2.491	93.81
#1	.0005	.0010	.0013
#2	.0002	.0010	.0003
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	911156	10000	--	--	--	--	--
SDev	3024.296	.0000000	--	--	--	--	--
%RSD	.3319187	.0000000	--	--	--	--	--
#1	909017	10000	--	--	--	--	--
#2	913294	10000	--	--	--	--	--

Analysis Report QC Standard 01/17/03 02:23:03 PM

Method: DAILY2 Sample Name: cri Operator:
Run Time: 01/17/03 14:18:34
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0204	.0930	.0214	.1107	.0211	.0101	.0006
SDev	.0004	.0010	.0004	.0005	.0000	.0000	.0015
%RSD	2.006	1.076	1.977	.4738	.0948	.3199	235.6
#1	.0207	.0937	.0211	.1111	.0211	.0101	.0017
#2	.0201	.0923	.0217	.1103	.0211	.0101	-.0004
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value	.0200	.1000	.0200	.1000	.0200	.0100	
Range	50.00	50.00	50.00	50.00	50.00	50.00	

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	.0101	.1014	.0209	.0498	.1089	.0053
SDev	.0003	.0001	.0002	.0009	.0002	.0027	.0050
%RSD	21.33	1.255	.2303	4.261	.3268	2.430	94.47
#1	-.0012	.0102	.1015	.0203	.0499	.1107	.0088
#2	-.0016	.0100	.1012	.0216	.0497	.1070	.0017
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value		.0100	.1000	.0200	.0500	.1000	
Range		50.00	50.00	50.00	50.00	50.00	

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0719	.0039	.0307	.0216	.1340	.0130
SDev	.0000	.0000	.0004	.0001	.0003	.0690	.0020
%RSD	17.79	.0115	9.290	.4783	1.274	51.53	15.61
#1	.0002	.0719	.0037	.0306	.0214	.1828	.0144
#2	.0002	.0719	.0042	.0308	.0218	.0852	.0115
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		.1000		.0300	.0200		
Range		50.00		50.00	50.00		

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0813	.1052	.0051	.0066	.0021	.0057	.1224
SDev	.0001	.0021	.0027	.0003	.0009	.0030	.0012
%RSD	.1675	1.985	52.81	3.875	43.81	53.00	1.010
#1	.0814	.1038	.0032	.0064	.0027	.0036	.1232
#2	.0812	.1067	.0070	.0068	.0014	.0078	.1215
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	.0800	.1000					.1200
Range	50.00	50.00					50.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	105.2	.0101	.0108	.0999	.0061	.0106	.0994
SDev	.6	.0023	.0004	.0008	.0011	.0005	.0006
%RSD	.6014	22.73	3.989	.7541	17.49	4.498	.5513
#1	105.6	.0085	.0111	.0993	.0054	.0103	.0998
#2	104.7	.0117	.0105	.1004	.0069	.0109	.0990
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				.1000	.0060	.0100	.1000
Range				50.00	50.00	50.00	50.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0204	.0002	.0195	.0241	.0164	.1014	-.0014
SDev	.0000	.0013	.0001	.0002	.0095	.0008	.0007
%RSD	.1067	680.7	.4942	.8185	58.03	.7374	53.36
#1	.0204	-.0007	.0194	.0243	.0097	.1009	-.0009
#2	.0204	.0011	.0196	.0240	.0231	.1019	-.0019
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass	NOCHECK
Value	.0200		.0200	.0200		.1000	
Range	50.00		50.00	50.00		50.00	

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0002	.0410	.0004
SDev	.0001	.0001	.
%RSD	30.54	.1419	125.5
#1	.0001	.0409	.0000
#2	.0002	.0410	.0008
Errors	NOCHECK	QC Pass	NOCHECK
Value		.0400	
Range		50.00	

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	943756	10000	--	--	--	--	--
SDev	5697.159	.0000000	--	--	--	--	--
%RSD	.6036683	.0000000	--	--	--	--	--
#1	947785	10000					

Method: DAILY2 Sample Name: icsa Operator:
Run Time: 01/17/03 14:23 Filename: DAILY45
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.:

010109

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	521.5	.0027	-.0055	.0014	.0001
SDev	.0006	.8894	.0005	.001	.0001	0
%RSD	48.38	.1705	19.09	18.27	5.083	31.96

Elems	Bi2230	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	460.7	.0037	-.0001	.0024	.0028
SDev	.0004	.8825	.0004	.0002	.0007	.0001
%RSD	32.15	.1916	10.55	246.9	31.37	3.285

Elems	Fe2714	K_7664	La3988	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	190.2	.0056	.0029	.0004	541.7	-.0014
SDev	.1789	.0062	.0002	0	.2926	0
%RSD	.094	110	5.813	3.343	.054	.3704

Elems	Mo2020	Na3302	Na5889	Ni2316	P_1782	2203/1
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.4398	-.0001	.0007	-.0058	-.0039
SDev	.0019	.0814	.0019	.0006	.0081	.0035
%RSD	3670	18.52	1501	75.06	138.9	91.73

Elems	2203/2	Pd3404	S_1820	Sb2068	Sc3613	1960/1
Units	ppm	ppm	ppm	ppm	%R	ppm
Avge	-.0020	.0071	.1901	-.0011	92.45	.0033
SDev	.0004	.0006	.0028	.0139	.1182	.0001
%RSD	18.58	9.03	1.498	1216	.1278	2.354

Elems	1960/2	Si2881	Pb220	Se196	Sn1899	Sr4215
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0047	.0361	-.0026	-.0020	-.0022	.0123
SDev	.0021	.0009	.0014	.0014	.002	0
%RSD	45.6	2.473	54.77	72.59	90.58	.2156

Elems	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0127	-.0001	.0129	.0124	.0017	-.0013
SDev	.0025	.0002	.0026	.0114	.0011	.0031
%RSD	19.64	226.3	19.82	92.24	62.51	238.6

Elems	Y_3710	Zn2062	Zr3496	*Sc	*TIME
Units	ppm	ppm	ppm		
Avge	-.0003	.0202	.0004	829622	10000
SDev	0	.0001	.0005	1001.26	0
%RSD	13.99	.6868	112.9	.12068	0

Method: DAILY2 Sample Name: icsab Operator:
Run Time: 01/17/03 14:27:56
Comment:
Mode: CONC Corr. Factor: 1

010110

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.084	514.3	1.071	1.055	.5143	.4938	-.0035
SDev	.002	.6	.001	.005	.0012	.0028	.0070
%RSD	.1503	.1167	.0988	.4858	.2410	.5650	198.1
#1	1.082	514.7	1.072	1.051	.5152	.4918	-.0085
#2	1.085	513.9	1.071	1.058	.5134	.4957	.0014
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value	1.000	500.0	1.000	1.000	.5000	.5000	
Range	20.00	20.00	20.00	20.00	20.00	20.00	

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	455.1	.9622	.4856	.4909	.5499	186.9	.0155
SDev	3.9	.0040	.0022	.0026	.0029	.8	.0400
%RSD	.8583	.4154	.4443	.5218	.5224	.4449	258.8
#1	452.4	.9594	.4841	.4891	.5520	186.3	-.0128
#2	457.9	.9651	.4872	.4927	.5479	187.5	.0437
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value	500.0	1.000	.5000	.5000	.5000	200.0	
Range	20.00	20.00	20.00	20.00	20.00	20.00	

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0019	1.220	535.1	.4904	1.035	.3246	.0057
SDev	.0020	.012	2.5	.0022	.006	.3877	.0017
%RSD	104.3	.9850	.4685	.4465	.6203	119.4	29.80
#1	.0005	1.229	533.3	.4889	1.030	.0504	.0045
#2	.0034	1.212	536.9	.4920	1.039	.5987	.0069
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value			500.0	.5000	1.000		
Range			20.00	20.00	20.00		

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9521	1.047	1.026	1.045	.0058	.1763	1.066
SDev	.0032	.005	.020	.003	.0085	.0135	.002
%RSD	.3344	.4975	1.926	.3102	145.9	7.679	.1408
#1	.9498	1.050	1.012	1.048	-.0002	.1667	1.065
#2	.9543	1.043	1.040	1.043	.0118	.1858	1.067
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	1.000						1.000
Range	20.00						20.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010111

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	91.47	1.055	1.060	1.071	1.039	1.058	1.030
SDev	2.10	.002	.005	.007	.004	.004	.005
%RSD	2.301	.2002	.4688	.6747	.4257	.3795	.4603
#1	92.96	1.057	1.063	1.066	1.036	1.061	1.027
#2	89.99	1.054	1.056	1.076	1.042	1.055	1.034
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value					1.000	1.000	1.000
Range					20.00	20.00	20.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.044	.0137	.9652	1.047	-.0040	.5014	-.0075
SDev	.001	.0052	.0017	.007	.0479	.0029	.0035
%RSD	.1128	38.14	.1732	.6230	1198.	.5704	46.57
#1	1.045	.0174	.9640	1.043	-.0379	.4994	-.0099
#2	1.043	.0100	.9663	1.052	.0299	.5034	-.0050
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK
Value	1.000			1.000		.5000	
Range	20.00			20.00		20.00	

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0002	.9634	.0002
SDev	.0000	.0115	.0000
%RSD	5.003	1.190	15.32
#1	-.0003	.9553	.0003
#2	-.0002	.9715	.0002
Errors	NOCHECK	QC Pass	NOCHECK
Value		1.000	
Range		20.00	

010112

IntStd	1	2	3	4	5	6	
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	820911	10000	--	--	--	--	--
SDev	18817.53	.0000000	--	--	--	--	--
%RSD	2.292273	.0000000	--	--	--	--	--
#1	834217	10000	--	--	--	--	--
#2	807605	10000	--	--	--	--	--

Analysis Report 01/17/03 03:15:56 PM page 1

Method: DAILY2 Sample Name: pbw-a16w2 pg52-034 Operator:

010113

Run Time: 01/17/03 15:11:26
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0062	-.0005	.0023	.0001	-.0000	.0010
SDev	.0000	.0006	.0003	.0002	.0000	.0000	.0004
%RSD	2.843	10.26	52.00	10.34	35.54	317.3	42.03
#1	-.0001	.0058	-.0003	.0025	.0001	-.0000	.0013
#2	-.0001	.0067	-.0007	.0022	.0001	.0000	.0007

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0043	.0001	.0003	.0007	.0005	-.0139	.0033
SDev	.0008	.0001	.0002	.0000	.0001	.0003	.0074
%RSD	19.00	167.0	71.07	1.220	11.98	2.262	226.7
#1	.0038	-.0000	.0001	.0007	.0005	-.0136	-.0020
#2	.0049	.0001	.0004	.0007	.0006	-.0141	.0085

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0000	.0020	.0002	.0011	-.0268	.0213
SDev	.0005	.0000	.0058	.0001	.0001	.1396	.0007
%RSD	37470.	5.988	292.2	26.01	11.88	520.8	3.366
#1	-.0003	.0000	-.0021	.0001	.0012	-.1255	.0207
#2	.0003	.0000	.0061	.0002	.0010	.0719	.0218

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0008	.0007	-.0001	.0001	.0070	.0025
SDev	.0005	.0024	.0035	.0014	.0010	.0045	.0007
%RSD	1240.	293.6	509.7	2025.	765.6	64.06	28.90
#1	-.0003	-.0025	-.0018	.0009	-.0006	.0038	.0020
#2	.0004	.0009	.0032	-.0011	.0008	.0101	.0030

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.58	-.0043	.0015	.0053	.0002	-.0004	-.0007
SDev	.13	.0012	.0037	.0017	.0003	.0021	.0004
%RSD	.1277	26.71	241.1	31.86	126.9	506.3	56.95
#1	99.67	-.0051	.0041	.0041	.0000	.0011	-.0004
#2	99.49	-.0035	-.0011	.0065	.0004	-.0019	-.0009

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0024	.0002	.0002	.0088	.0007	-.0033
SDev	.0000	.0010	.0000	.0007	.0101	.0006	.0012
%RSD	98.59	40.39	17.40	303.4	115.8	87.80	37.39
#1	.0000	.0017	.0002	-.0003	.0016	.0003	-.0042
#2	.0000	.0031	.0002	.0007	.0159	.0011	-.0025

010114

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0002	.0010	.0004
SDev	.0000	.0003	.0000
%RSD	9.012	29.23	9.773
#1	.0002	.0008	.0004
#2	.0002	.0012	.0004

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	893718	10000	--	--	--	--	--
SDev	1157.534	.0000000	--	--	--	--	--
%RSD	.1295190	.0000000	--	--	--	--	--
#1	894536	10000	--	--	--	--	--
#2	892899	10000	--	--	--	--	--

Method: DAILY2 Sample Name: lcsw-a16w2 Operator:

010115

Run Time: 01/17/03 15:16:07
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0519	1.942	2.087	.0024	2.036	.0518	.0028
SDev	.0002	.002	.005	.0009	.001	.0000	.0014
%RSD	.3323	.1267	.2502	38.99	.0638	.0238	50.75
#1	.0520	1.943	2.084	.0017	2.037	.0517	.0018
#2	.0518	1.940	2.091	.0031	2.035	.0518	.0038

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.94	.0516	.5106	.2058	.2534	1.093	16.52
SDev	.01	.0004	.0009	.0017	.0009	.006	.01
%RSD	.0659	.7319	.1750	.8093	.3565	.5262	.0410
#1	19.93	.0513	.5099	.2047	.2527	1.089	16.52
#2	19.95	.0518	.5112	.2070	.2540	1.097	16.52

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0002	20.40	.5117	.0008	17.94	24.93
SDev	.0003	.0001	.00	.0001	.0006	.06	.02
%RSD	177.6	26.85	.0197	.0089	67.87	.3612	.0613
#1	.0004	.0001	20.40	.5117	.0012	17.90	24.94
#2	-.0000	.0002	20.41	.5117	.0004	17.99	24.92

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5047	-.0007	.5154	.5154	.0029	.0121	.5120
SDev	.0001	.0016	.0000	.0019	.0021	.0037	.0036
%RSD	.0205	230.4	.0047	.3703	70.95	30.59	.7089
#1	.5047	-.0018	.5153	.5168	.0043	.0095	.5095
#2	.5048	.0004	.5154	.5141	.0014	.0148	.5146

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.56	2.160	2.164	4.138	.5154	2.163	.0002
SDev	.53	.017	.002	.002	.0013	.007	.0005
%RSD	.5462	.7988	.1123	.0528	.2459	.3409	207.0
#1	96.93	2.172	2.166	4.140	.5163	2.168	-.0001
#2	96.19	2.148	2.163	4.137	.5145	2.158	.0006

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	-.0037	.0004	2.168	3.974	.5092	-.0007
SDev	.0000	.0017	.0001	.001	.000	.0001	.0005
%RSD	.9847	45.34	22.56	.0240	.0036	.0090	73.35
#1	.0006	-.0025	.0003	2.167	3.974	.5092	-.0003
#2	.0006	-.0049	.0004	2.168	3.974	.5092	-.0010

010116

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0024	.5220	-.0025
SDev	.0001	.0001	.0003
%RSD	5.229	.0138	14.01
#1	.0023	.5220	-.0027
#2	.0025	.5219	-.0022

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	866610	10000	--	--	--	--	--
SDev	4724.180	.0000000	--	--	--	--	--
%RSD	.5451331	.0000000	--	--	--	--	--
#1	869951	10000	--	--	--	--	--
#2	863270	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218741 Operator:

Run Time: 01/17/03 15:20:48

Comment:

Mode: CONC Corr. Factor: 1

010117

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0038	-.0006	.0306	.1392	.0000	.0008
SDev	.0004	.0011	.0004	.0007	.0003	.0000	.0036
%RSD	133.2	29.07	76.20	2.214	.2021	65.89	439.6
#1	-.0006	.0030	-.0003	.0302	.1394	.0000	-.0017
#2	-.0000	.0046	-.0009	.0311	.1390	.0000	.0034

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.95	.0001	-.0000	.0008	.0459	.0163	.0211
SDev	.02	.0001	.0006	.0002	.0001	.0017	.0075
%RSD	.0507	140.1	1603.	19.76	.1298	10.48	35.49
#1	39.93	.0000	-.0005	.0007	.0459	.0176	.0263
#2	39.96	.0002	.0004	.0009	.0460	.0151	.0158

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0001	.0077	.0008	.0000	.6710	.9412
SDev	.0004	.0000	.0070	.0000	.0014	.1423	.0035
%RSD	93.37	3.194	91.54	.9962	2916.	21.21	.3684
#1	-.0007	.0001	.0027	.0008	-.0009	.7716	.9436
#2	-.0002	.0001	.0126	.0008	.0010	.5703	.9387

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0035	-.0025	.0014	.0016	.0234	.0002
SDev	.0001	.0073	.0028	.0001	.0012	.0005	.0004
%RSD	38.87	209.4	109.3	4.878	74.80	1.945	175.7
#1	-.0002	.0017	-.0045	.0014	.0024	.0237	.0005
#2	-.0004	-.0086	-.0006	.0014	.0007	.0231	-.0001

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.5	-.0029	.0032	3.145	.0001	.0011	.1831
SDev	.4	.0015	.0007	.007	.0009	.0010	.0032
%RSD	.4032	52.04	21.38	.2330	834.2	83.78	1.733
#1	101.3	-.0040	.0027	3.140	-.0005	.0005	.1854
#2	101.8	-.0018	.0036	3.150	.0007	.0018	.1809

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0256	.0001	.0001	.0031	.0031	.0003	-.0039
SDev	.0000	.0004	.0001	.0010	.0275	.0002	.0038
%RSD	.0978	816.1	146.4	31.16	891.6	50.77	95.07
#1	.0256	-.0002	.0001	.0024	-.0163	.0004	-.0013
#2	.0256	.0003	-.0000	.0038	.0225	.0002	-.0066

010118

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0309	.0003
SDev	.0001	.0000	.0003
%RSD	129.0	.0959	87.50
#1	-.0000	.0309	.0001
#2	-.0001	.0310	.0005

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	911223	10000	--	--	--	--	--
SDev	3650.085	.0000000	--	--	--	--	--
%RSD	.4005699	.0000000	--	--	--	--	--
#1	908642	10000	--	--	--	--	--
#2	913804	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218741d Operator:

010119

Run Time: 01/17/03 15:25:29
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0022	-.0070	-.0007	.0292	.1392	-.0000	-.0038
SDev	.0005	.0007	.0021	.0006	.0004	.0000	.0004
%RSD	23.89	9.667	283.7	2.003	.2620	6471.	11.74
#1	-.0026	-.0075	.0007	.0296	.1394	-.0000	-.0035
#2	-.0018	-.0065	-.0022	.0288	.1389	.0000	-.0041

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.02	-.0005	-.0011	-.0010	-.0004	-.0269	.0029
SDev	.07	.0004	.0006	.0001	.0002	.0073	.0010
%RSD	.1639	94.49	56.26	14.18	51.11	27.17	35.97
#1	39.97	-.0008	-.0015	-.0011	-.0005	-.0217	.0022
#2	40.07	-.0002	-.0007	-.0009	-.0002	-.0320	.0036

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0019	.0000	-.0065	.0005	-.0004	.4855	.9394
SDev	.0002	.0000	.0030	.0001	.0002	.2173	.0046
%RSD	11.15	3.459	47.24	12.88	44.82	44.76	.4863
#1	-.0021	.0000	-.0086	.0005	-.0002	.6391	.9426
#2	-.0018	.0000	-.0043	.0006	-.0005	.3318	.9362

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	-.0045	-.0005	.0000	-.0042	.0256	-.0049
SDev	.0028	.0038	.0033	.0042	.0000	.0050	.0034
%RSD	389.1	84.98	670.9	14900.	1.008	19.37	68.40
#1	-.0027	-.0072	.0019	-.0029	-.0042	.0291	-.0073
#2	.0013	-.0018	-.0028	.0030	-.0043	.0221	-.0025

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.1	-.0019	.0008	3.150	-.0001	-.0001	-.0021
SDev	.8	.0038	.0053	.002	.0017	.0023	.0008
%RSD	.7561	194.2	634.4	.0700	1263.	2773.	37.80
#1	101.7	.0007	-.0029	3.152	-.0013	-.0017	-.0026
#2	100.6	-.0046	.0046	3.149	.0010	.0015	-.0015

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0256	-.0024	-.0002	.0003	-.0475	-.0008	-.0059
SDev	.0000	.0008	.0000	.0029	.0041	.0004	.0009
%RSD	.0147	34.04	8.262	934.0	8.727	46.23	14.64
#1	.0256	-.0029	-.0002	.0023	-.0505	-.0010	-.0053
#2	.0256	-.0018	-.0002	-.0017	-.0446	-.0005	-.0065

010120

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0002	.0045	-.0013
SDev	.0000	.0001	.0001
%RSD	8.616	1.675	8.895
#1	-.0002	.0046	-.0014
#2	-.0002	.0045	-.0012

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	907380	10000	--	--	--	--	--
SDev	6817.216	.0000000	--	--	--	--	--
%RSD	.7513074	.0000000	--	--	--	--	--
#1	912201	10000	--	--	--	--	--
#2	902560	10000	--	--	--	--	--

Analysis Report 01/17/03 03:34:40 PM page 1

Method: DAILY2 Sample Name: 218742 Operator: 010121
Run Time: 01/17/03 15:30:10
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0011	-.0004	-.0010	.0146	.0727	.0000	-.0010
SDev	.0005	.0008	.0019	.0015	.0001	.0000	.0009
%RSD	46.29	196.8	185.7	10.28	.2053	18.53	93.57
#1	-.0015	.0002	-.0024	.0157	.0726	.0000	-.0003
#2	-.0008	-.0010	.0003	.0136	.0728	.0000	-.0017

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	45.17	-.0001	-.0003	.0000	.0001	-.0125	.0153
SDev	.30	.0002	.0001	.0012	.0004	.0055	.0122
%RSD	.6654	245.8	41.24	3232.	646.6	43.77	79.30
#1	45.38	.0001	-.0003	.0009	.0003	-.0164	.0067
#2	44.95	-.0002	-.0002	-.0008	-.0002	-.0086	.0239

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0010	.0001	-.0030	.0014	.0001	.2642	.2899
SDev	.0004	.0000	.0013	.0001	.0009	.1086	.0089
%RSD	41.39	.8547	44.24	7.229	745.3	41.12	3.082
#1	-.0012	.0001	-.0040	.0014	.0008	.3410	.2835
#2	-.0007	.0001	-.0021	.0013	-.0005	.1874	.2962

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	.0053	-.0054	.0034	-.0017	.0198	.0026
SDev	.0000	.0008	.0032	.0011	.0007	.0021	.0019
%RSD	3.088	15.86	60.27	33.43	42.00	10.63	72.38
#1	-.0007	.0059	-.0076	.0042	-.0022	.0183	.0039
#2	-.0007	.0047	-.0031	.0026	-.0012	.0213	.0013

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.9	-.0019	.0026	3.388	.0005	.0011	-.0000
SDev	1.4	.0006	.0021	.007	.0003	.0012	.0014
%RSD	1.349	30.53	79.48	.1939	68.15	106.4	4354.
#1	101.0	-.0023	.0041	3.393	.0002	.0020	-.0010
#2	102.9	-.0015	.0011	3.383	.0007	.0003	.0010

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0292	-.0007	.0001	.0003	-.0175	-.0002	-.0062
SDev	.0001	.0016	.0003	.0007	.0017	.0007	.0026
%RSD	.1720	227.1	276.7	225.5	9.625	335.3	42.72
#1	.0292	.0004	.0003	.0008	-.0187	.0003	-.0043
#2	.0292	-.0018	-.0001	-.0002	-.0163	-.0007	-.0081

Units	ppm	ppm	ppm
Avge	-.0001	.0196	.0000
SDev	.0001	.0001	.0007
%RSD	117.1	.2368	10700.
#1	-.0000	.0196	.0005
#2	-.0002	.0196	-.0005

010123

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	914700	10000	--	--	--	--	--
SDev	12376.49	.0000000	--	--	--	--	--
%RSD	1.353065	.0000000	--	--	--	--	--
#1	905949	10000	--	--	--	--	--
#2	923452	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218742s Operator:
Run Time: 01/17/03 15:34:51

Mode: CONC Corr. Factor: 1

010124

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0512	1.957	2.078	.0156	2.097	.0510	.0005
SDev	.0002	.002	.008	.0010	.004	.0002	.0019
%RSD	.3645	.0863	.4010	6.764	.2111	.3490	368.8
#1	.0513	1.958	2.073	.0163	2.093	.0511	-.0008
#2	.0511	1.956	2.084	.0148	2.100	.0508	.0019

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	65.17	.0499	.5030	.2024	.2557	1.067	17.87
SDev	.11	.0003	.0017	.0001	.0005	.014	.07
%RSD	.1661	.5476	.3331	.0285	.1971	1.315	.3898
#1	65.25	.0497	.5042	.2025	.2553	1.077	17.82
#2	65.10	.0501	.5018	.2024	.2561	1.057	17.92

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0003	20.52	.5069	.0002	18.97	27.10
SDev	.0002	.0000	.00	.0010	.0003	.03	.12
%RSD	43.12	9.274	.0130	.1904	111.3	.1610	.4472
#1	-.0003	.0002	20.52	.5076	.0000	18.99	27.02
#2	-.0007	.0003	20.52	.5063	.0004	18.95	27.19

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4953	.0055	.5125	.5103	-.0001	.0305	.5105
SDev	.0009	.0119	.0011	.0017	.0005	.0103	.0025
%RSD	.1905	217.2	.2112	.3331	471.4	33.69	.4814
#1	.4960	-.0029	.5117	.5091	.0002	.0377	.5122
#2	.4946	.0139	.5132	.5115	-.0004	.0232	.5087

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.88	2.156	2.137	7.626	.5110	2.143	.0006
SDev	.67	.016	.009	.001	.0015	.011	.0009
%RSD	.6811	.7245	.4391	.0108	.2923	.5348	151.1
#1	97.41	2.144	2.130	7.626	.5100	2.135	.0012
#2	98.35	2.167	2.143	7.625	.5121	2.151	-.0000

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0299	-.0026	.0003	2.150	4.004	.5064	-.0042
SDev	.0000	.0001	.0001	.008	.005	.0001	.0003
%RSD	.1041	4.778	16.74	.3519	.1299	.0298	7.876
#1	.0299	-.0025	.0003	2.144	4.000	.5065	-.0040
#2	.0299	-.0027	.0003	2.155	4.007	.5063	-.0044

Units	ppm	ppm	ppm
Avge	.0023	.5251	-.0027
SDev	.0000	.0017	.0001
%RSD	1.519	.3272	3.842
#1	.0023	.5263	-.0028
#2	.0023	.5238	-.0027

010125

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	878445	10000	--	--	--	--	--
SDev	5924.141	.0000000	--	--	--	--	--
%RSD	.6743895	.0000000	--	--	--	--	--
#1	874256	10000	--	--	--	--	--
#2	882634	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218743 Operator:
Run Time: 01/17/03 15:39:32

Mode: CONC Corr. Factor: 1

010126

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0008	-.0009	-.0013	.0164	.0555	.0000	-.0029
SDev	.0014	.0066	.0006	.0015	.0001	.0000	.0022
%RSD	179.0	757.2	43.22	9.349	.0848	8.316	75.35
#1	-.0018	-.0056	-.0009	.0153	.0555	.0000	-.0045
#2	.0002	.0038	-.0017	.0175	.0554	.0000	-.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.57	-.0001	-.0003	.0010	.0004	.0001	.0194
SDev	.18	.0002	.0008	.0016	.0008	.0304	.0237
%RSD	.4550	235.7	289.3	164.8	212.0	26770.	122.1
#1	40.44	-.0002	-.0008	-.0002	-.0002	-.0214	.0026
#2	40.70	.0001	.0003	.0021	.0010	.0216	.0361

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0002	-.0008	.0009	.0002	.2565	.2133
SDev	.0010	.0001	.0116	.0001	.0004	.2509	.0034
%RSD	109.5	51.02	1456.	15.15	260.1	97.80	1.587
#1	-.0016	.0001	-.0090	.0008	-.0001	.0791	.2157
#2	-.0002	.0003	.0074	.0010	.0004	.4340	.2109

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	-.0083	-.0047	.0014	.0009	.0234	.0021
SDev	.0015	.0015	.0059	.0044	.0023	.0072	.0003
%RSD	212.9	17.71	125.5	313.2	259.4	30.87	13.12
#1	-.0018	-.0093	-.0005	-.0017	-.0007	.0285	.0019
#2	.0004	-.0073	-.0088	.0046	.0025	.0183	.0023

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.5	.0012	.0021	3.110	-.0006	.0018	.1237
SDev	2.1	.0000	.0009	.001	.0010	.0006	.0019
%RSD	2.075	2.672	40.86	.0395	167.6	31.13	1.520
#1	103.0	.0012	.0015	3.109	-.0013	.0014	.1224
#2	100.0	.0012	.0027	3.111	.0001	.0022	.1251

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0260	.0037	.0002	.0023	-.0147	.0004	-.0050
SDev	.0000	.0024	.0003	.0036	.0494	.0010	.0019
%RSD	.0416	64.30	116.7	154.5	337.3	280.6	37.87
#1	.0260	.0020	.0000	.0049	-.0496	-.0004	-.0063
#2	.0260	.0053	.0004	-.0002	.0203	.0011	-.0037

Units	ppm	ppm	ppm
Avge	-.0000	.0157	.0002
SDev	.0002	.0003	.0011
%RSD	7751.	2.196	460.3
#1	-.0001	.0155	-.0005
#2	.0001	.0160	.0010

010127

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	910809	10000	--	--	--	--	--
SDev	18958.95	.0000000	--	--	--	--	--
%RSD	2.081550	.0000000	--	--	--	--	--
#1	924215	10000	--	--	--	--	--
#2	897403	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218744 Operator:
Run Time: 01/17/03 15:44:13

010128

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0007	.0008	.0325	.1584	.0000	-.0017
SDev	.0008	.0005	.0003	.0006	.0001	.0000	.0063
%RSD	304.0	69.78	40.04	1.797	.0508	77.49	372.5
#1	-.0008	-.0010	.0006	.0329	.1583	.0000	-.0061
#2	.0003	-.0003	.0010	.0321	.1584	.0000	.0028

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	41.28	.0001	.0003	.0011	.0002	-.0020	.0297
SDev	.05	.0001	.0002	.0001	.0003	.0110	.0150
%RSD	.1116	135.9	68.84	9.735	152.9	544.6	50.45
#1	41.31	.0000	.0002	.0010	.0003	-.0098	.0191
#2	41.25	.0002	.0005	.0011	-.0000	.0057	.0403

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0002	.0066	.0009	.0012	.9685	.9738
SDev	.0002	.0000	.0025	.0001	.0005	.0146	.0028
%RSD	11210.	17.09	37.51	5.317	43.33	1.512	.2884
#1	-.0001	.0001	.0049	.0009	.0008	.9582	.9718
#2	.0001	.0002	.0084	.0009	.0015	.9789	.9758

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0029	-.0008	-.0020	.0014	.0274	.0014
SDev	.0005	.0013	.0032	.0023	.0001	.0018	.0007
%RSD	5125.	42.96	385.2	113.8	8.971	6.546	51.90
#1	.0004	-.0021	-.0031	-.0036	.0015	.0287	.0019
#2	-.0004	-.0038	.0014	-.0004	.0013	.0261	.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.2	.0013	.0004	3.162	-.0016	.0007	.0034
SDev	.2	.0017	.0014	.006	.0026	.0015	.0011
%RSD	.1673	137.6	320.5	.1933	162.3	210.7	33.02
#1	101.3	.0000	-.0006	3.158	-.0034	-.0004	.0042
#2	101.1	.0025	.0015	3.167	.0002	.0018	.0026

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0269	.0010	.0002	.0037	.0099	.0011	-.0050
SDev	.0000	.0009	.0000	.0001	.0191	.0001	.0005
%RSD	.1086	95.56	23.69	2.480	192.4	7.420	9.063
#1	.0269	.0003	.0002	.0036	-.0036	.0011	-.0053
#2	.0269	.0017	.0002	.0038	.0234	.0012	-.0047

Units	ppm	ppm	ppm
Avge	.0000	.0045	.0004
SDev	.0000	.0002	.0002
%RSD	87.12	4.023	53.26
#1	.0000	.0044	.0006
#2	.0000	.0046	.0003

010129

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	908272	10000	--	--	--	--	--
SDev	1531.593	.0000000	--	--	--	--	--
%RSD	.1686272	.0000000	--	--	--	--	--
#1	909355	10000	--	--	--	--	--
#2	907189	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218745 Operator:
Run Time: 01/17/03 15:48:54

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	-.0003	.0009	.0147	.0717	-.0000	-.0023
SDev	.0013	.0028	.0021	.0008	.0003	.0000	.0025
%RSD	94.05	816.8	239.8	5.129	.4084	25.60	108.9
#1	-.0005	.0016	-.0006	.0152	.0715	-.0000	-.0005
#2	-.0023	-.0023	.0024	.0142	.0719	-.0000	-.0041

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	41.29	-.0005	-.0004	.0003	.0002	-.0132	.0009
SDev	.20	.0003	.0006	.0001	.0002	.0291	.0303
%RSD	.4813	54.14	158.8	42.91	110.8	221.3	3494.
#1	41.43	-.0003	.0000	.0004	.0003	.0074	.0223
#2	41.15	-.0007	-.0008	.0002	.0000	-.0338	-.0205

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0017	.0001	-.0040	.0010	.0002	.1354	.2608
SDev	.0016	.0001	.0143	.0001	.0003	.3632	.0026
%RSD	93.25	110.5	356.5	7.010	136.4	268.2	.9952
#1	-.0006	.0002	.0061	.0011	.0000	.3922	.2626
#2	-.0028	.0000	-.0141	.0010	.0005	-.1214	.2589

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0047	-.0051	.0018	-.0024	.0171	.0008
SDev	.0013	.0016	.0039	.0019	.0052	.0035	.0009
%RSD	486.8	33.53	76.16	106.7	215.4	20.68	113.8
#1	.0007	-.0036	-.0024	.0004	.0013	.0146	.0014
#2	-.0012	-.0058	-.0079	.0032	-.0061	.0195	.0002

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.0	-.0017	.0030	3.137	-.0005	.0015	-.0004
SDev	1.0	.0011	.0055	.002	.0000	.0040	.0012
%RSD	1.025	64.59	184.4	.0599	3.057	277.3	309.1
#1	100.2	-.0024	-.0009	3.138	-.0005	-.0014	.0004
#2	101.7	-.0009	.0069	3.135	-.0005	.0043	-.0012

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0266	.0018	.0002	.0016	-.0220	.0004	-.0054
SDev	.0001	.0007	.0000	.0013	.0540	.0002	.0031
%RSD	.1997	40.41	10.66	78.77	246.0	48.00	56.94
#1	.0266	.0013	.0002	.0007	.0162	.0005	-.0032
#2	.0267	.0023	.0001	.0025	-.0601	.0003	-.0076

Units	ppm	ppm	ppm
Avge	.0000	.0093	.0001
SDev	.0000	.0005	.0003
%RSD	82.74	5.208	381.1
#1	.0000	.0097	.0003
#2	.0000	.0090	-.0001

010131

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	906138	10000	--	--	--	--	--
SDev	9351.487	.0000000	--	--	--	--	--
%RSD	1.032015	.0000000	--	--	--	--	--
#1	899526	10000	--	--	--	--	--
#2	912751	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218746 Operator:
Run Time: 01/17/03 15:53:35

010132

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0086	.0005	.0186	.0807	-.0000	-.0009
SDev	.0013	.0031	.0009	.0006	.0002	.0000	.0067
%RSD	153.7	35.93	185.2	3.279	.2713	70.01	753.4
#1	-.0018	.0064	-.0002	.0182	.0808	-.0000	-.0057
#2	.0001	.0107	.0011	.0191	.0805	-.0000	.0039

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	41.75	-.0002	-.0003	.0010	.0005	.0003	.0121
SDev	.21	.0003	.0005	.0005	.0004	.0439	.0305
%RSD	.4958	129.3	187.9	51.83	91.28	13560.	250.7
#1	41.61	-.0004	-.0007	.0006	.0002	-.0307	-.0094
#2	41.90	-.0000	.0001	.0014	.0008	.0313	.0337

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	.0001	-.0019	.0011	.0013	.2503	.1989
SDev	.0014	.0001	.0121	.0000	.0001	.2368	.0016
%RSD	209.7	93.70	637.4	.4713	8.225	94.60	.8005
#1	-.0017	.0000	-.0105	.0011	.0012	.0829	.2000
#2	.0003	.0002	.0067	.0011	.0014	.4177	.1978

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	-.0061	-.0031	.0008	.0003	.0221	-.0010
SDev	.0002	.0009	.0040	.0024	.0062	.0008	.0008
%RSD	38.06	14.90	127.2	302.6	2134.	3.754	79.18
#1	.0005	-.0068	-.0060	.0025	-.0041	.0215	-.0016
#2	.0008	-.0055	-.0003	-.0009	.0047	.0226	-.0004

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	102.0	-.0042	.0003	3.185	-.0005	-.0012	.0004
SDev	2.3	.0029	.0004	.004	.0003	.0007	.0020
%RSD	2.247	68.89	145.8	.1239	57.66	57.00	445.9
#1	103.6	-.0063	.0006	3.188	-.0003	-.0017	-.0009
#2	100.4	-.0022	-.0000	3.182	-.0007	-.0007	.0018

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0271	.0017	.0001	.0029	-.0037	.0005	-.0051
SDev	.0000	.0010	.0000	.0010	.0388	.0006	.0019
%RSD	.0200	62.09	46.30	34.23	1059.	125.0	36.52
#1	.0271	.0009	.0001	.0022	-.0311	.0001	-.0064
#2	.0271	.0024	.0001	.0036	.0237	.0009	-.0038

Units	ppm	ppm	ppm
Avge	-.0000	.0197	.0004
SDev	.0000	.0005	.0003
%RSD	428.5	2.445	92.62
#1	-.0000	.0193	.0001
#2	.0000	.0200	.0006

010133

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	915185	10000	--	--	--	--	--
SDev	20561.25	.0000000	--	--	--	--	--
%RSD	2.246677	.0000000	--	--	--	--	--
#1	929724	10000	--	--	--	--	--
#2	900646	10000	--	--	--	--	--

Method: DAILY2 Sample Name: icv/ccv Operator:
Run Time: 01/17/03 16:00:06

Mode: CONC Corr. Factor: 1

010134

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9988	9.978	5.137	4.834	9.931	1.018	5.010
SDev	.0008	.032	.027	.052	.037	.001	.028
%RSD	.0799	.3242	.5320	1.067	.3711	.0589	.5533
#1	.9982	9.956	5.118	4.797	9.905	1.018	4.990
#2	.9993	10.00	5.157	4.870	9.958	1.017	5.029
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.77	1.015	5.066	2.013	2.027	10.21	18.57
SDev	.06	.003	.003	.005	.011	.01	.12
%RSD	.2802	.2777	.0578	.2429	.5473	.0924	.6654
#1	19.81	1.016	5.068	2.016	2.020	10.22	18.48
#2	19.73	1.013	5.064	2.009	2.035	10.21	18.65
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.994	4.861	20.14	1.020	5.144	28.33	Q39.87
SDev	.012	.031	.03	.001	.014	.29	.22
%RSD	.2354	.6319	.1512	.0850	.2658	1.013	.5459
#1	4.986	4.839	20.11	1.021	5.135	28.12	Q39.71
#2	5.003	4.883	20.16	1.019	5.154	28.53	Q40.02
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.965	5.041	5.097	5.029	1.005	1.043	1.027
SDev	.007	.007	.029	.090	.008	.002	.007
%RSD	.1440	.1422	.5687	1.785	.7922	.2292	.6715
#1	4.970	5.036	5.117	5.093	.9995	1.041	1.022
#2	4.960	5.046	5.076	4.966	1.011	1.044	1.032
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm

SDev	3.5	.014	.061	.005	.070	.045	.003
%RSD	3.461	.2631	1.134	.1038	1.376	.8407	.0631
#1	98.70	5.448	5.403	5.025	5.101	5.418	4.996
#2	103.6	5.428	5.317	5.032	5.003	5.354	5.000
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3349	T11908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.110	.9913	4.879	5.428	1.021	5.039	1.004
SDev	.010	.0006	.007	.046	.056	.005	.007
%RSD	.1948	.0604	.1486	.8397	5.528	.0944	.6884
#1	5.103	.9917	4.874	5.396	.9811	5.036	.9995
#2	5.117	.9909	4.884	5.460	1.061	5.042	1.009
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.031	1.022	4.922
SDev	.006	.003	.015
%RSD	.1131	.2972	.3038
#1	5.027	1.024	4.911
#2	5.035	1.019	4.933
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

010135

IntStd	1	2	3	4	5	6	7

Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	907925	10000	--	--	--	--	--
SDev	31374.33	.0000000	--	--	--	--	--
%RSD	3.455608	.0000000	--	--	--	--	--
#1	885740	10000	--	--	--	--	--
#2	930110	10000	--	--	--	--	--

010136

Analysis Report Blank Sample 01/17/03 04:11:07 PM page 1

Method: DAILY2 Sample Name: icb/ccb Operator:
Run Time: 01/17/03 16:06:38

Mode: CONC Corr. Factor: 1

010137

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0078	.0001	H.0129	.0003	-.0000	.0037
SDev	.0017	.0079	.0006	.0018	.0000	.0000	.0063
%RSD	532.4	101.0	420.3	14.08	11.58	19.56	172.8
#1	-.0009	.0022	-.0003	H.0142	.0003	-.0000	-.0008
#2	.0015	.0134	.0006	H.0116	.0003	-.0000	H.0082
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0100	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0100	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0160	.0001	.0006	-.0009	-.0000	.0145	.0195
SDev	.0032	.0004	.0009	.0008	.0003	.0433	.0520
%RSD	19.77	456.9	149.6	90.93	2911.	298.3	266.6
#1	.0137	-.0002	-.0000	-.0015	-.0002	-.0161	-.0173
#2	.0182	.0004	.0013	-.0003	.0002	H.0451	.0563
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0008	.0003	.0030	-.0001	.0028	H.1611	.0087
SDev	.0021	.0001	.0172	.0001	.0008	.5866	.0003
%RSD	265.7	48.88	565.1	210.4	28.31	364.2	3.803
#1	-.0007	.0002	-.0091	-.0001	.0023	L-.2537	.0085
#2	.0022	.0004	.0152	.0000	.0034	H.5759	.0090
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0008	.0005	.0022	-.0029	.0028	.0073	-.0019
SDev	.0014	.0027	.0016	.0002	.0092	.0057	.0072
%RSD	171.0	496.1	71.95	7.825	330.8	78.60	383.7
#1	-.0018	.0024	.0011	-.0027	-.0037	.0033	-.0070
#2	.0002	-.0014	.0033	-.0031	H.0093	H.0114	.0032
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm

SDev	2.93	.0010	.0026	.0067	.0004	.0014	.0024
%RSD	2.945	23.61	460.8	105.4	31.99	127.9	6955.
#1	101.7	.0036	.0013	.0016	-.0015	.0021	.0018
#2	97.57	.0051	-.0024	H.0111	-.0009	.0001	.0017
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0021	-.0000	.0039	.0202	-.0005	-.0025
SDev	.0000	.0004	.0000	.0005	.0573	.0001	.0036
%RSD	13.33	18.91	215.9	11.80	283.7	26.66	144.9
#1	.0001	-.0024	-.0000	.0036	-.0203	-.0006	-.0050
#2	.0002	-.0018	.0000	.0042	.0607	-.0004	.0001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0011	-.0001
SDev	.0000	.0003	.0009
%RSD	65.10	22.50	891.0
#1	.0000	.0009	-.0007
#2	.0001	.0013	.0005
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7

Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	894264	10000	--	--	--	--	--
SDev	26345.38	.0000000	--	--	--	--	--
%RSD	2.946041	.0000000	--	--	--	--	--
#1	912893	10000	--	--	--	--	--
#2	875635	10000	--	--	--	--	--

010139

Analysis Report 01/17/03 04:15:48 PM page 1

Method: DAILY2 Sample Name: 218747 Operator:
Run Time: 01/17/03 16:11:19

Mode: CONC Corr. Factor: 1

010140

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0050	-.0007	.0120	.0597	-.0000	-.0041
SDev	.0001	.0003	.0014	.0015	.0003	.0000	.0011
%RSD	22.47	5.624	186.3	12.53	.4558	374.6	27.36
#1	.0002	.0052	.0002	.0131	.0595	-.0000	-.0049
#2	.0003	.0048	-.0017	.0109	.0599	.0000	-.0033

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	42.62	-.0000	-.0001	.0003	.0008	.0150	.0310
SDev	.22	.0002	.0002	.0000	.0002	.0034	.0154
%RSD	.5132	926.9	179.8	6.339	24.90	22.48	49.59
#1	42.77	.0001	.0000	.0003	.0010	.0174	.0419
#2	42.46	-.0001	-.0003	.0003	.0007	.0126	.0201

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0003	.0052	.0012	.0010	.3823	.2076
SDev	.0004	.0001	.0017	.0001	.0005	.0214	.0066
%RSD	724.7	25.24	32.13	5.935	52.15	5.606	3.161
#1	.0002	.0003	.0064	.0011	.0013	.3975	.2030
#2	-.0004	.0002	.0040	.0012	.0006	.3672	.2122

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0009	-.0040	.0003	.0043	.0151	-.0006
SDev	.0002	.0033	.0019	.0016	.0014	.0032	.0021
%RSD	80.97	352.9	48.85	506.2	33.23	21.35	368.0
#1	-.0005	-.0033	-.0026	.0015	.0053	.0173	.0009
#2	-.0001	.0014	-.0054	-.0008	.0033	.0128	-.0021

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.6	-.0042	.0016	3.208	-.0011	-.0003	-.0007
SDev	1.9	.0020	.0000	.001	.0018	.0007	.0002
%RSD	1.864	48.08	2.645	.0183	159.2	218.0	26.40
#1	99.30	-.0028	.0016	3.207	.0001	.0002	-.0008
#2	102.0	-.0056	.0016	3.208	-.0023	-.0008	-.0005

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0274	-.0007	.0002	.0014	.0138	-.0001	-.0025
SDev	.0001	.0018	.0001	.0020	.0022	.0002	.0014
%RSD	.3908	283.0	56.25	145.7	15.82	293.7	54.91
#1	.0273	-.0020	.0001	.0028	.0122	-.0002	-.0035
#2	.0275	.0007	.0002	-.0000	.0153	.0001	-.0015

Units	ppm	ppm	ppm
Avge	-.0000	.0047	.0003
SDev	.0000	.0001	.0001
%RSD	207.6	1.803	33.16
#1	-.0001	.0048	.0004
#2	.0000	.0047	.0002

010141

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	903134	10000	--	--	--	--	--
SDev	16843.28	.0000000	--	--	--	--	--
%RSD	1.864982	.0000000	--	--	--	--	--
#1	891224	10000	--	--	--	--	--
#2	915044	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218748 Operator:
Run Time: 01/17/03 16:16:00

010142

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0047	.0001	.0110	.0664	-.0000	-.0019
SDev	.0003	.0010	.0020	.0001	.0001	.0000	.0015
%RSD	75.29	21.69	2534.	.7275	.0703	62.87	75.14
#1	-.0006	.0040	-.0013	.0111	.0664	-.0000	-.0030
#2	-.0002	.0054	.0015	.0110	.0664	-.0000	-.0009

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.13	-.0001	-.0007	-.0003	-.0000	-.0039	.0062
SDev	.17	.0001	.0001	.0004	.0005	.0001	.0021
%RSD	.3882	120.8	21.07	128.5	1159.	3.751	33.78
#1	43.02	-.0000	-.0008	-.0000	-.0004	-.0038	.0047
#2	43.25	-.0002	-.0006	-.0006	.0003	-.0040	.0077

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0002	.0026	.0011	.0004	.1868	.2418
SDev	.0003	.0000	.0034	.0000	.0003	.0823	.0033
%RSD	869.6	10.46	131.1	.1190	83.06	44.07	1.353
#1	-.0003	.0002	.0002	.0011	.0002	.1286	.2395
#2	.0002	.0002	.0050	.0011	.0006	.2450	.2441

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0078	-.0003	-.0008	.0005	.0179	-.0032
SDev	.0005	.0010	.0012	.0009	.0020	.0013	.0002
%RSD	179.4	12.89	445.7	110.5	398.5	7.048	5.685
#1	-.0006	-.0085	.0006	-.0014	-.0009	.0170	-.0033
#2	.0001	-.0071	-.0011	-.0002	.0019	.0188	-.0031

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	102.2	.0015	-.0005	3.258	-.0006	.0002	-.0005
SDev	1.1	.0046	.0011	.002	.0002	.0008	.0004
%RSD	1.120	301.9	211.4	.0482	28.55	453.6	72.38
#1	101.4	.0048	-.0013	3.257	-.0007	.0008	-.0003
#2	103.0	-.0017	.0003	3.259	-.0005	-.0004	-.0008

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0279	-.0002	-.0001	.0027	-.0012	-.0002	-.0046
SDev	.0000	.0012	.0001	.0004	.0009	.0001	.0023
%RSD	.1127	677.9	106.8	15.52	71.45	59.31	49.73
#1	.0278	.0007	-.0000	.0024	-.0019	-.0003	-.0030
#2	.0279	-.0010	-.0002	.0030	-.0006	-.0001	-.0062

Units	ppm	ppm	ppm
Avge	-.0002	.0051	-.0005
SDev	.0000	.0001	.0001
%RSD	7.437	2.339	21.43
#1	-.0002	.0052	-.0006
#2	-.0002	.0050	-.0004

010143

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	916916	10000	--	--	--	--	--
SDev	10310.32	.0000000	--	--	--	--	--
%RSD	1.124457	.0000000	--	--	--	--	--
#1	909625	10000	--	--	--	--	--
#2	924206	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218749 Operator:
Run Time: 01/17/03 16:20:41

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0119	-.0016	.0343	.1397	-.0000	-.0004
SDev	.0002	.0022	.0002	.0017	.0001	.0000	.0036
%RSD	178.6	18.17	15.50	4.990	.0523	93.21	823.1
#1	-.0003	.0104	-.0014	.0331	.1398	-.0001	-.0030
#2	.0000	.0134	-.0018	.0355	.1397	-.0000	.0021

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.22	.0001	.0004	.0001	-.0001	.0064	.0207
SDev	.12	.0001	.0003	.0010	.0004	.0138	.0205
%RSD	.2765	211.3	89.79	968.3	479.2	214.8	98.76
#1	43.14	.0001	.0001	-.0006	-.0003	-.0033	.0063
#2	43.31	-.0000	.0006	.0008	.0002	.0162	.0352

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0001	.0122	.0011	.0004	.6590	.9379
SDev	.0001	.0000	.0020	.0002	.0001	.1639	.0007
%RSD	133.2	29.47	16.60	20.57	31.33	24.87	.0754
#1	-.0001	.0001	.0136	.0009	.0003	.5432	.9374
#2	-.0000	.0002	.0108	.0012	.0005	.7749	.9384

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0041	.0019	-.0004	-.0011	.0302	-.0035
SDev	.0003	.0066	.0021	.0010	.0031	.0063	.0031
%RSD	95.50	160.8	109.4	237.8	274.4	20.82	88.31
#1	-.0005	.0006	.0034	-.0012	-.0033	.0347	-.0058
#2	-.0001	-.0088	.0004	.0003	.0011	.0258	-.0013

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	102.1	.0001	.0011	3.262	.0004	.0008	.0018
SDev	.4	.0060	.0001	.001	.0000	.0019	.0002
%RSD	.4397	8331.	10.27	.0443	2.985	256.7	9.239
#1	101.8	.0043	.0010	3.261	.0004	.0021	.0019
#2	102.4	-.0042	.0012	3.263	.0004	-.0006	.0017

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0279	-.0013	.0006	.0035	.0041	.0000	-.0035
SDev	.0001	.0038	.0003	.0007	.0028	.0009	.0000
%RSD	.1738	301.3	44.17	20.03	69.07	3213.	.4714
#1	.0278	-.0039	.0004	.0040	.0061	-.0006	-.0035
#2	.0279	.0014	.0007	.0030	.0021	.0007	-.0034

010145

Units	ppm	ppm	ppm
Avge	-.0001	.0081	.0001
SDev	.0002	.0001	.0006
%RSD	138.0	.9097	921.1
#1	-.0003	.0080	-.0004
#2	-.0000	.0081	.0005

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	916296	10000	--	--	--	--	--
SDev	4028.387	.0000000	--	--	--	--	--
%RSD	.4396384	.0000000	--	--	--	--	--
#1	913447	10000	--	--	--	--	--
#2	919144	10000	--	--	--	--	--

Analysis Report 01/17/03 04:29:51 PM page 1

Method: DAILY2 Sample Name: 218750 Operator:
Run Time: 01/17/03 16:25:22
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0115	-.0010	.0351	.1427	.0000	.0017
SDev	.0001	.0007	.0013	.0004	.0005	.0000	.0002
%RSD	36.97	5.988	137.2	1.178	.3534	35.03	14.29
#1	.0003	.0110	-.0019	.0354	.1424	.0000	.0015
#2	.0005	.0120	-.0000	.0348	.1431	.0000	.0019

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.83	.0002	.0004	.0005	.0002	.0061	.0445
SDev	.18	.0001	.0000	.0002	.0001	.0003	.0060
%RSD	.4098	35.37	2.172	42.36	42.25	4.551	13.55
#1	43.96	.0001	.0004	.0006	.0003	.0059	.0487
#2	43.70	.0002	.0005	.0003	.0002	.0063	.0402

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0002	.0141	.0011	.0006	.9066	.9784
SDev	.0001	.0000	.0038	.0000	.0000	.0064	.0104
%RSD	8.951	15.68	27.01	.7491	1.598	.7085	1.068
#1	.0005	.0002	.0114	.0012	.0006	.9112	.9710
#2	.0006	.0002	.0168	.0011	.0007	.9021	.9858

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0064	.0004	.0002	.0018	.0329	-.0010
SDev	.0011	.0039	.0013	.0004	.0010	.0070	.0018
%RSD	1051.	61.63	320.3	197.0	54.51	21.27	175.8
#1	.0007	-.0092	-.0005	-.0001	.0025	.0379	-.0023
#2	-.0009	-.0036	.0013	.0005	.0011	.0280	.0003

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.0	.0030	.0012	3.296	.0003	.0018	-.0003
SDev	1.2	.0014	.0016	.002	.0007	.0006	.0001
%RSD	1.190	47.12	132.5	.0602	244.4	33.75	33.90
#1	100.1	.0040	.0001	3.295	-.0002	.0014	-.0004
#2	101.8	.0020	.0024	3.297	.0008	.0023	-.0002

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0284	.0004	.0000	.0035	.0209	.0001	-.0054
SDev	.0001	.0009	.0001	.0016	.0097	.0002	.0005
%RSD	.2984	241.8	315.7	45.44	46.28	163.5	9.853
#1	.0284	.0010	.0001	.0024	.0141	.0003	-.0058
#2	.0285	-.0003	-.0000	.0046	.0278	-.0000	-.0050

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0068	.0001
SDev	.0001	.0001	.0002
%RSD	93.48	1.724	373.3
#1	-.0000	.0067	.0002
#2	-.0002	.0069	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	906035	10000	--	--	--	--	--
SDev	10820.15	.0000000	--	--	--	--	--
%RSD	1.194231	.0000000	--	--	--	--	--
#1	898384	10000	--	--	--	--	--
#2	913686	10000	--	--	--	--	--

Analysis Report 01/17/03 04:34:32 PM

Method: DAILY2 Sample Name: 218751 Operator:
Run Time: 01/17/03 16:30:03
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0014	.0002	.0037	.0003	.0001	-.0002
SDev	.0020	.0076	.0019	.0017	.0001	.0000	.0054
%RSD	729.5	561.1	1012.	44.92	35.01	6.388	3149.
#1	-.0017	-.0040	-.0011	.0025	.0002	.0001	-.0040
#2	.0011	.0068	.0015	.0049	.0003	.0001	.0036

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	48.91	-.0001	-.0004	.0009	.0012	.0038	.1347
SDev	.15	.0003	.0009	.0012	.0007	.0303	.0352
%RSD	.3078	275.5	203.6	133.4	55.15	795.3	26.17
#1	48.80	-.0003	-.0011	.0001	.0007	-.0176	.1097
#2	49.02	.0001	.0002	.0018	.0017	.0253	.1596

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0003	-.0020	.0007	.0003	.0486	.0764
SDev	.0018	.0001	.0151	.0002	.0003	.4268	.0027
%RSD	1628.	29.16	755.9	28.65	86.41	878.5	3.480
#1	-.0014	.0003	-.0127	.0005	.0006	-.2532	.0745
#2	.0011	.0004	.0087	.0008	.0001	.3503	.0783

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0033	.0019	-.0002	-.0011	.0077	.0012
SDev	.0001	.0002	.0034	.0014	.0072	.0014	.0014
%RSD	21.66	6.944	179.3	685.8	637.5	17.94	122.2
#1	.0007	.0035	-.0005	.0008	-.0062	.0067	.0002
#2	.0005	.0032	.0043	-.0012	.0040	.0087	.0022

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.18	-.0009	.0023	2.794	.0005	.0012	-.0004
SDev	1.26	.0019	.0014	.000	.0002	.0016	.0005
%RSD	1.267	205.9	63.09	.0164	39.82	128.5	152.7
#1	100.1	-.0022	.0013	2.794	.0004	.0001	.0000
#2	98.29	.0004	.0033	2.795	.0007	.0024	-.0007

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	.0028	.0002	.0029	.0233	.0007	-.0033
SDev	.0001	.0019	.0000	.0029	.0488	.0010	.0037
%RSD	3.606	68.82	19.86	102.6	209.0	135.6	113.6
#1	.0013	.0015	.0002	.0008	-.0111	.0000	-.0059
#2	.0014	.0042	.0002	.0050	.0578	.0014	-.0006

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0024	.0004
SDev	.0001	.0003	.0008
%RSD	1069.	13.91	175.5
#1	-.0001	.0022	-.0001
#2	.0001	.0027	.0010

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	890100	10000	--	--	--	--	--
SDev	11269.16	.0000000	--	--	--	--	--
%RSD	1.266056	.0000000	--	--	--	--	--
#1	898068	10000	--	--	--	--	--
#2	882131	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218752 Operator:
Run Time: 01/17/03 16:35:17
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	.0108	-.0006	.0051	.0003	.0001	-.0048
SDev	.0000	.0031	.0010	.0002	.0000	.0000	.0013
%RSD	2.072	28.96	166.0	3.335	6.301	28.45	27.66
#1	-.0006	.0086	-.0014	.0053	.0003	.0001	-.0057
#2	-.0005	.0130	.0001	.0050	.0003	.0001	-.0038

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	46.68	-.0002	.0002	.0007	.0004	-.0076	.0540
SDev	.12	.0002	.0003	.0004	.0000	.0037	.0135
%RSD	.2631	93.74	105.2	64.33	3.751	48.88	25.06
#1	46.77	-.0003	.0004	.0004	.0004	-.0102	.0444
#2	46.59	-.0001	.0001	.0009	.0004	-.0050	.0635

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	.0001	-.0055	.0003	.0003	.1694	.1406
SDev	.0006	.0000	.0041	.0001	.0001	.2178	.0029
%RSD	84.47	24.93	74.51	23.08	22.02	128.6	2.059
#1	-.0011	.0001	-.0084	.0003	.0003	.0154	.1385
#2	-.0003	.0002	-.0026	.0004	.0002	.3234	.1426

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	-.0022	-.0028	.0030	.0005	.0045	-.0009
SDev	.0005	.0004	.0037	.0021	.0018	.0037	.0020
%RSD	49.29	19.05	135.0	69.11	350.7	81.05	227.2
#1	.0007	-.0019	-.0001	.0015	-.0008	.0019	.0005
#2	.0014	-.0025	-.0054	.0045	.0018	.0071	-.0023

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.1	-.0008	.0010	3.921	.0011	.0004	.0052
SDev	.3	.0032	.0012	.008	.0001	.0003	.0008
%RSD	.2671	400.8	114.3	.1999	12.88	71.14	15.62
#1	100.9	.0015	.0002	3.926	.0010	.0006	.0058
#2	101.3	-.0031	.0018	3.915	.0012	.0002	.0046

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	.0015	.0002	.0010	.0026	.0004	-.0031
SDev	.0000	.0021	.0001	.0000	.0179	.0002	.0047
%RSD	1.942	139.8	58.75	.2637	694.2	58.73	152.3
#1	.0012	.0030	.0001	.0010	-.0101	.0002	-.0064
#2	.0013	.0000	.0003	.0010	.0153	.0005	.0002

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0029	.0004
SDev	.0000	.0000	.0003
%RSD	2.935	1.220	79.78
#1	-.0000	.0029	.0002
#2	-.0000	.0029	.0007

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	906896	10000	--	--	--	--	--
SDev	2411.941	.0000000	--	--	--	--	--
%RSD	.2659555	.0000000	--	--	--	--	--
#1	905191	10000	--	--	--	--	--
#2	908602	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218753 Operator:
Run Time: 01/17/03 16:39:58
Comment:
Mode: CONC Corr. Factor: 1

010152

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	-.0109	.0013	.0038	.0001	.0001	-.0023
SDev	.0010	.0024	.0013	.0013	.0001	.0000	.0023
%RSD	77.38	22.08	104.0	33.05	32.60	18.68	98.94
#1	-.0006	-.0092	.0003	.0047	.0002	.0001	-.0007
#2	-.0019	-.0126	.0022	.0029	.0001	.0000	-.0040

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	42.99	-.0004	-.0009	.0004	.0002	-.0197	.1797
SDev	.13	.0001	.0006	.0007	.0001	.0269	.0135
%RSD	.3021	22.10	76.30	187.0	33.36	136.2	7.532
#1	43.08	-.0003	-.0004	.0009	.0003	-.0007	.1893
#2	42.89	-.0004	-.0013	-.0001	.0002	-.0388	.1701

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	.0001	-.0122	.0002	-.0003	-.0160	.1157
SDev	.0009	.0001	.0051	.0000	.0004	.1996	.0019
%RSD	67.73	83.38	42.15	12.66	131.2	1247.	1.603
#1	-.0007	.0001	-.0086	.0002	-.0000	.1251	.1170
#2	-.0019	.0000	-.0158	.0002	-.0005	-.1571	.1144

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	-.0052	-.0054	.0014	-.0043	.0028	-.0001
SDev	.0000	.0084	.0050	.0020	.0026	.0042	.0010
%RSD	4.840	160.7	92.72	141.7	61.88	148.7	702.8
#1	-.0007	-.0111	-.0019	-.0000	-.0024	-.0001	.0006
#2	-.0007	.0007	-.0090	.0028	-.0061	.0057	-.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	102.7	-.0039	.0025	4.124	-.0008	.0004	-.0009
SDev	.1	.0018	.0024	.005	.0003	.0010	.0011
%RSD	.0774	45.91	95.72	.1285	39.36	259.2	123.5
#1	102.7	-.0052	.0043	4.128	-.0006	.0011	-.0001
#2	102.8	-.0027	.0008	4.121	-.0011	-.0003	-.0017

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0011	.0014	.0002	-.0007	-.0237	.0001	-.0068
SDev	.0001	.0003	.0001	.0013	.0289	.0002	.0023
%RSD	4.231	23.68	64.13	201.1	122.1	310.2	33.85
#1	.0011	.0017	.0002	-.0016	-.0032	.0002	-.0052
#2	.0011	.0012	.0001	.0003	-.0441	-.0001	-.0084

010153

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0021	.0001
SDev	.0001	.0004	.0005
%RSD	167.3	19.21	896.5
#1	.0000	.0024	.0004
#2	-.0001	.0018	-.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	922065	10000	--	--	--	--	--
SDev	670.3372	.0000000	--	--	--	--	--
%RSD	.0726996	.0000000	--	--	--	--	--
#1	921591	10000	--	--	--	--	--
#2	922539	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218754 Operator: 010154
Run Time: 01/17/03 16:44:39
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0021	-.0000	.0031	.0055	.0000	-.0009
SDev	.0003	.0032	.0017	.0006	.0001	.0000	.0014
%RSD	129.1	150.2	4563.	19.07	1.784	11.70	151.4
#1	-.0005	-.0044	-.0013	.0027	.0054	.0000	-.0019
#2	-.0000	.0001	.0012	.0035	.0055	.0000	.0001

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	45.11	.0000	-.0001	.0013	.0006	.0048	.0465
SDev	.02	.0004	.0000	.0001	.0003	.0117	.0182
%RSD	.0338	2691.	27.46	8.181	44.80	247.1	39.26
#1	45.12	-.0003	-.0001	.0012	.0004	-.0035	.0336
#2	45.10	.0003	-.0002	.0014	.0008	.0130	.0594

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0001	-.0015	.0003	.0006	.3488	.1894
SDev	.0005	.0001	.0052	.0000	.0003	.2143	.0028
%RSD	328.2	52.72	356.6	4.151	55.49	61.45	1.477
#1	-.0005	.0001	-.0051	.0003	.0008	.1972	.1875
#2	.0002	.0002	.0022	.0003	.0003	.5003	.1914

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	-.0054	-.0032	.0025	.0021	.0088	.0043
SDev	.0003	.0035	.0008	.0000	.0030	.0012	.0003
%RSD	55.77	64.92	26.09	.3274	139.3	13.24	6.038
#1	.0009	-.0078	-.0026	.0025	.0000	.0080	.0042
#2	.0004	-.0029	-.0037	.0025	.0042	.0096	.0045

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.0	-.0025	.0030	3.547	.0006	.0012	.0016
SDev	.7	.0018	.0033	.001	.0003	.0016	.0008
%RSD	.6600	70.44	108.0	.0177	43.53	133.2	53.39
#1	100.5	-.0012	.0007	3.547	.0008	.0001	.0022
#2	99.55	-.0037	.0053	3.548	.0004	.0023	.0010

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	.0025	.0003	.0046	.0095	.0009	-.0042
SDev	.0000	.0013	.0001	.0015	.0046	.0004	.0020
%RSD	.9218	52.65	31.84	34.02	48.09	38.74	47.22
#1	.0012	.0016	.0004	.0035	.0062	.0012	-.0056
#2	.0013	.0034	.0002	.0057	.0127	.0007	-.0028

010155

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0028	.0009
SDev	.0000	.0002	.0001
%RSD	57.37	5.645	7.972
#1	.0000	.0029	.0009
#2	.0000	.0027	.0010

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	897556	10000	--	--	--	--	--
SDev	5995.559	.0000000	--	--	--	--	--
%RSD	.6679875	.0000000	--	--	--	--	--
#1	901795	10000	--	--	--	--	--
#2	893316	10000	--	--	--	--	--

Analysis Report 01/17/03 04:53:50 PM page 1

Method: DAILY2 Sample Name: 218755 Operator: 010156
Run Time: 01/17/03 16:49:21
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	.0005	.0013	.0020	.0001	-.0000	.0005
SDev	.0003	.0031	.0006	.0003	.0000	.0000	.0053
%RSD	52.16	630.4	48.64	17.46	6.166	10.27	1111.
#1	-.0004	.0027	.0009	.0023	.0001	-.0000	.0042
#2	-.0008	-.0017	.0018	.0018	.0001	-.0000	-.0033

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.43	-.0001	-.0001	.0002	-.0002	.0134	.0792
SDev	.05	.0000	.0003	.0003	.0002	.0094	.0066
%RSD	.1358	37.37	296.4	145.6	139.5	69.57	8.315
#1	39.39	-.0001	-.0003	.0005	-.0000	.0068	.0745
#2	39.47	-.0001	.0001	-.0000	-.0003	.0201	.0838

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0002	-.0011	.0002	.0000	.3052	.0712
SDev	.0002	.0001	.0021	.0000	.0001	.0533	.0019
%RSD	65.32	24.51	196.2	16.90	5664.	17.47	2.736
#1	-.0002	.0002	-.0025	.0001	-.0001	.3429	.0726
#2	-.0005	.0002	.0004	.0002	.0001	.2675	.0698

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	-.0032	-.0005	-.0001	.0010	.0053	.0005
SDev	.0004	.0057	.0013	.0033	.0006	.0024	.0021
%RSD	82.47	177.0	284.0	2787.	61.72	45.43	445.1
#1	-.0008	.0008	.0005	-.0024	.0015	.0069	.0020
#2	-.0002	-.0073	-.0014	.0022	.0006	.0036	-.0010

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.99	.0008	.0004	3.753	-.0002	.0006	.0010
SDev	.89	.0011	.0017	.001	.0018	.0015	.0003
%RSD	.8964	130.9	418.4	.0309	805.0	269.2	25.44
#1	99.61	.0001	-.0008	3.752	-.0015	-.0005	.0012
#2	98.36	.0016	.0017	3.754	.0010	.0016	.0008

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0011	.0008	.0001	.0020	.0353	.0000	-.0065
SDev	.0000	.0035	.0001	.0044	.0027	.0001	.0022
%RSD	1.503	418.7	68.94	224.6	7.773	323.9	33.59
#1	.0011	-.0016	.0000	.0051	.0333	.0001	-.0081
#2	.0011	.0033	.0001	-.0012	.0372	-.0001	-.0050

010157

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0028	.0003
SDev	.0001	.0002	.0001
%RSD	189.8	8.805	34.25
#1	-.0001	.0030	.0002
#2	.0000	.0026	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	888360	10000	--	--	--	--	--
SDev	7947.173	.0000000	--	--	--	--	--
%RSD	.8945888	.0000000	--	--	--	--	--
#1	893980	10000	--	--	--	--	--
#2	882741	10000	--	--	--	--	--

Method: DAILY2 Sample Name: icv/ccv Operator:

010158

Run Time: 01/17/03 16:57:42
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9978	9.997	5.113	4.821	9.927	1.012	5.000
SDev	.0021	.009	.005	.034	.038	.003	.024
%RSD	.2101	.0914	.0959	.7010	.3860	.2786	.4789
#1	.9992	9.991	5.109	4.797	9.900	1.014	4.983
#2	.9963	10.00	5.116	4.845	9.954	1.010	5.017
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.67	1.008	5.038	2.004	2.029	10.14	18.69
SDev	.08	.001	.006	.003	.004	.04	.11
%RSD	.4099	.0534	.1154	.1738	.2188	.3527	.5906
#1	19.73	1.007	5.042	2.006	2.026	10.16	18.61
#2	19.62	1.008	5.034	2.001	2.032	10.11	18.76
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.985	4.874	20.05	1.016	5.128	28.38	Q40.00
SDev	.008	.016	.02	.002	.000	.20	.13
%RSD	.1660	.3271	.1086	.2105	.0070	.7186	.3324
#1	4.979	4.862	20.07	1.018	5.128	28.52	Q39.91
#2	4.990	4.885	20.04	1.015	5.127	28.23	Q40.10
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.935	4.982	5.056	5.038	1.002	1.017	1.024
SDev	.012	.015	.002	.015	.005	.010	.002
%RSD	.2433	.3049	.0478	.2978	.4536	1.022	.1551
#1	4.943	4.993	5.054	5.049	.9985	1.010	1.023
#2	4.926	4.972	5.058	5.027	1.005	1.024	1.025
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010159

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.7	5.378	5.361	5.004	5.044	5.367	4.967
SDev	1.3	.030	.001	.003	.009	.011	.004
%RSD	1.270	.5626	.0258	.0628	.1823	.2051	.0758
#1	99.81	5.356	5.360	5.002	5.051	5.359	4.970
#2	101.6	5.399	5.362	5.006	5.038	5.374	4.965
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.113	.9911	4.869	5.385	.9809	5.024	.9968
SDev	.012	.0021	.004	.002	.0175	.003	.0004
%RSD	.2370	.2137	.0850	.0460	1.780	.0539	.0453
#1	5.104	.9926	4.866	5.383	.9932	5.026	.9971
#2	5.121	.9896	4.872	5.387	.9685	5.022	.9965
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.025	1.014	4.926
SDev	.004	.004	.007
%RSD	.0756	.3947	.1379
#1	5.022	1.017	4.921
#2	5.027	1.011	4.931
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

010160

IntStd	1	2	3	4	5	6	
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	903845	10000	--	--	--	--	--
SDev	11426.85	.0000000	--	--	--	--	--
%RSD	1.264248	.0000000	--	--	--	--	--
#1	895765	10000	--	--	--	--	--
#2	911925	10000	--	--	--	--	--

Analysis Report Blank Sample 01/17/03 05:08:43 PM page 1

Method: DAILY2 Sample Name: icb/ccb Operator: 010161
Run Time: 01/17/03 17:04:14
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	-.0002	.0011	H.0132	.0005	.0000	-.0046
SDev	.0010	.0008	.0011	.0007	.0002	.0000	.0019
%RSD	77.67	365.5	101.0	5.513	41.64	103.8	41.12
#1	-.0006	.0003	.0020	H.0138	.0003	.0000	-.0033
#2	-.0020	-.0008	.0003	H.0127	.0006	.0000	L-.0059
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0100	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0100	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0103	-.0002	-.0008	.0002	.0000	-.0222	-.0149
SDev	.0006	.0000	.0004	.0012	.0002	.0094	.0121
%RSD	5.618	18.37	49.66	642.2	3559.	42.37	81.71
#1	.0107	-.0002	-.0005	-.0006	-.0002	-.0156	-.0063
#2	.0099	-.0002	-.0011	.0010	.0002	L-.0289	-.0234
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	.0003	-.0062	-.0000	.0029	L-.1766	.0055
SDev	.0012	.0000	.0071	.0001	.0004	.2719	.0006
%RSD	96.75	4.268	114.3	418.2	14.99	154.0	9.905
#1	-.0004	.0003	-.0012	-.0001	.0026	.0157	.0059
#2	-.0021	.0003	-.0112	.0000	.0032	L-.3688	.0051
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	-.0086	-.0031	.0004	-.0026	.0060	-.0011
SDev	.0001	.0064	.0001	.0009	.0009	.0024	.0014
%RSD	8.638	74.06	2.227	230.8	36.39	39.53	128.0
#1	-.0008	-.0041	-.0031	-.0002	-.0019	.0043	-.0020
#2	-.0007	L-.0131	-.0032	.0010	-.0033	.0077	-.0001
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010162

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.9	-.0038	.0008	-.0007	-.0008	-.0007	.0006
SDev	.7	.0000	.0013	.0021	.0006	.0009	.0008
%RSD	.6603	.6872	165.4	289.4	72.82	120.2	124.8
#1	100.5	-.0038	.0017	.0008	-.0012	-.0001	.0012
#2	101.4	-.0038	-.0001	-.0022	-.0004	-.0013	.0001
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0003	.0002	.0018	-.0400	.0000	-.0057
SDev	.0000	.0031	.0002	.0000	.0365	.0006	.0010
%RSD	2.027	1097.	114.5	1.110	91.08	1833.	18.40
#1	.0001	-.0019	.0000	.0018	-.0142	-.0004	-.0050
#2	.0001	.0024	.0004	.0018	-.0658	.0005	-.0064
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0002	.0005	-.0003
SDev	.0002	.0001	.0004
%RSD	68.20	30.06	120.9
#1	.0001	.0006	-.0006
#2	.0003	.0004	-.0000
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

010163

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	905749	10000	--	--	--	--	--
SDev	5966.567	.0000000	--	--	--	--	--
%RSD	.6587440	.0000000	--	--	--	--	--
#1	901530	10000	--	--	--	--	--
#2	909968	10000	--	--	--	--	--

Method: DAILY2 Sample Name: pbw-a16w3 52-035 Operator:

010161

Run Time: 01/17/03 17:10:45
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0008	.0022	-.0004	.0060	.0002	.0000	-.0032
SDev	.0003	.0025	.0012	.0013	.0000	.0000	.0005
%RSD	41.82	117.4	301.9	20.87	19.75	349.3	15.50
#1	-.0010	.0004	.0005	.0052	.0002	-.0000	-.0036
#2	-.0005	.0039	-.0013	.0069	.0002	.0000	-.0029

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0079	-.0000	-.0004	.0004	.0011	.0028	.0052
SDev	.0002	.0001	.0000	.0008	.0004	.0055	.0019
%RSD	2.477	152.4	13.54	231.0	38.49	198.2	35.54
#1	.0081	-.0001	-.0003	-.0002	.0008	-.0011	.0039
#2	.0078	.0000	-.0004	.0009	.0013	.0066	.0065

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0008	.0002	-.0057	.0001	.0016	.0394	.0114
SDev	.0006	.0000	.0081	.0001	.0001	.0429	.0037
%RSD	78.14	12.86	142.0	100.5	7.567	109.0	32.56
#1	-.0012	.0002	-.0114	.0000	.0016	.0090	.0141
#2	-.0003	.0002	.0000	.0001	.0015	.0697	.0088

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0110	.0003	-.0002	.0006	.0073	-.0004
SDev	.0001	.0005	.0026	.0011	.0004	.0013	.0052
%RSD	15.01	4.985	836.0	487.4	70.93	18.35	1238.
#1	-.0003	-.0114	-.0015	-.0010	.0009	.0064	-.0041
#2	-.0004	-.0106	.0022	.0005	.0003	.0083	.0033

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.0	-.0034	.0024	.0014	-.0000	.0005	.0002
SDev	1.0	.0028	.0016	.0015	.0016	.0001	.0010
%RSD	1.024	84.07	66.18	107.8	5699.	21.24	437.9
#1	101.7	-.0054	.0035	.0003	-.0011	.0005	.0009
#2	100.3	-.0014	.0013	.0024	.0011	.0004	-.0005

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0023	.0002	.0031	-.0111	.0001	-.0056
SDev	.0000	.0011	.0003	.0006	.0138	.0010	.0006
%RSD	30.52	47.45	152.0	19.81	124.6	1099.	10.76
#1	.0000	.0015	-.0000	.0026	-.0209	-.0006	-.0061
#2	.0000	.0030	.0004	.0035	-.0013	.0008	-.0052

010165

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	.0006	.0002
SDev	.0001	.0002	.0009
%RSD	58.77	25.95	414.5
#1	.0001	.0005	-.0004
#2	.0002	.0007	.0008

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	906500	10000	--	--	--	--	--
SDev	9287.848	.0000000	--	--	--	--	--
%RSD	1.024584	.0000000	--	--	--	--	--
#1	913067	10000	--	--	--	--	--
#2	899932	10000	--	--	--	--	--

Method: DAILY2 Sample Name: lcsw-a16w3 Operator: 010166
Run Time: 01/17/03 17:15:26
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0506	1.929	2.068	.0065	2.018	.0512	-.0002
SDev	.0002	.008	.004	.0013	.006	.0001	.0011
%RSD	.3101	.4248	.1766	20.50	.2762	.1953	567.5
#1	.0507	1.923	2.070	.0074	2.014	.0513	.0006
#2	.0505	1.935	2.065	.0056	2.022	.0511	-.0009

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.92	.0505	.5050	.2040	.2519	1.083	16.64
SDev	.11	.0002	.0010	.0005	.0011	.003	.08
%RSD	.5319	.3297	.1900	.2661	.4270	.2525	.4533
#1	20.00	.0507	.5056	.2044	.2512	1.085	16.58
#2	19.85	.0504	.5043	.2036	.2527	1.081	16.69

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0004	20.41	.5073	.0015	17.79	25.10
SDev	.0006	.0000	.01	.0010	.0004	.03	.14
%RSD	3448.	5.831	.0494	.1915	28.07	.1843	.5425
#1	-.0004	.0003	20.41	.5080	.0012	17.76	25.00
#2	.0004	.0004	20.40	.5066	.0018	17.81	25.20

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4993	-.0070	.5118	.5112	.0028	.0064	.5087
SDev	.0024	.0052	.0062	.0009	.0017	.0070	.0027
%RSD	.4838	74.28	1.215	.1752	59.55	110.5	.5322
#1	.5010	-.0033	.5162	.5118	.0040	.0014	.5068
#2	.4976	-.0106	.5074	.5106	.0016	.0113	.5106

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.65	2.141	2.147	4.131	.5114	2.145	.0001
SDev	1.21	.030	.009	.000	.0027	.004	.0004
%RSD	1.250	1.391	.4007	.0118	.5210	.1955	266.9
#1	95.80	2.162	2.141	4.131	.5133	2.148	.0004
#2	97.50	2.120	2.153	4.132	.5095	2.142	-.0001

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	-.0043	.0006	2.136	3.979	.5052	-.0039
SDev	.0000	.0006	.0002	.011	.041	.0016	.0005
%RSD	1.180	15.11	37.10	.5218	1.027	.3270	13.99
#1	.0006	-.0048	.0007	2.129	3.950	.5063	-.0043
#2	.0006	-.0038	.0004	2.144	4.008	.5040	-.0035

010167

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0025	.5152	-.0027
SDev	.0001	.0009	.0000
%RSD	2.401	.1662	1.342
#1	.0025	.5158	-.0027
#2	.0025	.5146	-.0027

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	867364	10000	--	--	--	--	--
SDev	10839.24	.0000000	--	--	--	--	--
%RSD	1.249675	.0000000	--	--	--	--	--
#1	859700	10000	--	--	--	--	--
#2	875029	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218756 Operator:

010168

Run Time: 01/17/03 17:20:07

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	.0036	.0005	.0039	.0004	-.0000	-.0035
SDev	.0002	.0034	.0014	.0011	.0003	.0000	.0004
%RSD	20.53	92.84	257.4	29.42	83.56	72.54	12.82
#1	-.0010	.0060	.0015	.0047	.0006	-.0000	-.0038
#2	-.0014	.0012	-.0004	.0031	.0002	-.0000	-.0031

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.07	-.0002	-.0001	.0002	.0001	-.0111	.0470
SDev	.19	.0000	.0001	.0004	.0008	.0071	.0012
%RSD	.4765	.3760	63.62	202.5	670.0	64.39	2.461
#1	39.20	-.0002	-.0001	.0005	.0007	-.0161	.0462
#2	38.94	-.0002	-.0002	-.0001	-.0004	-.0060	.0478

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0011	.0002	-.0028	.0002	-.0000	.0890	.2455
SDev	.0004	.0000	.0084	.0002	.0008	.0809	.0032
%RSD	41.38	20.27	302.3	100.3	3909.	90.98	1.317
#1	-.0007	.0002	.0032	.0003	.0006	.0317	.2432
#2	-.0014	.0002	-.0087	.0000	-.0006	.1462	.2478

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0008	-.0014	-.0062	.0037	-.0020	.0089	.0018
SDev	.0005	.0023	.0019	.0049	.0006	.0061	.0053
%RSD	63.83	170.3	31.01	131.6	29.90	68.84	288.6
#1	-.0004	.0003	-.0049	.0003	-.0016	.0045	.0056
#2	-.0011	-.0030	-.0076	.0071	-.0024	.0132	-.0019

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	102.0	-.0028	.0022	3.381	.0004	.0006	.0255
SDev	1.2	.0029	.0001	.002	.0026	.0009	.0008
%RSD	1.178	102.9	6.732	.0677	642.6	154.0	3.139
#1	101.2	-.0008	.0021	3.383	-.0014	.0012	.0250
#2	102.9	-.0049	.0023	3.379	.0022	-.0000	.0261

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.0000	.0001	.0012	.0493	-.0000	-.0046
SDev	.0000	.0016	.0003	.0023	.0127	.0009	.0033
%RSD	.2704	12510.	403.6	187.0	25.89	12880.	72.22
#1	.0010	.0012	.0003	.0029	.0583	.0006	-.0022
#2	.0010	-.0011	-.0001	-.0004	.0402	-.0006	-.0069

010169

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0017	.0002
SDev	.0001	.0003	.0007
%RSD	134.0	16.51	408.1
#1	-.0000	.0019	.0007
#2	-.0002	.0015	-.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	915467	10000	--	--	--	--	--
SDev	10803.18	.0000000	--	--	--	--	--
%RSD	1.180073	.0000000	--	--	--	--	--
#1	907828	10000	--	--	--	--	--
#2	923106	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218756d Operator: 010170
Run Time: 01/17/03 17:24:49
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0056	-.0010	.0035	.0001	.0000	-.0043
SDev	.0000	.0015	.0024	.0008	.0001	.0000	.0014
%RSD	1.300	27.51	230.6	23.90	84.45	67.96	32.52
#1	-.0001	.0045	-.0027	.0041	.0002	.0000	-.0053
#2	-.0001	.0067	.0007	.0029	.0001	.0000	-.0033

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.24	-.0002	.0005	.0001	.0004	.0123	.0615
SDev	.01	.0001	.0008	.0009	.0005	.0093	.0062
%RSD	.0361	53.78	166.5	1655.	134.6	75.81	10.11
#1	39.25	-.0002	-.0001	.0007	.0007	.0189	.0659
#2	39.23	-.0001	.0011	-.0006	.0000	.0057	.0571

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0002	-.0012	.0002	.0005	.2750	.2373
SDev	.0005	.0000	.0011	.0001	.0001	.0581	.0003
%RSD	566.1	13.18	91.22	73.25	26.06	21.13	.1385
#1	-.0004	.0002	-.0020	.0002	.0005	.2339	.2376
#2	.0002	.0002	-.0004	.0001	.0004	.3161	.2371

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	-.0078	.0000	-.0006	.0012	.0102	.0048
SDev	.0003	.0026	.0058	.0004	.0001	.0013	.0003
%RSD	82.69	32.71	12980.	67.69	10.11	12.36	7.238
#1	.0002	-.0060	.0041	-.0009	.0013	.0111	.0050
#2	.0006	-.0096	-.0040	-.0003	.0012	.0093	.0045

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.2	-.0023	-.0004	3.368	-.0004	-.0010	.0004
SDev	.4	.0032	.0025	.001	.0017	.0006	.0014
%RSD	.3730	142.5	555.4	.0292	454.2	56.78	357.5
#1	100.5	.0000	-.0022	3.369	.0008	-.0015	-.0006
#2	99.98	-.0045	.0013	3.367	-.0015	-.0006	.0013

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0011	-.0006	.0001	.0033	.0681	.0006	-.0052
SDev	.0000	.0007	.0002	.0012	.0250	.0005	.0000
%RSD	1.213	119.1	160.1	37.25	36.77	85.13	.1985
#1	.0011	-.0001	.0003	.0024	.0504	.0009	-.0052
#2	.0011	-.0012	-.0000	.0042	.0858	.0002	-.0052

010171

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0020	.0004
SDev	.0001	.0002	.0004
%RSD	463.1	8.447	88.20
#1	.0001	.0021	.0007
#2	-.0001	.0019	.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	899541	10000	--	--	--	--	--
SDev	3351.686	.0000000	--	--	--	--	--
%RSD	.3725996	.0000000	--	--	--	--	--
#1	901911	10000	--	--	--	--	--
#2	897171	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218757 Operator:

010172

Run Time: 01/17/03 17:29:30
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0034	.0004	.0363	.1297	.0000	-.0005
SDev	.0002	.0020	.0006	.0006	.0002	.0000	.0028
%RSD	159.9	59.63	135.3	1.572	.1227	55.07	519.4
#1	-.0003	.0020	.0000	.0359	.1298	.0001	-.0025
#2	.0000	.0049	.0009	.0367	.1296	.0000	.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.14	-.0001	.0005	.0011	.0004	.0064	.0301
SDev	.08	.0004	.0012	.0003	.0004	.0119	.0020
%RSD	.1992	654.5	257.5	30.88	87.63	186.5	6.664
#1	40.09	-.0003	-.0004	.0008	.0002	.0148	.0315
#2	40.20	.0002	.0013	.0013	.0007	-.0020	.0287

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0003	.0076	.0005	.0007	.8380	.9516
SDev	.0003	.0000	.0001	.0001	.0001	.0251	.0059
%RSD	95.39	1.116	.8128	11.65	8.292	3.001	.6159
#1	-.0005	.0003	.0076	.0005	.0007	.8202	.9557
#2	-.0001	.0002	.0077	.0005	.0006	.8558	.9474

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	-.0010	-.0036	-.0001	.0019	.0195	.0030
SDev	.0001	.0001	.0060	.0031	.0009	.0057	.0055
%RSD	23.66	10.72	165.7	5751.	45.77	29.02	185.9
#1	-.0005	-.0010	-.0079	.0021	.0013	.0155	-.0009
#2	-.0006	-.0011	.0006	-.0023	.0026	.0235	.0068

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.3	-.0051	.0007	3.118	-.0012	-.0012	.0006
SDev	.7	.0016	.0022	.002	.0001	.0009	.0018
%RSD	.6963	31.23	313.9	.0552	4.559	77.10	326.6
#1	100.8	-.0062	.0023	3.117	-.0012	-.0006	-.0007
#2	99.83	-.0040	-.0009	3.119	-.0013	-.0019	.0018

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0261	.0017	.0001	.0024	.0046	.0006	-.0046
SDev	.0000	.0001	.0001	.0002	.0090	.0007	.0015
%RSD	.1546	5.293	89.78	8.039	197.5	117.3	32.20
#1	.0262	.0016	.0000	.0025	-.0018	.0001	-.0056
#2	.0261	.0017	.0002	.0023	.0109	.0011	-.0035

010173

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0067	.0006
SDev	.0000	.0002	.0005
%RSD	5.117	3.606	74.72
#1	-.0000	.0066	.0003
#2	-.0000	.0069	.0010

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	900306	10000	--	--	--	--	--
SDev	6247.289	.0000000	--	--	--	--	--
%RSD	.6939076	.0000000	--	--	--	--	--
#1	904723	10000	--	--	--	--	--
#2	895888	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218757s Operator:

010174

Run Time: 01/17/03 17:34:11
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0505	1.933	2.065	.0373	2.126	.0509	-.0004
SDev	.0003	.002	.002	.0008	.002	.0000	.0041
%RSD	.5272	.1145	.0856	2.071	.1169	.0352	999.7
#1	.0503	1.935	2.064	.0378	2.128	.0509	-.0033
#2	.0507	1.932	2.066	.0367	2.124	.0510	.0025

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	59.74	.0499	.5005	.2024	.2516	1.061	17.48
SDev	.09	.0001	.0000	.0003	.0001	.004	.03
%RSD	.1551	.2369	.0012	.1377	.0233	.3853	.1510
#1	59.68	.0498	.5005	.2026	.2516	1.058	17.50
#2	59.81	.0500	.5005	.2022	.2516	1.064	17.47

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	.0003	20.43	.5035	.0012	19.20	27.24
SDev	.0003	.0001	.03	.0003	.0004	.05	.08
%RSD	21.43	26.34	.1380	.0533	36.52	.2549	.3087
#1	-.0010	.0003	20.41	.5033	.0015	19.23	27.30
#2	-.0014	.0004	20.45	.5037	.0009	19.16	27.18

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4937	-.0072	.5034	.5073	.0000	.0169	.5083
SDev	.0006	.0093	.0030	.0011	.0006	.0085	.0048
%RSD	.1240	129.9	.5909	.2271	5330.	50.11	.9494
#1	.4933	-.0006	.5055	.5065	-.0005	.0229	.5117
#2	.4942	-.0138	.5013	.5082	.0005	.0109	.5049

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.31	2.137	2.120	7.250	.5060	2.126	.0001
SDev	.58	.001	.005	.000	.0002	.004	.0013
%RSD	.5993	.0294	.2577	.0025	.0435	.1812	1373.
#1	97.72	2.137	2.116	7.250	.5062	2.123	-.0008
#2	96.89	2.138	2.123	7.250	.5059	2.128	.0010

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0265	-.0045	.0003	2.131	3.911	.5031	-.0027
SDev	.0000	.0033	.0001	.013	.001	.0005	.0023
%RSD	.0450	72.68	30.41	.6218	.0360	.1020	83.77
#1	.0265	-.0069	.0003	2.140	3.910	.5028	-.0011
#2	.0265	-.0022	.0004	2.121	3.912	.5035	-.0043

010175

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0022	.5150	-.0024
SDev	.0001	.0017	.0000
%RSD	2.572	.3328	.2054
#1	.0023	.5138	-.0024
#2	.0022	.5162	-.0024

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	873279	10000	--	--	--	--	--
SDev	5284.916	.0000000	--	--	--	--	--
%RSD	.6051807	.0000000	--	--	--	--	--
#1	877016	10000	--	--	--	--	--
#2	869542	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218758 Operator: 010176
Run Time: 01/17/03 17:38:52
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0011	-.0089	.0009	.0078	.0653	.0001	-.0028
SDev	.0016	.0063	.0007	.0011	.0002	.0000	.0045
%RSD	145.1	70.73	82.74	14.28	.2900	13.88	162.3
#1	-.0023	-.0133	.0014	.0085	.0654	.0001	-.0060
#2	.0000	-.0044	.0004	.0070	.0652	.0001	.0004

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.05	-.0003	-.0003	-.0003	-.0001	-.0204	-.0155
SDev	.03	.0001	.0007	.0006	.0003	.0296	.0386
%RSD	.0726	22.35	268.0	228.0	251.9	144.9	249.4
#1	43.03	-.0003	-.0008	.0002	.0001	-.0413	-.0427
#2	43.07	-.0002	.0002	-.0007	-.0003	.0005	.0118

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0011	.0002	-.0046	.0012	.0002	.0871	.2450
SDev	.0015	.0001	.0080	.0001	.0003	.2670	.0028
%RSD	140.6	51.22	171.8	10.22	223.6	306.6	1.148
#1	-.0021	.0001	-.0103	.0013	-.0001	-.1017	.2430
#2	-.0000	.0003	.0010	.0011	.0004	.2759	.2470

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0028	-.0025	.0008	-.0046	.0177	-.0010
SDev	.0011	.0035	.0003	.0013	.0064	.0026	.0009
%RSD	340.5	128.3	10.56	175.1	138.0	14.41	88.11
#1	.0011	-.0053	-.0024	.0017	-.0091	.0196	-.0017
#2	-.0005	-.0003	-.0027	-.0002	-.0001	.0159	-.0004

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	102.2	-.0025	.0021	3.216	-.0003	.0005	.0000
SDev	1.1	.0037	.0009	.004	.0010	.0006	.0003
%RSD	1.049	146.8	45.66	.1125	289.8	112.4	7694.
#1	103.0	.0001	.0014	3.213	.0004	.0010	-.0002
#2	101.5	-.0051	.0027	3.218	-.0010	.0001	.0002

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0286	.0012	.0001	.0032	-.0308	-.0002	-.0072
SDev	.0001	.0003	.0000	.0023	.0354	.0000	.0022
%RSD	.2023	25.03	50.24	70.92	115.0	4.809	30.75
#1	.0285	.0014	.0001	.0049	-.0558	-.0002	-.0088
#2	.0286	.0010	.0000	.0016	-.0057	-.0002	-.0056

010177

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0095	-.0004
SDev	.0000	.0001	.0002
%RSD	21.80	.7948	54.68
#1	-.0001	.0095	-.0005
#2	-.0001	.0096	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	917630	10000	--	--	--	--	--
SDev	9653.422	.0000000	--	--	--	--	--
%RSD	1.051995	.0000000	--	--	--	--	--
#1	924456	10000	--	--	--	--	--
#2	910804	10000	--	--	--	--	--

Analysis Report 01/17/03 05:48:03 PM page 1

Method: DAILY2 Sample Name: 218759 Operator: 010178
Run Time: 01/17/03 17:43:34
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0015	-.0002	.0174	.0626	.0001	.0010
SDev	.0007	.0040	.0005	.0006	.0002	.0000	.0005
%RSD	1149.	267.9	222.1	3.391	.3485	22.88	50.06
#1	.0004	.0043	-.0006	.0170	.0628	.0001	.0014
#2	-.0006	-.0013	.0001	.0178	.0624	.0001	.0007

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.05	-.0000	.0003	.0004	.0002	.0194	.0354
SDev	.15	.0002	.0002	.0005	.0002	.0076	.0048
%RSD	.3661	505.6	58.06	135.7	106.5	38.97	13.61
#1	39.95	.0001	.0005	.0008	.0000	.0141	.0320
#2	40.16	-.0001	.0002	.0000	.0003	.0248	.0388

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0003	.0017	.0006	-.0001	.6116	.2659
SDev	.0002	.0000	.0003	.0000	.0007	.1323	.0040
%RSD	496.9	4.128	15.87	1.782	1218.	21.63	1.508
#1	.0002	.0003	.0015	.0006	-.0006	.5181	.2687
#2	-.0001	.0003	.0019	.0006	.0005	.7052	.2631

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0068	-.0016	.0019	.0043	.0129	-.0012
SDev	.0010	.0040	.0003	.0033	.0000	.0041	.0001
%RSD	570.8	59.05	20.62	169.9	.6672	31.97	8.090
#1	-.0009	-.0097	-.0018	-.0004	.0043	.0159	-.0012
#2	.0005	-.0040	-.0014	.0042	.0043	.0100	-.0011

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.33	-.0033	.0013	3.050	.0008	-.0002	-.0001
SDev	1.31	.0023	.0024	.004	.0023	.0008	.0003
%RSD	1.316	71.03	186.0	.1472	302.6	397.1	258.3
#1	100.3	-.0049	.0030	3.053	-.0009	.0004	-.0004
#2	98.41	-.0016	-.0004	3.047	.0024	-.0008	.0001

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0262	-.0000	.0001	.0028	.0029	.0005	-.0060
SDev	.0000	.0004	.0001	.0005	.0134	.0002	.0004
%RSD	.1663	1041.	119.9	16.69	459.2	46.49	6.474
#1	.0263	.0002	.0000	.0025	.0124	.0003	-.0057
#2	.0262	-.0003	.0002	.0032	-.0066	.0006	-.0063

010179

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0128	-.0000
SDev	.0000	.0002	.0001
%RSD	96.11	1.826	324.6
#1	-.0000	.0129	-.0001
#2	-.0000	.0126	.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	891424	10000	--	--	--	--	--
SDev	11754.24	.0000000	--	--	--	--	--
%RSD	1.318590	.0000000	--	--	--	--	--
#1	899736	10000	--	--	--	--	--
#2	883113	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218760 Operator: 010180
Run Time: 01/17/03 17:48:15
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0008	-.0009	.0328	.1553	.0001	.0009
SDev	.0002	.0023	.0022	.0010	.0001	.0000	.0010
%RSD	171.4	296.4	228.0	2.924	.0525	16.20	110.8
#1	-.0002	.0008	-.0025	.0321	.1554	.0001	.0002
#2	.0000	-.0024	.0006	.0334	.1552	.0001	.0015

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.71	-.0000	.0005	.0009	.0005	-.0001	.0305
SDev	.04	.0001	.0005	.0002	.0000	.0061	.0020
%RSD	.1057	195.6	87.30	22.98	7.766	4855.	6.470
#1	39.68	.0000	.0002	.0008	.0004	-.0044	.0319
#2	39.74	-.0001	.0009	.0011	.0005	.0042	.0291

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0002	.0081	.0006	.0004	.8272	.9280
SDev	.0004	.0000	.0004	.0001	.0002	.0059	.0053
%RSD	109.2	5.146	5.390	13.66	53.63	.7105	.5736
#1	-.0007	.0002	.0084	.0006	.0006	.8314	.9318
#2	-.0001	.0003	.0078	.0007	.0003	.8231	.9243

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0049	-.0016	.0014	.0017	.0217	.0006
SDev	.0002	.0034	.0001	.0026	.0005	.0003	.0009
%RSD	64.42	70.30	4.546	185.2	30.15	1.556	140.5
#1	-.0005	-.0024	-.0016	-.0004	.0020	.0215	.0013
#2	-.0002	-.0073	-.0015	.0032	.0013	.0219	.0000

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.6	-.0014	.0023	3.017	.0004	.0011	.0024
SDev	.7	.0034	.0024	.001	.0018	.0005	.0006
%RSD	.7236	246.7	102.3	.0307	420.2	41.96	26.63
#1	101.1	.0010	.0006	3.017	-.0008	.0008	.0019
#2	100.0	-.0037	.0040	3.018	.0017	.0014	.0028

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0264	.0009	.0002	.0015	.0066	.0000	-.0071
SDev	.0001	.0008	.0002	.0001	.0019	.0004	.0015
%RSD	.2000	89.20	78.41	8.356	28.51	749.5	21.73
#1	.0264	.0003	.0001	.0016	.0053	-.0002	-.0060
#2	.0263	.0015	.0003	.0014	.0080	.0003	-.0081

010181

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0064	.0004
SDev	.0001	.0002	.0003
%RSD	168.0	3.093	95.23
#1	-.0000	.0063	.0001
#2	.0001	.0066	.0006

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	902454	10000	--	--	--	--	--
SDev	6515.282	.0000000	--	--	--	--	--
%RSD	.7219517	.0000000	--	--	--	--	--
#1	907061	10000	--	--	--	--	--
#2	897847	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218761 Operator:

010182

Run Time: 01/17/03 17:52:56
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	-.0041	.0028	.0135	.0650	.0000	-.0035
SDev	.0000	.0013	.0008	.0000	.0000	.0000	.0018
%RSD	6.683	32.62	28.52	.1108	.0128	52.32	51.05
#1	-.0006	-.0031	.0022	.0135	.0650	.0001	-.0048
#2	-.0007	-.0050	.0033	.0135	.0650	.0000	-.0023

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.80	-.0003	-.0006	.0012	.0003	-.0113	.0067
SDev	.10	.0001	.0002	.0003	.0005	.0094	.0024
%RSD	.2378	54.81	36.23	27.19	195.3	83.32	36.23
#1	40.87	-.0004	-.0007	.0014	-.0001	-.0046	.0084
#2	40.74	-.0002	-.0004	.0010	.0006	-.0179	.0050

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0002	-.0009	.0009	.0004	.2048	.2716
SDev	.0000	.0000	.0003	.0000	.0003	.0408	.0013
%RSD	3.347	14.05	36.38	1.643	73.62	19.92	.4862
#1	-.0009	.0002	-.0007	.0009	.0002	.1759	.2706
#2	-.0008	.0001	-.0012	.0010	.0007	.2336	.2725

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0002	-.0034	.0007	-.0012	.0112	.0013
SDev	.0005	.0156	.0012	.0013	.0006	.0042	.0006
%RSD	1246.	8537.	35.21	177.0	47.70	37.42	46.01
#1	.0004	-.0112	-.0043	.0017	-.0016	.0082	.0018
#2	-.0003	.0109	-.0026	-.0002	-.0008	.0142	.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.2	-.0008	.0040	3.082	-.0006	.0024	-.0004
SDev	.2	.0006	.0011	.001	.0005	.0009	.0003
%RSD	.1707	68.22	27.24	.0296	76.13	37.97	83.20
#1	101.1	-.0004	.0048	3.081	-.0003	.0031	-.0006
#2	101.4	-.0012	.0032	3.083	-.0010	.0018	-.0001

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0270	.0039	.0002	.0037	-.0174	.0006	-.0055
SDev	.0000	.0007	.0001	.0018	.0085	.0001	.0006
%RSD	.1471	17.01	37.08	50.26	49.03	26.36	10.65
#1	.0270	.0034	.0001	.0024	-.0114	.0005	-.0059
#2	.0270	.0043	.0002	.0050	-.0234	.0007	-.0051

010183

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0077	.0003
SDev	.0001	.0001	.0000
%RSD	202.8	1.235	12.52
#1	-.0000	.0076	.0003
#2	.0001	.0078	.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	908549	10000	--	--	--	--	--
SDev	1624.931	.0000000	--	--	--	--	--
%RSD	.1788491	.0000000	--	--	--	--	--
#1	907400	10000	--	--	--	--	--
#2	909698	10000	--	--	--	--	--

Method: DAILY2 Sample Name: icv/ccv Operator: 010184
Run Time: 01/17/03 17:59:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9969	9.938	5.084	4.786	9.854	1.016	4.947
SDev	.0022	.031	.003	.015	.011	.001	.003
%RSD	.2232	.3158	.0584	.3221	.1154	.1277	.0554
#1	.9984	9.960	5.082	4.775	9.862	1.015	4.949
#2	.9953	9.916	5.086	4.797	9.846	1.017	4.945
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.85	1.012	5.052	2.015	2.007	10.20	18.43
SDev	.06	.002	.004	.003	.008	.01	.09
%RSD	.2874	.1717	.0877	.1335	.3833	.0540	.4730
#1	19.81	1.011	5.049	2.013	2.012	10.20	18.49
#2	19.89	1.014	5.055	2.017	2.001	10.20	18.37
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.972	4.823	20.09	1.020	5.120	28.26	Q39.65
SDev	.010	.010	.03	.000	.017	.23	.10
%RSD	.1912	.2170	.1293	.0107	.3367	.8217	.2450
#1	4.978	4.831	20.07	1.020	5.108	28.42	Q39.72
#2	4.965	4.816	20.11	1.020	5.133	28.09	Q39.58
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.940	4.900	5.110	5.068	.9955	1.012	1.019
SDev	.008	.042	.008	.069	.0062	.002	.006
%RSD	.1555	.8571	.1593	1.361	.6240	.2354	.5518
#1	4.935	4.871	5.104	5.117	.9999	1.014	1.023
#2	4.945	4.930	5.116	5.019	.9911	1.011	1.015
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010185

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.59	5.368	5.307	4.996	5.082	5.327	4.980
SDev	1.02	.010	.120	.007	.043	.083	.018
%RSD	1.058	.1949	2.257	.1406	.8513	1.565	.3524
#1	97.31	5.375	5.391	5.001	5.113	5.386	4.967
#2	95.87	5.361	5.222	4.991	5.052	5.268	4.992
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.082	.9896	4.867	5.356	.9723	5.029	1.004
SDev	.000	.0011	.001	.002	.0353	.002	.005
%RSD	.0083	.1112	.0223	.0281	3.628	.0473	.5227
#1	5.082	.9904	4.866	5.355	.9972	5.031	1.000
#2	5.083	.9888	4.868	5.357	.9473	5.027	1.008
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.013	1.028	4.919
SDev	.001	.005	.001
%RSD	.0148	.4580	.0127
#1	5.012	1.024	4.919
#2	5.013	1.031	4.918
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

910186

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	866834	10000	--	--	--	--	--
SDev	9173.296	.0000000	--	--	--	--	--
%RSD	1.058253	.0000000	--	--	--	--	--
#1	873320	10000	--	--	--	--	--
#2	860347	10000	--	--	--	--	--

Analysis Report Blank Sample 01/17/03 06:10:29 PM page 1

Method: DAILY2 Sample Name: icb/ccb Operator:

010187

Run Time: 01/17/03 18:05:59

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	-.0045	-.0004	H.0129	.0005	.0000	-.0020
SDev	.0011	.0042	.0023	.0024	.0002	.0000	.0007
%RSD	92.04	94.04	630.9	18.92	36.90	181.4	35.86
#1	-.0020	-.0075	-.0020	H.0147	.0006	.0000	-.0026
#2	-.0004	-.0015	.0012	H.0112	.0003	-.0000	-.0015
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0100	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0100	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0102	-.0001	-.0005	.0008	.0005	-.0083	-.0116
SDev	.0008	.0004	.0012	.0002	.0001	.0336	.0316
%RSD	8.115	301.4	224.6	20.95	9.815	403.6	271.8
#1	.0096	-.0004	-.0014	.0009	.0005	L-.0321	-.0340
#2	.0108	.0001	.0003	.0007	.0004	.0154	.0107
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0003	-.0044	.0001	.0032	L-.0830	.0046
SDev	.0016	.0000	.0074	.0001	.0013	.3396	.0062
%RSD	169.3	10.24	167.9	88.64	40.84	409.0	134.9
#1	-.0021	.0003	-.0097	.0002	.0041	L-.3232	.0002
#2	.0002	.0003	.0008	.0000	.0023	H.1571	.0090
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0068	-.0089	.0029	-.0019	.0067	.0029
SDev	.0007	.0006	.0022	.0040	.0062	.0030	.0034
%RSD	838.4	8.561	24.21	137.9	318.6	44.55	117.6
#1	.0006	-.0072	-.0105	.0058	L-.0063	.0088	.0054
#2	-.0004	-.0064	-.0074	.0001	.0024	.0046	.0005
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010188

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.2	-.0065	.0043	-.0008	-.0010	.0007	.0003
SDev	.2	.0037	.0029	.0046	.0020	.0007	.0014
%RSD	.2088	56.61	66.71	589.6	191.0	94.89	410.4
#1	100.0	-.0091	.0064	-.0040	.0004	.0013	-.0007
#2	100.3	-.0039	.0023	.0025	-.0024	.0002	.0014
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0016	.0004	.0050	-.0214	.0005	-.0060
SDev	.0000	.0023	.0001	.0003	.0394	.0003	.0012
%RSD	12.95	147.9	26.35	6.420	184.0	65.18	19.47
#1	.0001	.0032	.0005	.0047	-.0493	.0008	-.0068
#2	.0001	-.0001	.0003	.0052	.0065	.0003	-.0052
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0003	.0006	.0006
SDev	.0001	.0003	.0003
%RSD	35.47	57.02	42.61
#1	.0004	.0003	.0008
#2	.0002	.0008	.0004
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

010189

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	898936	10000	--	--	--	--	--
SDev	1925.452	.0000000	--	--	--	--	--
%RSD	.2141924	.0000000	--	--	--	--	--
#1	897574	10000	--	--	--	--	--
#2	900297	10000	--	--	--	--	--

Method: DAILY2 Standard: blk
Run Time: 01/20/03 09:23:10

010190

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Avge	-.0000	.0003	-.0001	.0001	-.0000	.0001	-.0000
SDev	.0000	.0000	.0000	.0000	.0000	.0000	.0000
%RSD	303.6	1.788	47.35	42.05	88.28	2.029	42.26
#1	-.0000	.0004	-.0001	.0000	-.0000	.0001	-.0000
#2	.0000	.0003	-.0000	.0001	-.0000	.0001	-.0000

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	.0000	.0000	-.0000	.0000	.0004	-.0000	.0001
SDev	.0000	.0000	.0000	.0000	.0000	.0001	.0003
%RSD	246.5	165.3	47.17	34.77	6.201	323.7	306.2
#1	-.0000	.0000	-.0000	.0000	.0004	-.0001	-.0001
#2	.0000	-.0000	-.0000	.0000	.0004	.0001	.0003

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Avge	.0000	.0000	-.0000	.0000	-.0001	-.0003	-.0086
SDev	.0000	.0001	.0000	.0000	.0000	.0002	.0011
%RSD	31.35	208.3	123.1	109.2	17.71	55.57	13.00
#1	.0000	-.0000	-.0000	.0000	-.0001	-.0004	-.0093
#2	.0000	.0001	-.0000	.0000	-.0001	-.0002	-.0078

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Avge	-.0000	.0000	.0001	.0000	-.0001	.0000	-.0014
SDev	.0000	.0000	.0002	.0001	.0003	.0000	.0000
%RSD	349.3	28.14	168.7	267.7	250.4	47.40	2.029
#1	-.0000	.0000	.0002	-.0000	-.0003	.0000	-.0014
#2	.0000	.0000	-.0000	.0001	.0001	.0000	-.0014

Elem	Sc3613	1960/1	1960/2	Si2881	Sn1899	Sr4215	Th2837
Avge	84.71	-.0005	.0003	.0023	.0001	.0000	.0001
SDev	1.72	.0000	.0001	.0001	.0000	.0000	.0001
%RSD	2.026	2.798	30.02	3.500	45.33	18.21	79.08
#1	83.50	-.0006	.0003	.0023	.0001	.0000	.0000
#2	85.93	-.0005	.0004	.0022	.0001	.0000	.0001

Elem	Ti3349	Tl1908	U_4090	V_2924	W_2079	Y_3710	Zn2062
Avge	-.0001	-.0005	-.0002	-.0000	.0007	.0000	.0000
SDev	.0001	.0000	.0001	.0000	.0003	.0000	.0000
%RSD	100.3	3.163	82.77	33.15	34.74	206.5	22.19
#1	-.0002	-.0005	-.0002	-.0001	.0009	-.0000	.0000
#2	-.0000	-.0005	-.0001	-.0000	.0006	.0000	.0000

Elem	Zr3496
Avge	.0002
SDev	.0001
%RSD	53.97
#1	.0001
#2	.0003

1-20-03

#2

010191

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	847031	10000	--	--	--	--	--
SDev	17185.52	.0000000	--	--	--	--	--
%RSD	2.028913	.0000000	--	--	--	--	--
#1	834879	10000	--	--	--	--	--
#2	859183	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std4
Run Time: 01/20/03 09:27:50

010192

Elem	Ag3280	As1890	2203/1	2203/2	Sb2068	1960/1	1960/2
Avge	.0840	.1451	.3843	.3218	.2227	.3439	.3353
SDev	.0000	.0000	.0018	.0053	.0003	.0013	.0064
%RSD	.0102	.0213	.4668	1.650	.1413	.3632	1.915
#1	.0840	.1451	.3856	.3181	.2225	.3448	.3308
#2	.0840	.1451	.3831	.3256	.2229	.3431	.3398

Elem	T11908
Avge	.2855
SDev	.0004
%RSD	.1398
#1	.2853
#2	.2858

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	880316	10000	--	--	--	--	--
SDev	19936.88	.0000000	--	--	--	--	--
%RSD	2.264740	.0000000	--	--	--	--	--
#1	866219	10000	--	--	--	--	--
#2	894414	10000	--	--	--	--	--

Standardization Rpt. 01/20/03 09:35:34 AM

Method: DAILY2 Standard: clp_std1
Run Time: 01/20/03 09:32:09

Elem	Al3082	Ca3179	Fe2714	K_7664	Li6707	Mg2790	Na3302
Avge	.1218	.2008	.1089	.1853	3.023	.0923	.0098
SDev	.0002	.0001	.0000	.0006	.010	.0001	.0001
%RSD	.1277	.0735	.0409	.3267	.3209	.1494	.8188
#1	.1217	.2009	.1089	.1849	3.017	.0922	.0098
#2	.1219	.2007	.1089	.1857	3.030	.0924	.0099

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	867478	10000	--	--	--	--	--
SDev	18358.61	.0000000	--	--	--	--	--
%RSD	2.116322	.0000000	--	--	--	--	--
#1	854496	10000	--	--	--	--	--
#2	880459	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std5
Run Time: 01/20/03 09:35:45

010194

Elem	B_2496	Bi2230	Mo2020	P_1782	Si2881	Sn1899	Sr4215
Avge	.1931	.0449	.4741	.0149	.1816	.2071	2.506
SDev	.0008	.0001	.0024	.0000	.0005	.0007	.003
%RSD	.4097	.1400	.5046	.2644	.2870	.3170	.1159
#1	.1925	.0449	.4724	.0149	.1820	.2066	2.508
#2	.1936	.0448	.4758	.0149	.1812	.2076	2.504

Elem	Ti3349
Avge	2.824
SDev	.004
%RSD	.1525
#1	2.821
#2	2.827

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	922954	10000	--	--	--	--	--
SDev	12500.94	.0000000	--	--	--	--	--
%RSD	1.354450	.0000000	--	--	--	--	--
#1	914114	10000	--	--	--	--	--
#2	931793	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std2
Run Time: 01/20/03 09:39:21

010195

Elem	Ba4934	Be3130	Cr2677	Cu3247	Ni2316
Avge	1.139	1.231	.4388	.3374	.4132
SDev	.001	.007	.0014	.0008	.0018
%RSD	.0452	.5742	.3249	.2420	.4264
#1	1.139	1.226	.4378	.3380	.4119
#2	1.139	1.236	.4398	.3368	.4144

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	876062	10000	--	--	--	--	--
SDev	34230.33	.0000000	--	--	--	--	--
%RSD	3.907298	.0000000	--	--	--	--	--
#1	851857	10000	--	--	--	--	--
#2	900266	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std3
Run Time: 01/20/03 09:42:35

010196

Elem	Cd2265	Co2286	Mn2576	V_2924	Zn2062
Avge	1.175	.2653	.9861	.2028	.3508
SDev	.002	.0005	.0016	.0003	.0013
%RSD	.1723	.1988	.1614	.1735	.3661
#1	1.173	.2649	.9849	.2026	.3499
#2	1.176	.2656	.9872	.2031	.3517

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	888932	10000	--	--	--	--	--
SDev	12534.17	.0000000	--	--	--	--	--
%RSD	1.410026	.0000000	--	--	--	--	--
#1	880069	10000	--	--	--	--	--
#2	897795	10000	--	--	--	--	--

Method: DAILY2 Standard: clp_std6
Run Time: 01/20/03 09:46:11

010197

Elem	La3988	Na5889	Pd3404	S_1820	Th2837	U_4090	W_2079
Avge	.4863	.0551	.2217	.0390	.1218	.0834	.2366
SDev	.0001	.0001	.0003	.0001	.0000	.0001	.0001
%RSD	.0157	.2101	.1489	.1872	.0268	.1730	.0353
#1	.4863	.0550	.2214	.0389	.1218	.0835	.2367
#2	.4864	.0552	.2219	.0390	.1218	.0833	.2366

Elem	Y_3710	Zr3496
Avge	.8003	2.006
SDev	.0001	.001
%RSD	.0135	.0629
#1	.8003	2.005
#2	.8002	2.006

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	897286	10000	--	--	--	--	--
SDev	14595.39	.0000000	--	--	--	--	--
%RSD	1.626616	.0000000	--	--	--	--	--
#1	886965	10000	--	--	--	--	--
#2	907606	10000	--	--	--	--	--

Method: DAILY2 Slope = Conc(SIR)/IR

010198

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag3280	328.068	clp_std4	blk	23.8146	.000145	01/20/03 09:46:11
Al3082	308.215	clp_std1	blk	411.814	-.142721	01/20/03 09:46:11
As1890	189.042	clp_std4	blk	68.8762	.004821	01/20/03 09:46:11
B_2496	249.678	clp_std5	blk	51.8060	-.002649	01/20/03 09:46:11
Ba4934	493.409	clp_std2	blk	8.77988	.000136	01/20/03 09:46:11
Be3130	313.042	clp_std2	blk	4.06086	-.000273	01/20/03 09:46:11
Bi2230	223.061	clp_std5	blk	110.466	.002751	01/20/03 09:46:11
Ca3179	317.933	clp_std1	blk	249.021	-.002008	01/20/03 09:46:11
Cd2265	226.502	clp_std3	blk	8.51144	-.000118	01/20/03 09:46:11
Co2286	228.616	clp_std3	blk	37.6952	.001185	01/20/03 09:46:11
Cr2677	267.716	clp_std2	blk	22.7891	-.000724	01/20/03 09:46:11
Cu3247	324.753	clp_std2	blk	29.6761	-.012342	01/20/03 09:46:11
Fe2714	271.441	clp_std1	blk	459.168	.019898	01/20/03 09:46:11
K_7664	766.491	clp_std1	blk	269.985	-.023031	01/20/03 09:46:11
La3988	398.853	clp_std6	blk	20.5812	-.000412	01/20/03 09:46:11
Li6707	670.784	clp_std1	blk	3.30748	-.000109	01/20/03 09:46:11
Mg2790	279.078	clp_std1	blk	270.811	.002428	01/20/03 09:46:11
Mn2576	257.610	clp_std3	blk	10.1422	-.000160	01/20/03 09:46:11
Mo2020	202.030	clp_std5	blk	21.0909	.001459	01/20/03 09:46:11
Na3302	330.232	clp_std1	blk	4938.36	1.40132	01/20/03 09:46:11
Na5889	588.991	clp_std6	blk	15.7925	.135230	01/20/03 09:46:11
Ni2316	231.604	clp_std2	blk	24.2035	.000326	01/20/03 09:46:11
P_1782	178.287	clp_std5	blk	671.507	-.010733	01/20/03 09:46:11
2203/1	220.351	clp_std4	blk	26.0254	-.002829	01/20/03 09:46:11
2203/2	220.352	clp_std4	blk	31.0765	-.000750	01/20/03 09:46:11
Pd3404	340.458	clp_std6	blk	46.2993	.004964	01/20/03 09:46:11
S_1820	182.040	clp_std6	blk	256.514	-.006932	01/20/03 09:46:11
Sb2068	206.838	clp_std4	blk	44.6258	.061496	01/20/03 09:46:11
Sc3613	361.384	blk	dark	1.18046	.000000	01/20/03 09:46:11
1960/1	196.021	clp_std4	blk	29.0333	.015755	01/20/03 09:46:11
1960/2	196.022	clp_std4	blk	29.8533	-.009487	01/20/03 09:46:11
Si2881	288.158	clp_std5	blk	55.5583	-.126112	01/20/03 09:46:11
Pb220	220.353	NONE	NONE	1.00000	.000000	*NOT STANDARDIZED
Se196	196.026	NONE	NONE	1.00000	.000000	*NOT STANDARDIZED
Sn1899	189.989	clp_std5	blk	48.3362	-.004005	01/20/03 09:46:11
Sr4215	421.552	clp_std5	blk	3.98976	-.000016	01/20/03 09:46:11
Th2837	283.730	clp_std6	blk	85.7642	-.005826	01/20/03 09:46:11
Ti3349	334.941	clp_std5	blk	3.54067	.000397	01/20/03 09:46:11
Tl1908	190.864	clp_std4	blk	34.9521	.018018	01/20/03 09:46:11
U_4090	409.014	clp_std6	blk	126.593	.019895	01/20/03 09:46:11
V_2924	292.402	clp_std3	blk	49.2884	.002248	01/20/03 09:46:11
W_2079	207.914	clp_std6	blk	21.1897	-.015628	01/20/03 09:46:11
Y_3710	371.030	clp_std6	blk	12.4937	-.000065	01/20/03 09:46:11
Zn2062	206.200	clp_std3	blk	28.5110	-.000236	01/20/03 09:46:11
Zr3496	349.621	clp_std6	blk	5.45082	-.001235	01/20/03 09:46:11

Method: DAILY2 Sample Name: icv/ccv Operator: 010199
Run Time: 01/20/03 09:51:59
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9980	9.963	5.143	4.846	9.893	1.027	5.011
SDev	.0012	.006	.020	.018	.013	.001	.014
%RSD	.1224	.0647	.3798	.3818	.1306	.1237	.2739
#1	.9971	9.959	5.157	4.833	9.902	1.028	5.021
#2	.9989	9.968	5.129	4.859	9.884	1.026	5.001
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.04	1.025	5.099	2.030	2.008	10.30	18.44
SDev	.01	.003	.001	.000	.004	.05	.03
%RSD	.0520	.2884	.0211	.0084	.2204	.4727	.1560
#1	20.03	1.027	5.100	2.030	2.011	10.34	18.46
#2	20.04	1.022	5.098	2.030	2.005	10.27	18.42
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.985	4.837	20.25	1.026	5.177	28.51	Q38.83
SDev	.000	.003	.01	.000	.010	.38	.01
%RSD	.0042	.0522	.0364	.0048	.1892	1.318	.0156
#1	4.985	4.835	20.25	1.026	5.170	28.77	Q38.82
#2	4.985	4.838	20.24	1.026	5.184	28.24	Q38.83
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.002	5.042	5.048	5.032	1.014	1.015	1.031
SDev	.011	.047	.005	.019	.011	.001	.007
%RSD	.2285	.9406	.0913	.3873	1.071	.1404	.7028
#1	5.010	5.008	5.051	5.018	1.021	1.016	1.036
#2	4.994	5.075	5.044	5.046	1.006	1.014	1.026
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010200

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.9	5.397	5.377	5.038	5.037	5.383	4.987
SDev	.9	.013	.008	.005	.011	.001	.008
%RSD	.8434	.2477	.1459	.1008	.2275	.0144	.1544
#1	101.5	5.406	5.371	5.041	5.029	5.383	4.992
#2	100.3	5.387	5.382	5.034	5.045	5.384	4.981
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.091	.9887	4.868	5.365	1.004	5.064	1.030
SDev	.005	.0025	.004	.005	.023	.004	.003
%RSD	.0985	.2546	.0797	.1000	2.257	.0739	.2658
#1	5.094	.9904	4.871	5.362	1.020	5.066	1.032
#2	5.087	.9869	4.865	5.369	.9883	5.061	1.028
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.029	1.041	4.925
SDev	.002	.000	.005
%RSD	.0317	.0149	.1096
#1	5.030	1.041	4.929
#2	5.027	1.041	4.921
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

010201

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	854592	10000	--	--	--	--	--
SDev	7167.941	.0000000	--	--	--	--	--
%RSD	.8387555	.0000000	--	--	--	--	--
#1	859661	10000	--	--	--	--	--
#2	849524	10000	--	--	--	--	--

Method: DAILY2 Sample Name: icb/ccb Operator:
Run Time: 01/20/03 09:58:31
Comment:
Mode: CONC Corr. Factor: 1

010202

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0039	.0003	H.0241	.0004	.0001	.0026
SDev	.0002	.0000	.0007	.0052	.0002	.0000	.0030
%RSD	66.17	.6974	218.5	21.54	47.94	11.81	113.4
#1	-.0001	-.0039	.0008	H.0278	.0005	.0001	.0005
#2	-.0004	-.0040	-.0002	H.0204	.0003	.0001	.0048
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0100	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0100	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0048	-.0000	.0001	-.0004	.0001	H.0678	.0563
SDev	.0015	.0002	.0009	.0000	.0005	.0197	.0180
%RSD	32.58	5108.	706.0	11.85	352.2	29.03	31.90
#1	.0059	.0001	.0007	-.0004	.0005	H.0817	.0690
#2	.0037	-.0001	-.0005	-.0004	-.0002	H.0539	.0436
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0006	.0024	-.0000	H.0058	H.5900	.0236
SDev	.0007	.0001	.0002	.0000	.0029	.0306	.0012
%RSD	593.5	15.64	8.200	335.1	50.23	5.184	5.184
#1	.0006	.0006	.0026	.0000	H.0079	H.5683	.0227
#2	-.0004	.0005	.0023	-.0000	.0037	H.6116	.0244
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC High	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	H.0132	.0031	-.0019	H.0114	.0005	-.0015
SDev	.0002	.0099	.0017	.0013	.0023	.0024	.0009
%RSD	73.09	75.30	54.81	68.58	20.33	490.3	61.18
#1	.0004	H.0202	.0043	-.0028	H.0131	-.0012	-.0008
#2	.0001	.0062	.0019	-.0010	H.0098	.0022	-.0021
Errors	LC Pass	LC High	NOCHECK	NOCHECK	LC High	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010203

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.7	.0080	-.0026	.0014	-.0002	.0009	.0003
SDev	2.3	.0027	.0034	.0023	.0003	.0014	.0013
%RSD	2.251	33.80	130.6	159.9	140.0	145.8	393.2
#1	100.1	.0099	-.0050	.0031	-.0004	-.0000	-.0006
#2	103.3	.0061	-.0002	-.0002	-.0000	.0019	.0012
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050
Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0011	.0001	.0024	-.0046	.0004	-.0016
SDev	.0001	.0008	.0001	.0039	.0031	.0004	.0036
%RSD	47.80	76.15	105.8	162.3	66.94	84.75	219.3
#1	.0003	-.0016	.0002	.0051	-.0067	.0002	.0009
#2	.0001	-.0005	.0000	-.0004	-.0024	.0007	-.0042
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100
Elem	Y_3710	Zn2062	Zr3496				
Units	ppm	ppm	ppm				
Avge	.0002	-.0002	.0010				
SDev	.0001	.0003	.0008				
%RSD	36.96	115.8	82.04				
#1	.0003	-.0004	.0016				
#2	.0002	-.0000	.0004				
Errors	LC Pass	LC Pass	LC Pass				
High	.0050	.0050	.0050				
Low	-.0050	-.0050	-.0050				

010201

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	861252	10000	--	--	--	--	--
SDev	19387.45	.0000000	--	--	--	--	--
%RSD	2.251078	.0000000	--	--	--	--	--
#1	847543	10000	--	--	--	--	--
#2	874961	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218762 Operator:
Run Time: 01/20/03 10:03:12
Comment:
Mode: CONC Corr. Factor: 1

010205

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.9383	55.73	-1.653	2.042	.1821	.1057	-3.667
SDev	.5227	2.73	.981	.687	.0759	.0036	3.065
%RSD	55.71	4.906	59.32	33.62	41.68	3.436	83.56
#1	-1.308	53.80	-2.347	1.557	.2358	.1083	-5.834
#2	-.5687	57.67	-.9596	2.528	.1285	.1031	-1.500

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.2184	.1432	-3.366	.8899	4.799	23.04	62.63
SDev	.5890	.1305	.241	.4212	.2188	4.17	6.50
%RSD	269.8	91.14	7.172	47.33	3.919	18.10	10.37
#1	-.6349	.0509	-3.195	1.188	4.932	25.98	58.04
#2	.1982	.2356	-3.537	.5921	4.666	20.09	67.23

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.1921	.0959	-7.956	.2846	-3.354	666.0	-145.3
SDev	.2352	.0101	2.503	.0574	.250	123.1	9.2
%RSD	122.5	10.54	31.45	20.16	7.460	18.48	6.324
#1	-.3584	.1030	-9.726	.3252	-3.177	579.0	-138.8
#2	-.0257	.0887	-6.187	.2440	-3.531	753.0	-151.8

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5917	-6.745	10.18	2.422	1.362	-1.492	6.870
SDev	.1237	3.739	1.73	.915	1.753	10.302	.924
%RSD	20.91	55.43	17.01	37.78	128.7	690.5	13.45
#1	.6792	-9.389	8.959	1.775	.1226	5.792	7.523
#2	.5042	-4.101	11.41	3.069	2.601	-8.776	6.217

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1032	-32.00	15.40	43.89	5.024	-.3917	-.2671
SDev	.0093	3.15	.97	5.07	1.188	.4003	1.1184
%RSD	8.975	9.851	6.328	11.56	23.65	102.2	418.7
#1	.1098	-29.77	14.71	40.30	4.184	-.1086	.5237
#2	.0967	-34.23	16.09	47.48	5.863	-.6748	-1.058

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0702	6.424	-.6165	-29.38	-36.84	-.6274	10.71
SDev	.0293	.414	.1454	.26	.13	.0527	.36
%RSD	41.65	6.442	23.58	.8987	.3567	8.393	3.385
#1	.0909	6.717	-.5137	-29.19	-36.75	-.5902	10.45
#2	.0496	6.131	-.7193	-29.56	-36.93	-.6647	10.96

010206

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.1912	-1.293	.0456
SDev	.0537	.047	.2102
%RSD	28.07	3.617	461.4
#1	.2291	-1.260	.1942
#2	.1532	-1.326	-.1031

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	874	10000	--	--	--	--	--
SDev	78.48885	.0000000	--	--	--	--	--
%RSD	8.975284	.0000000	--	--	--	--	--
#1	930	10000	--	--	--	--	--
#2	819	10000	--	--	--	--	--

21603

Method: DAILY2 Sample Name: 218763 Operator:
Run Time: 01/20/03 10:07:53
Comment:
Mode: CONC Corr. Factor: 1

010207

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.8935	60.94	-3.321	2.237	.0679	.0958	-1.728
SDev	.1354	1.67	.175	.160	.0486	.0028	.818
%RSD	15.15	2.739	5.262	7.173	71.55	2.945	47.33
#1	-.9892	62.12	-3.444	2.124	.0336	.0978	-1.149
#2	-.7978	59.76	-3.197	2.351	.1023	.0938	-2.306

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0966	.1115	-4.123	.5041	5.619	26.96	88.07
SDev	.4654	.1631	.309	.5007	.057	9.06	4.17
%RSD	482.0	146.3	7.506	99.33	1.023	33.61	4.734
#1	-.4257	-.0038	-4.342	.8581	5.659	20.55	85.13
#2	.2325	.2269	-3.904	.1500	5.578	33.37	91.02

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.1450	.0190	-4.447	.2441	-4.151	815.0	-161.2
SDev	.0586	.0149	8.036	.0175	.207	204.2	.3
%RSD	40.39	78.45	180.7	7.180	4.993	25.06	.2048
#1	-.1864	.0296	1.235	.2565	-4.005	670.6	-161.5
#2	-.1036	.0085	-10.13	.2317	-4.298	959.4	-161.0

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.1395	-12.98	13.40	.8552	.6879	.8191	8.748
SDev	.0209	2.34	1.44	.1394	.7824	1.165	.966
%RSD	14.96	18.03	10.75	16.30	113.7	142.3	11.05
#1	-.1542	-14.64	14.42	.7566	1.241	1.643	9.431
#2	-.1247	-11.33	12.38	.9537	.1347	-.0049	8.065

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0915	-34.58	17.18	49.23	5.053	-.0640	.0955
SDev	.0008	.92	4.67	.45	.387	2.8043	.6614
%RSD	.8206	2.673	27.18	.9194	7.659	4379.	692.7
#1	.0921	-35.23	20.48	48.91	5.327	1.919	.5632
#2	.0910	-33.93	13.87	49.55	4.779	-2.047	-.3722

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0018	6.288	-.7498	-31.11	-36.61	-.4520	12.51
SDev	.0038	.740	.1084	1.18	4.89	.1820	1.04
%RSD	214.1	11.77	14.46	3.790	13.36	40.27	8.303
#1	.0009	6.811	-.6731	-30.28	-40.07	-.3233	13.25
#2	-.0044	5.765	-.8265	-31.94	-33.16	-.5807	11.78

010208

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0892	-1.308	-.2966
SDev	.0107	.275	.0309
%RSD	12.05	21.05	10.41
#1	.0968	-1.502	-.3184
#2	.0816	-1.113	-.2747

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	776	10000	--	--	--	--	--
SDev	6.363961	.0000000	--	--	--	--	--
%RSD	.8206269	.0000000	--	--	--	--	--
#1	780	10000	--	--	--	--	--
#2	771	10000	--	--	--	--	--

1/16/03

Method: DAILY2 Sample Name: 218762 Operator:
Run Time: 01/20/03 10:15:38
Comment:
Mode: CONC Corr. Factor: 1

010209

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0017	-.0112	-.0012	.0152	.0646	.0000	-.0020
SDev	.0020	.0133	.0029	.0012	.0008	.0000	.0046
%RSD	116.7	118.6	238.0	7.788	1.220	140.1	233.1
#1	-.0032	-.0207	.0008	.0143	.0651	.0000	-.0052
#2	-.0003	-.0018	-.0032	.0160	.0640	.0000	.0013

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	41.34	-.0003	-.0012	-.0027	-.0015	.0157	.0303
SDev	.84	.0002	.0013	.0020	.0012	.0546	.0504
%RSD	2.032	70.97	111.9	71.34	82.21	348.3	166.3
#1	40.74	-.0005	-.0021	-.0041	-.0023	-.0229	-.0053
#2	41.93	-.0002	-.0003	-.0014	-.0006	.0543	.0660

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	-.0001	-.0095	.0006	.0005	.3864	.1915
SDev	.0022	.0001	.0191	.0002	.0003	.4469	.0143
%RSD	160.9	183.1	199.7	38.42	57.86	115.6	7.451
#1	-.0029	-.0002	-.0230	.0005	.0007	.0704	.2016
#2	.0002	.0000	.0039	.0008	.0003	.7024	.1814

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0163	-.0015	-.0004	.0027	-.0003	-.0045
SDev	.0016	.0018	.0001	.0025	.0090	.0077	.0030
%RSD	808.4	11.09	4.008	678.8	336.0	2561.	66.36
#1	-.0013	.0150	-.0015	.0014	-.0037	-.0058	-.0066
#2	.0009	.0176	-.0015	-.0021	.0090	.0052	-.0024

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	103.1	.0004	.0008	3.076	-.0007	.0007	-.0024
SDev	7.0	.0014	.0002	.000	.0017	.0003	.0018
%RSD	6.836	358.5	27.04	.0060	225.1	50.78	76.94
#1	108.1	-.0006	.0009	3.076	.0004	.0004	-.0037
#2	98.11	.0014	.0006	3.076	-.0019	.0009	-.0011

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0271	-.0054	-.0004	-.0006	-.0490	-.0012	-.0055
SDev	.0001	.0001	.0005	.0009	.0673	.0012	.0002
%RSD	.3879	2.039	127.3	135.2	137.4	99.66	4.047
#1	.0272	-.0053	-.0008	-.0012	-.0966	-.0020	-.0053
#2	.0271	-.0055	-.0000	-.0000	-.0014	-.0004	-.0057

010210

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0005	.0114	-.0016
SDev	.0003	.0008	.0015
%RSD	52.37	7.203	93.85
#1	-.0007	.0108	-.0026
#2	-.0003	.0120	-.0005

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	873282	10000	--	--	--	--	--
SDev	59741.33	.0000000	--	--	--	--	--
%RSD	6.841016	.0000000	--	--	--	--	--
#1	915525	10000	--	--	--	--	--
#2	831038	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218763 Operator:
Run Time: 01/20/03 10:20:19
Comment:
Mode: CONC Corr. Factor: 1

010211

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0008	-.0004	.0124	.0623	.0001	.0042
SDev	.0003	.0056	.0027	.0003	.0000	.0000	.0035
%RSD	96.12	740.1	607.3	2.371	.0366	28.58	82.02
#1	.0005	.0032	-.0023	.0126	.0623	.0000	.0067
#2	.0001	-.0048	.0015	.0122	.0623	.0001	.0018

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.31	.0002	.0000	-.0008	.0003	.0735	.0832
SDev	.05	.0000	.0007	.0005	.0002	.0171	.0186
%RSD	.1085	6.157	20180.	59.42	70.89	23.35	22.31
#1	43.28	.0002	-.0005	-.0004	.0005	.0856	.0963
#2	43.34	.0002	.0005	-.0011	.0002	.0613	.0701

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0001	.0076	.0011	.0005	.7165	.1930
SDev	.0004	.0000	.0035	.0001	.0008	.0828	.0039
%RSD	84.30	59.38	46.12	7.605	147.5	11.56	2.039
#1	.0008	.0001	.0052	.0010	.0011	.7751	.1958
#2	.0002	.0000	.0101	.0011	-.0000	.6580	.1902

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.0072	.0021	-.0003	.0117	.0130	.0003
SDev	.0017	.0049	.0002	.0022	.0019	.0052	.0009
%RSD	178.7	68.75	8.277	771.0	16.21	39.75	341.5
#1	-.0003	.0037	.0020	-.0019	.0131	.0093	.0009
#2	.0022	.0106	.0022	.0013	.0104	.0166	-.0004

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	93.14	.0036	.0011	3.143	.0005	.0019	-.0018
SDev	.50	.0018	.0007	.001	.0015	.0002	.0009
%RSD	.5330	49.77	62.25	.0341	300.5	8.479	50.52
#1	93.49	.0049	.0006	3.144	-.0006	.0020	-.0025
#2	92.79	.0023	.0015	3.142	.0016	.0018	-.0012

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0276	-.0023	.0000	.0010	.0060	.0004	-.0033
SDev	.0001	.0005	.0000	.0009	.0095	.0002	.0017
%RSD	.1820	22.75	179.6	89.35	157.5	63.49	51.00
#1	.0276	-.0019	.0000	.0004	.0127	.0002	-.0045
#2	.0275	-.0027	-.0000	.0017	-.0007	.0006	-.0021

010212

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0002	.0093	-.0001
SDev	.0001	.0004	.0001
%RSD	37.02	3.848	36.69
#1	-.0003	.0096	-.0001
#2	-.0002	.0091	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	788976	10000	--	--	--	--	--
SDev	4186.072	.0000000	--	--	--	--	--
%RSD	.5305703	.0000000	--	--	--	--	--
#1	791936	10000	--	--	--	--	--
#2	786016	10000	--	--	--	--	--

Analysis Report 01/20/03 10:29:30 AM page 1

Method: DAILY2 Sample Name: 218764 Operator:
Run Time: 01/20/03 10:25:01
Comment:
Mode: CONC Corr. Factor: 1

010213

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0013	-.0006	.0117	.0615	.0001	.0048
SDev	.0005	.0015	.0008	.0004	.0002	.0000	.0038
%RSD	866.8	120.3	125.8	3.882	.3386	23.22	80.72
#1	.0004	-.0002	-.0011	.0114	.0617	.0001	.0075
#2	-.0003	-.0024	-.0001	.0120	.0614	.0001	.0020

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	44.72	.0002	.0006	-.0007	.0005	.0581	.0777
SDev	.28	.0002	.0004	.0005	.0007	.0112	.0014
%RSD	.6222	101.6	63.78	79.96	158.8	19.36	1.796
#1	44.52	.0001	.0003	-.0003	-.0001	.0660	.0787
#2	44.91	.0003	.0009	-.0011	.0010	.0501	.0767

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0000	.0145	.0011	-.0005	.7173	.2228
SDev	.0005	.0000	.0061	.0000	.0002	.1453	.0142
%RSD	3874.	193.7	42.27	1.788	40.56	20.26	6.354
#1	.0004	.0001	.0188	.0011	-.0004	.8200	.2328
#2	-.0004	-.0000	.0102	.0011	-.0007	.6145	.2128

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0121	.0050	-.0020	.0104	.0080	-.0017
SDev	.0001	.0070	.0021	.0009	.0027	.0034	.0015
%RSD	21.09	57.81	41.52	45.14	26.14	42.15	89.22
#1	.0007	.0171	.0065	-.0014	.0123	.0056	-.0027
#2	.0005	.0072	.0036	-.0026	.0085	.0104	-.0006

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	94.88	.0038	-.0001	3.243	.0004	.0012	-.0013
SDev	2.72	.0027	.0004	.001	.0013	.0011	.0003
%RSD	2.867	70.67	270.6	.0357	349.3	96.79	22.69
#1	96.80	.0057	.0001	3.244	.0013	.0020	-.0011
#2	92.95	.0019	-.0004	3.242	-.0005	.0004	-.0015

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0288	-.0040	-.0001	-.0009	.0071	.0001	-.0053
SDev	.0001	.0010	.0001	.0023	.0116	.0004	.0025
%RSD	.3766	25.28	98.13	255.3	164.0	335.2	47.18
#1	.0289	-.0033	-.0000	.0007	.0153	-.0002	-.0035
#2	.0288	-.0047	-.0001	-.0025	-.0011	.0004	-.0071

010214

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0002	.0104	-.0002
SDev	.0000	.0000	.0003
%RSD	18.03	.2895	119.3
#1	-.0002	.0104	-.0004
#2	-.0001	.0105	-.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	803664	10000	--	--	--	--	--
SDev	22967.53	.0000000	--	--	--	--	--
%RSD	2.857855	.0000000	--	--	--	--	--
#1	819904	10000	--	--	--	--	--
#2	787423	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218765 Operator:
Run Time: 01/20/03 10:29:42
Comment:
Mode: CONC Corr. Factor: 1

010215

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0088	-.0007	.0402	.1521	.0000	.0049
SDev	.0008	.0028	.0018	.0002	.0001	.0000	.0018
%RSD	432.5	32.20	256.7	.4995	.0760	1.785	36.58
#1	.0008	.0108	.0006	.0403	.1520	.0000	.0036
#2	-.0004	.0068	-.0020	.0400	.1522	.0000	.0061

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.15	.0001	.0003	.0000	.0064	.0501	.0897
SDev	.04	.0004	.0000	.0005	.0000	.0269	.0102
%RSD	.0998	298.4	3.473	1664.	.2053	53.63	11.40
#1	43.18	.0005	.0003	-.0004	.0064	.0691	.0969
#2	43.12	-.0002	.0003	.0004	.0064	.0311	.0824

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0000	.0137	.0010	-.0001	1.244	.8874
SDev	.0012	.0001	.0099	.0001	.0006	.108	.0014
%RSD	13630.	379.7	72.09	8.951	845.9	8.678	.1519
#1	.0009	.0001	.0207	.0009	.0004	1.320	.8864
#2	-.0009	-.0000	.0067	.0010	-.0005	1.167	.8883

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0143	.0164	.0052	-.0010	.0092	.0187	-.0010
SDev	.0004	.0117	.0006	.0018	.0036	.0056	.0004
%RSD	2.493	71.33	10.44	184.5	39.55	30.19	47.27
#1	.0145	.0246	.0056	-.0023	.0118	.0227	-.0006
#2	.0140	.0081	.0048	.0003	.0066	.0147	-.0013

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	95.38	.0032	-.0021	3.193	.0011	-.0003	-.0025
SDev	1.86	.0030	.0004	.001	.0010	.0012	.0026
%RSD	1.947	92.80	16.65	.0463	93.34	357.5	106.5
#1	94.07	.0053	-.0019	3.192	.0004	.0005	-.0006
#2	96.70	.0011	-.0024	3.194	.0018	-.0012	-.0044

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0281	-.0022	-.0001	.0026	.0119	-.0004	-.0043
SDev	.0001	.0017	.0001	.0003	.0162	.0001	.0006
%RSD	.2128	76.16	90.87	12.42	135.9	37.18	13.93
#1	.0281	-.0035	-.0002	.0024	.0234	-.0003	-.0039
#2	.0282	-.0010	-.0000	.0028	.0005	-.0005	-.0047

010216

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0003	.0225	-.0001
SDev	.0000	.0002	.0000
%RSD	2.017	.9661	34.35
#1	-.0003	.0226	-.0002
#2	-.0003	.0223	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	807956	10000	--	--	--	--	--
SDev	15727.47	.0000000	--	--	--	--	--
%RSD	1.946575	.0000000	--	--	--	--	--
#1	796835	10000	--	--	--	--	--
#2	819077	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218766 Operator: 010217
Run Time: 01/20/03 10:34:24
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0068	-.0008	.0124	.0678	.0000	.0034
SDev	.0011	.0057	.0004	.0008	.0000	.0000	.0044
%RSD	348.2	83.72	47.85	6.188	.0399	44.00	128.5
#1	.0004	.0109	-.0011	.0130	.0678	.0000	.0066
#2	-.0011	.0028	-.0006	.0119	.0677	.0000	.0003

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	43.20	.0001	.0007	-.0017	-.0006	.0508	.0711
SDev	.09	.0001	.0003	.0000	.0001	.0261	.0255
%RSD	.2090	56.49	47.84	.0333	17.26	51.51	35.90
#1	43.14	.0002	.0009	-.0017	-.0005	.0693	.0892
#2	43.26	.0001	.0004	-.0017	-.0006	.0323	.0531

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0000	.0057	.0011	.0002	.8060	.2386
SDev	.0009	.0001	.0078	.0001	.0006	.3466	.0040
%RSD	244.0	345.0	135.8	4.838	369.5	43.01	1.688
#1	.0010	.0001	.0112	.0011	.0006	1.051	.2415
#2	-.0003	-.0000	.0002	.0010	-.0002	.5609	.2358

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.0097	-.0004	.0016	.0101	.0114	-.0012
SDev	.0014	.0021	.0001	.0006	.0049	.0067	.0005
%RSD	145.0	22.05	27.85	38.54	49.04	58.71	38.51
#1	.0019	.0082	-.0004	.0011	.0136	.0066	-.0015
#2	-.0000	.0112	-.0005	.0020	.0066	.0161	-.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.92	.0007	.0013	3.149	.0009	.0011	-.0046
SDev	.91	.0012	.0020	.007	.0004	.0009	.0029
%RSD	.9439	162.6	153.6	.2154	40.29	83.62	62.77
#1	96.27	-.0001	.0027	3.144	.0007	.0018	-.0025
#2	97.57	.0016	-.0001	3.154	.0012	.0005	-.0066

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0280	-.0057	-.0001	-.0004	.0087	-.0003	-.0063
SDev	.0000	.0020	.0002	.0041	.0303	.0003	.0026
%RSD	.0715	35.27	210.0	990.3	346.5	82.20	41.99
#1	.0280	-.0043	.0001	-.0033	.0302	-.0001	-.0044
#2	.0280	-.0071	-.0003	.0025	-.0127	-.0006	-.0082

010218

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0003	.0137	-.0009
SDev	.0001	.0001	.0006
%RSD	21.04	.5978	68.64
#1	-.0003	.0138	-.0004
#2	-.0004	.0137	-.0013

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	821020	10000	--	--	--	--	--
SDev	7762.618	.0000000	--	--	--	--	--
%RSD	.9454847	.0000000	--	--	--	--	--
#1	815531	10000	--	--	--	--	--
#2	826509	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218767 Operator:
Run Time: 01/20/03 10:39:05
Comment:
Mode: CONC Corr. Factor: 1

010219

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0041	-.0025	.0014	.0018	.0000	.0064
SDev	.0001	.0022	.0022	.0012	.0000	.0000	.0045
%RSD	259.5	53.29	86.04	86.24	.4322	25.37	71.22
#1	.0000	.0056	-.0010	.0005	.0018	.0000	.0096
#2	-.0001	.0025	-.0040	.0022	.0018	.0000	.0032

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.94	-.0000	.0003	-.0008	.0000	.0404	.0479
SDev	.27	.0002	.0001	.0005	.0001	.0425	.0519
%RSD	.6681	510.3	33.30	59.42	553.2	105.4	108.3
#1	41.13	.0001	.0003	-.0011	.0001	.0705	.0846
#2	40.75	-.0002	.0002	-.0005	-.0000	.0103	.0112

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0000	.0083	.0001	-.0005	.4415	.0100
SDev	.0001	.0002	.0016	.0000	.0004	.4342	.0010
%RSD	340.5	371.5	19.04	27.22	90.41	98.35	10.42
#1	-.0000	.0001	.0072	.0001	-.0008	.7485	.0093
#2	.0001	-.0002	.0094	.0001	-.0002	.1345	.0108

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.0115	.0028	.0009	.0056	.0234	-.0001
SDev	.0014	.0153	.0016	.0004	.0074	.0008	.0010
%RSD	143.9	133.1	55.92	49.93	131.4	3.566	1585.
#1	-.0000	.0007	.0017	.0012	.0109	.0240	-.0008
#2	.0020	.0224	.0040	.0006	.0004	.0228	.0007

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	93.04	.0017	.0001	3.210	.0016	.0006	-.0057
SDev	3.91	.0036	.0000	.001	.0002	.0012	.0013
%RSD	4.199	209.2	29.83	.0346	14.41	182.9	22.45
#1	90.28	-.0008	.0001	3.209	.0014	-.0002	-.0048
#2	95.80	.0042	.0001	3.211	.0017	.0015	-.0066

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0251	-.0025	-.0001	.0035	.0005	-.0001	-.0035
SDev	.0001	.0003	.0000	.0027	.0050	.0002	.0021
%RSD	.2281	13.66	2.367	75.36	952.5	144.0	59.17
#1	.0251	-.0023	-.0001	.0017	.0040	-.0003	-.0020
#2	.0251	-.0028	-.0001	.0054	-.0030	.0000	-.0050

010220

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0003	.0036	-.0004
SDev	.0001	.0001	.0002
%RSD	26.82	3.754	38.74
#1	-.0002	.0037	-.0006
#2	-.0003	.0035	-.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	788112	10000	--	--	--	--	--
SDev	33025.42	.0000000	--	--	--	--	--
%RSD	4.190451	.0000000	--	--	--	--	--
#1	764759	10000	--	--	--	--	--
#2	811464	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218768 Operator:
Run Time: 01/20/03 10:43:47
Comment:
Mode: CONC Corr. Factor: 1

010221

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	.0015	-.0007	.0015	.0020	.0000	.0009
SDev	.0003	.0022	.0021	.0024	.0003	.0001	.0013
%RSD	56.95	147.9	306.3	153.6	14.75	130.0	155.7
#1	-.0008	-.0001	-.0021	-.0001	.0018	.0000	-.0001
#2	-.0003	.0031	.0008	.0032	.0022	.0001	.0018

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.50	-.0000	-.0006	-.0005	.0002	.0553	.0559
SDev	.27	.0002	.0007	.0033	.0017	.0031	.0001
%RSD	.6720	1122.	119.5	680.5	749.9	5.568	.2031
#1	40.31	.0001	-.0001	-.0028	-.0010	.0575	.0560
#2	40.69	-.0002	-.0011	.0018	.0014	.0531	.0558

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0000	.0054	.0002	-.0006	.6013	.0183
SDev	.0008	.0000	.0026	.0003	.0008	.0619	.0086
%RSD	288.1	3.094	48.59	203.4	136.9	10.29	46.72
#1	.0003	-.0000	.0073	-.0001	-.0012	.6450	.0244
#2	-.0009	-.0000	.0036	.0004	-.0000	.5575	.0123

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0007	.0125	-.0005	.0019	.0079	.0061	-.0016
SDev	.0011	.0041	.0149	.0048	.0003	.0086	.0050
%RSD	166.0	33.01	2831.	250.1	4.461	142.3	309.9
#1	-.0001	.0154	.0100	-.0015	.0082	-.0000	-.0051
#2	.0015	.0096	-.0111	.0053	.0077	.0122	.0019

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	95.49	-.0030	.0014	3.210	.0011	-.0000	-.0021
SDev	2.43	.0078	.0039	.003	.0018	.0000	.0029
%RSD	2.544	259.0	271.2	.0813	158.0	64.05	137.7
#1	97.21	.0025	-.0013	3.212	.0024	-.0000	-.0041
#2	93.78	-.0085	.0042	3.208	-.0001	-.0000	-.0001

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0249	-.0008	-.0000	.0002	-.0027	-.0001	-.0050
SDev	.0001	.0065	.0006	.0016	.0050	.0017	.0005
%RSD	.4687	856.4	6250.	818.1	183.2	3097.	10.79
#1	.0249	-.0053	-.0004	.0013	-.0062	-.0012	-.0047
#2	.0248	.0038	.0004	-.0009	.0008	.0011	-.0054

010222

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0002	.0013	.0001
SDev	.0004	.0001	.0017
%RSD	241.6	6.559	1696.
#1	-.0004	.0013	-.0011
#2	.0001	.0012	.0013

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	808875	10000	--	--	--	--	--
SDev	20603.68	.0000000	--	--	--	--	--
%RSD	2.547202	.0000000	--	--	--	--	--
#1	823444	10000	--	--	--	--	--
#2	794306	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218769 Operator:
Run Time: 01/20/03 10:48:29
Comment:
Mode: CONC Corr. Factor: 1

010223

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0016	-.0015	.0001	.0018	.0000	-.0002
SDev	.0000	.0024	.0013	.0014	.0000	.0000	.0001
%RSD	16.10	153.0	87.76	1684.	2.411	1804.	42.38
#1	-.0002	.0001	-.0024	.0010	.0018	-.0000	-.0001
#2	-.0003	-.0033	-.0006	-.0009	.0018	.0000	-.0002

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	41.27	.0002	-.0001	-.0009	-.0001	.0482	.0492
SDev	.01	.0001	.0002	.0001	.0001	.0091	.0045
%RSD	.0314	71.28	286.4	12.01	135.7	18.80	9.243
#1	41.28	.0003	.0001	-.0010	-.0000	.0418	.0524
#2	41.26	.0001	-.0002	-.0009	-.0002	.0546	.0460

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0000	.0006	.0000	-.0009	.6104	.0264
SDev	.0002	.0000	.0004	.0001	.0012	.0114	.0013
%RSD	45.11	2112.	61.31	4816.	129.2	1.874	5.044
#1	-.0004	.0000	.0004	.0001	-.0001	.6185	.0254
#2	-.0007	-.0000	.0009	-.0001	-.0017	.6023	.0273

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0041	.0049	.0001	.0101	.0080	-.0017
SDev	.0010	.0022	.0024	.0000	.0002	.0030	.0024
%RSD	547.6	54.37	48.06	30.66	1.620	37.42	146.1
#1	-.0005	.0025	.0066	.0001	.0099	.0102	.0001
#2	.0009	.0056	.0033	.0001	.0102	.0059	-.0034

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.48	-.0010	.0005	3.259	.0017	.0001	-.0028
SDev	.77	.0012	.0002	.001	.0008	.0006	.0012
%RSD	.7951	130.4	43.19	.0446	43.91	1058.	41.96
#1	95.94	-.0001	.0007	3.260	.0023	.0005	-.0036
#2	97.02	-.0018	.0004	3.258	.0012	-.0004	-.0019

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0261	-.0024	-.0001	-.0007	-.0095	-.0000	-.0072
SDev	.0000	.0021	.0000	.0016	.0064	.0000	.0004
%RSD	.0012	84.99	8.262	210.8	66.80	131.9	5.208
#1	.0261	-.0010	-.0001	-.0019	-.0140	-.0000	-.0075
#2	.0261	-.0039	-.0002	.0004	-.0050	-.0000	-.0069

010224

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0002	.0012	-.0005
SDev	.0000	.0001	.0002
%RSD	5.144	4.887	50.83
#1	-.0002	.0013	-.0003
#2	-.0002	.0012	-.0006

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	817259	10000	--	--	--	--	--
SDev	6494.069	.0000000	--	--	--	--	--
%RSD	.7946157	.0000000	--	--	--	--	--
#1	812667	10000	--	--	--	--	--
#2	821851	10000	--	--	--	--	--

Method: DAILY2 Sample Name: 218770 Operator:
Run Time: 01/20/03 10:53:10 010225
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0086	-.0005	.0002	.0017	.0000	.0053
SDev	.0008	.0034	.0014	.0006	.0001	.0000	.0041
%RSD	274.4	39.31	298.1	287.2	3.985	131.7	78.50
#1	.0003	-.0062	-.0015	-.0002	.0017	.0000	.0082
#2	-.0009	-.0110	.0005	.0006	.0018	.0000	.0023

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.78	.0001	.0003	-.0014	-.0012	.0506	.0516
SDev	.07	.0000	.0002	.0005	.0000	.0192	.0120
%RSD	.1849	52.58	80.15	33.29	1.617	38.00	23.17
#1	39.73	.0000	.0005	-.0017	-.0012	.0642	.0601
#2	39.83	.0001	.0001	-.0011	-.0012	.0370	.0432

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0004	.0064	.0000	.0001	.6892	.0369
SDev	.0005	.0000	.0029	.0000	.0007	.1742	.0046
%RSD	9399.	10.73	44.73	165.9	585.6	25.27	12.49
#1	.0004	.0004	.0085	-.0000	-.0004	.8124	.0402
#2	-.0003	.0003	.0044	.0000	.0006	.5661	.0337

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0065	.0041	-.0016	.0111	.0142	-.0010
SDev	.0006	.0071	.0040	.0016	.0047	.0051	.0052
%RSD	104.1	109.4	96.73	97.19	42.62	35.81	513.4
#1	.0002	.0116	.0069	-.0027	.0144	.0178	-.0047
#2	.0010	.0015	.0013	-.0005	.0077	.0106	.0027

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	103.6	.0059	-.0015	3.164	.0003	.0009	-.0024
SDev	.6	.0057	.0021	.002	.0003	.0033	.0011
%RSD	.5798	97.42	136.7	.0780	89.18	346.3	47.24
#1	103.2	.0099	-.0001	3.162	.0005	.0033	-.0032
#2	104.0	.0018	-.0030	3.165	.0001	-.0014	-.0016

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0253	-.0043	-.0002	.0010	-.0018	-.0000	-.0060
SDev	.0001	.0009	.0000	.0019	.0186	.0000	.0029
%RSD	.2313	21.62	14.61	189.3	1035.	26.62	48.17
#1	.0253	-.0049	-.0002	-.0003	.0114	-.0001	-.0040
#2	.0252	-.0036	-.0001	.0023	-.0150	-.0000	-.0081

010226

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0003	.0019	-.0004
SDev	.0000	.0001	.0000
%RSD	10.64	5.543	4.547
#1	-.0003	.0019	-.0004
#2	-.0003	.0018	-.0005

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	877417	10000	--	--	--	--	--
SDev	5055.814	.0000000	--	--	--	--	--
%RSD	.5762156	.0000000	--	--	--	--	--
#1	873842	10000	--	--	--	--	--
#2	880992	10000	--	--	--	--	--

Method: DAILY2 Sample Name: icv/ccv Operator: 010227
Run Time: 01/20/03 11:01:32
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9998	9.884	5.098	4.780	9.766	1.033	4.964
SDev	.0011	.018	.016	.037	.001	.001	.002
%RSD	.1152	.1790	.3104	.7675	.0084	.0537	.0470
#1	1.001	9.871	5.087	4.754	9.765	1.033	4.962
#2	.9990	9.896	5.109	4.806	9.766	1.034	4.966
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.26	1.027	5.115	2.043	1.982	10.36	18.07
SDev	.00	.002	.004	.001	.002	.04	.06
%RSD	.0033	.1981	.0708	.0339	.0890	.3447	.3224
#1	20.26	1.029	5.118	2.044	1.981	10.38	18.03
#2	20.26	1.026	5.112	2.043	1.983	10.33	18.11
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.960	4.754	20.28	1.030	5.194	28.24	Q38.30
SDev	.000	.020	.01	.001	.019	.22	.14
%RSD	.0006	.4239	.0378	.0883	.3735	.7793	.3670
#1	4.960	4.740	20.28	1.029	5.181	28.40	Q38.20
#2	4.960	4.769	20.27	1.031	5.208	28.08	Q38.40
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.015	5.066	5.161	5.052	.9993	1.011	1.016
SDev	.005	.057	.086	.022	.0060	.000	.005
%RSD	.1009	1.120	1.673	.4342	.6033	.0210	.4754
#1	5.018	5.106	5.222	5.037	1.004	1.011	1.012
#2	5.011	5.026	5.100	5.068	.9950	1.011	1.019
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010228

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	91.77	5.438	5.288	5.034	5.089	5.338	5.004
SDev	2.14	.134	.013	.006	.014	.036	.002
%RSD	2.334	2.461	.2385	.1249	.2783	.6780	.0421
#1	90.26	5.532	5.279	5.039	5.099	5.364	5.002
#2	93.29	5.343	5.297	5.030	5.079	5.312	5.005
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.077	.9889	4.857	5.350	.9638	5.073	1.028
SDev	.001	.0039	.004	.000	.0051	.001	.005
%RSD	.0262	.3921	.0906	.0045	.5265	.0227	.4429
#1	5.076	.9916	4.854	5.350	.9602	5.074	1.025
#2	5.078	.9861	4.860	5.350	.9674	5.072	1.031
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.005	1.060	4.904
SDev	.003	.001	.014
%RSD	.0637	.1117	.2857
#1	5.007	1.061	4.894
#2	5.002	1.059	4.914
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

010229

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	777344	10000	--	--	--	--	--
SDev	18121.03	.0000000	--	--	--	--	--
%RSD	2.331145	.0000000	--	--	--	--	--
#1	764531	10000	--	--	--	--	--
#2	790158	10000	--	--	--	--	--

Method: DAILY2 Sample Name: icb/ccb Operator: **010230**
Run Time: 01/20/03 11:08:03
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0040	.0009	H.0197	.0002	.0001	.0035
SDev	.0005	.0011	.0019	.0032	.0001	.0000	.0002
%RSD	466.8	27.84	207.7	16.31	29.63	1.293	6.496
#1	-.0003	-.0047	-.0004	H.0220	.0003	.0001	.0034
#2	.0005	-.0032	.0022	H.0174	.0002	.0001	.0037
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0100	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0100	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0040	.0002	.0008	-.0003	.0003	H.0396	.0497
SDev	.0027	.0002	.0005	.0013	.0003	.0323	.0327
%RSD	67.10	156.6	61.39	386.0	89.70	81.53	65.85
#1	.0021	-.0000	.0005	-.0012	.0001	.0168	.0266
#2	.0058	.0003	.0012	.0006	.0005	H.0624	.0728
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La3988	Li6707	Mg2790	Mn2576	Mo2020	Na3302	Na5889
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0005	.0064	-.0001	.0050	H.3508	.0152
SDev	.0010	.0001	.0075	.0001	.0022	.3914	.0031
%RSD	424.2	15.48	116.9	126.6	45.24	111.6	20.48
#1	-.0005	.0004	.0011	-.0001	H.0066	H.0740	.0130
#2	.0009	.0005	.0116	-.0000	.0034	H.6276	.0174
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0039	.0019	-.0016	H.0094	-.0025	-.0024
SDev	.0007	.0074	.0007	.0001	.0050	.0115	.0002
%RSD	323.4	191.7	36.21	3.464	53.30	468.3	10.04
#1	.0003	.0014	.0024	-.0016	H.0059	.0057	-.0026
#2	-.0007	-.0091	.0014	-.0015	H.0130	L-.0106	-.0022
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC High	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010231

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.21	.0045	.0000	.0050	-.0004	.0015	-.0008
SDev	.19	.0009	.0011	.0024	.0002	.0004	.0016
%RSD	.1921	19.04	2704.	47.22	49.95	27.28	218.5
#1	98.34	.0039	.0008	.0033	-.0003	.0018	-.0019
#2	98.08	.0051	-.0007	.0066	-.0005	.0012	.0004
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3349	Tl1908	U_4090	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0025	.0001	.0031	-.0036	.0006	-.0039
SDev	.0000	.0019	.0001	.0030	.0345	.0007	.0001
%RSD	3.182	76.80	137.6	98.66	959.2	114.1	2.575
#1	.0001	-.0038	.0000	.0009	-.0280	.0001	-.0039
#2	.0001	-.0011	.0002	.0052	.0208	.0012	-.0038
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	-.0004	.0004
SDev	.0001	.0001	.0003
%RSD	69.36	26.15	76.83
#1	.0000	-.0004	.0002
#2	.0001	-.0003	.0006
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

010232

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	831918	10000	--	--	--	--	--
SDev	1601.597	.0000000	--	--	--	--	--
%RSD	.1925187	.0000000	--	--	--	--	--
#1	833050	10000	--	--	--	--	--
#2	830785	10000	--	--	--	--	--

010233

ICP ANALYSIS

PROJ. NO.	PROJECT	WO#	DATE	MATRIX	LOGBK PG
06602.01.071	Ø Div. 20	Z3658	2-5-03	Water	SZ 084
					SZ 085
					SZ 088

INSTRUMENT: ICPCE1 FILENAME: AZ3658

INSTRUMENT DL _____

Standardization Rpt. 02/05/03 12:25:24 PM page 1

010234

Method: DAILY1 Standard: blk
Run Time: 02/05/03 12:20:59

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Avge	-.0000	.0004	-.0001	.0000	-.0000	-.0001	-.0000
SDev	.0000	.0000	.0000	.0000	.0000	.0000	.0001
%RSD	47.20	2.505	11.00	17.61	20.27	.0660	394.6
#1	-.0000	.0004	-.0001	.0000	-.0000	-.0001	-.0001
#2	-.0000	.0004	-.0001	.0000	-.0000	-.0001	.0000

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Avge	.0000	.0000	-.0000	.0000	.0003	-.0000	.0016
SDev	.0000	.0000	.0000	.0000	.0000	.0000	.0001
%RSD	11.72	47.20	169.7	1850.	.7981	39.00	6.286
#1	.0000	.0000	-.0000	-.0000	.0003	-.0001	.0016
#2	.0000	.0000	.0000	.0000	.0003	-.0000	.0017

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Avge	.0005	-.0000	-.0000	.0000	-.0000	-.0046	-.0001
SDev	.0000	.0000	.0000	.0000	.0000	.0001	.0000
%RSD	1.419	141.4	28.35	94.24	43.83	1.095	4.883
#1	.0005	.0000	-.0000	.0000	-.0000	-.0046	-.0001
#2	.0005	-.0000	-.0000	.0000	-.0000	-.0046	-.0001

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Avge	.0000	.0002	.0001	-.0001	.0000	.0000	.0000
SDev	.0000	.0000	.0001	.0000	.0000	.0000	.0000
%RSD	49.86	2.477	141.4	36.95	303100.	87.22	21.36
#1	.0000	.0002	.0000	-.0001	.0000	.0000	.0000
#2	.0000	.0002	.0001	-.0001	-.0000	.0000	.0000

Elem	Sc3613	1960/1	1960/2	Si2881	Sn1899	Sr4215	Th2837
Avge	86.91	-.0001	.0002	.0011	.0000	.0000	.0000
SDev	.06	.0000	.0000	.0000	.0000	.0000	.0000
%RSD	.0667	2.883	8.444	1.934	88.43	28.35	70.66
#1	86.87	-.0001	.0002	.0011	.0000	.0000	.0000
#2	86.95	-.0001	.0002	.0011	.0000	.0000	.0000

Elem	Ti3372	Tl1908	U_3859	V_2924	W_2079	Y_3710	Zn2062
Avge	-.0016	-.0000	.0044	-.0000	.0002	-.0000	.0000
SDev	.0000	.0000	.0000	.0000	.0001	.0000	.0000
%RSD	1.680	63.69	.1210	47.20	51.14	47.00	101.0
#1	-.0016	-.0001	.0043	-.0000	.0002	-.0000	.0000
#2	-.0015	-.0000	.0044	-.0000	.0001	-.0000	.0000

Elem	Zr3496
Avge	.0001
SDev	.0000
%RSD	11.40
#1	.0001
#2	.0002

2/6/03

7 MAR 03

2-5-03

010235

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	869884	10000	--	--	--	--	--
SDev	573.4636	.0000000	--	--	--	--	--
%RSD	.0659848	.0000000	--	--	--	--	--
#1	868679	10000	--	--	--	--	--
#2	869490	10000	--	--	--	--	--

Standardization Rpt. 02/05/03 12:29:15 PM page 1

Method: DAILY1 Standard: clp_std4
Run Time: 02/05/03 12:25:34

Elem	Ag3280	As1890	2203/1	2203/2	Sb2068	1960/1	1960/2
Avge	.0530	.1375	.5298	.5515	.1408	.2964	.5211
SDev	.0004	.0012	.0029	.0016	.0004	.0025	.0072
%RSD	.7702	.8695	.5445	.2962	.3231	.8432	1.372
#1	.0533	.1366	.5277	.5504	.1405	.2946	.5161
#2	.0527	.1383	.5318	.5527	.1411	.2982	.5262

Elem	Tl1908
Avge	.0408
SDev	.0003
%RSD	.7173
#1	.0406
#2	.0410

IntStd	1	2	3	4	5	6	7
Mode	#Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	—	—	—	—	—	—
Wavlen	361.384	—	—	—	—	—	—
Avge	896091	10000	—	—	—	—	—
SDev	2528.614	.0000000	—	—	—	—	—
%RSD	.2821827	.0000000	—	—	—	—	—
#1	897879	10000	—	—	—	—	—
#2	894303	10000	—	—	—	—	—

010237

Method: DAILY1 Standard: clp_std1
Run Time: 02/05/03 12:29:25

Elem	Al3082	Ca3179	Fe2714	K_7664	Li6707	Mg2790	Na3302
Avge	.1292	.1675	.1185	1.407	2.979	.0598	.0123
SDev	.0000	.0003	.0011	.009	.013	.0004	.0001
%RSD	.0057	.1655	.9453	.6475	.4415	.6749	.3727
#1	.1292	.1673	.1177	1.400	2.970	.0595	.0123
#2	.1292	.1676	.1193	1.413	2.988	.0601	.0122

IntStd	1	2	3	4	5	6	7
Mode	#Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	902100	10000	--	--	--	--	--
SDev	905.8038	.0000000	--	--	--	--	--
%RSD	.1004106	.0000000	--	--	--	--	--
#1	902740	10000	--	--	--	--	--
#2	901459	10000	--	--	--	--	--

010238

Method: DAILY1 Standard: clp_std5
Run Time: 02/05/03 12:33:16

Elem	B_2496	Bi2230	Mo2020	P_1782	Si2881	Sn1899	Sr4215
Avge	.4299	.0675	.1953	.0698	.1348	.2391	1.433
SDev	.0004	.0001	.0009	.0004	.0003	.0018	.004
%RSD	.1002	.2161	.4850	.6129	.2116	.7472	.2850
#1	.4296	.0676	.1947	.0695	.1346	.2404	1.436
#2	.4302	.0674	.1960	.0701	.1350	.2379	1.430

Elem	Ti3372
Avge	1.112
SDev	.002
%RSD	.1428
#1	1.111
#2	1.113

IntStd	1	2	3	4	5	6	7
Mode	#Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	905086	10000	--	--	--	--	--
SDev	2951.464	.0000000	--	--	--	--	--
%RSD	.3260976	.0000000	--	--	--	--	--
#1	902999	10000	--	--	--	--	--
#2	907173	10000	--	--	--	--	--

Standardization Rpt. 02/05/03 12:39:45 PM page 1

Method: DAILY1 Standard: clp_std2
Run Time: 02/05/03 12:36:46

Elem	Ba4934	Be3130	Cr2677	Cu3247	Ni2316
Avge	.5655	.2561	.3401	.3004	.9020
SDev	.0004	.0009	.0003	.0006	.0009
%RSD	.0731	.3417	.0933	.2076	.0975
#1	.5652	.2555	.3403	.3008	.9026
#2	.5658	.2567	.3399	.3079	.9014

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	873057	10000	--	--	--	--	--
SDev	10183.75	.0000000	--	--	--	--	--
%RSD	1.166448	.0000000	--	--	--	--	--
#1	865856	10000	--	--	--	--	--
#2	880258	10000	--	--	--	--	--

Standardization Rpt. 02/05/03 12:43:36 PM page 1

Method: DAILY1 Standard: clp_std3
Run Time: 02/05/03 12:39:54

Elem	Cd2265	Co2286	Mn2576	V_2924	Zn2062
Avge	1.397	.3238	.4702	.0797	.1163
SDev	.001	.0002	.0009	.0002	.0003
%RSD	.0408	.0573	.1839	.2324	.2439
#1	1.397	.3237	.4708	.0798	.1165
#2	1.398	.3239	.4696	.0796	.1161

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	883494	10000	--	--	--	--	--
SDev	4271.632	.0000000	--	--	--	--	--
%RSD	.4834933	.0000000	--	--	--	--	--
#1	880473	10000	--	--	--	--	--
#2	886514	10000	--	--	--	--	--

Standardization Rpt. 02/05/03 12:48:11 PM page 1

Method: DAILY1 Standard: clp_std6
Run Time: 02/05/03 12:43:46

Elem	La4086	Na5889	Pd3404	S_1820	Th2837	U_3859	W_2079
Avge	.3620	.1255	.1502	.0683	.0613	.0307	.1317
SDev	.0033	.0001	.0004	.0001	.0002	.0001	.0003
%RSD	.9132	.0859	.2620	.0980	.2613	.2435	.2209
#1	.3643	.1255	.1499	.0683	.0612	.0307	.1319
#2	.3597	.1256	.1505	.0684	.0614	.0306	.1315

Elem	Y_3710	Zr3496
Avge	.9815	1.218
SDev	.0048	.003
%RSD	.4855	.2336
#1	.9849	1.220
#2	.9782	1.215

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	895254	10000	--	--	--	--	--
SDev	6395.781	.0000000	--	--	--	--	--
%RSD	.7144092	.0000000	--	--	--	--	--
#1	890732	10000	--	--	--	--	--
#2	899777	10000	--	--	--	--	--

Standardization Report 02/05/03 12:48:11 PM page 1

Method: DAILY1 Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag3280	328.068	clp_std4	blk	37.7180	.000391	02/05/03 12:43:46
Al3082	308.215	clp_std1	blk	388.119	-.159652	02/05/03 12:43:46
As1890	189.042	clp_std4	blk	72.7168	.004811	02/05/03 12:43:46
B_2496	249.678	clp_std5	blk	23.2611	-.000642	02/05/03 12:43:46
Ba4934	493.409	clp_std2	blk	17.6823	.000499	02/05/03 12:43:46
Be3130	313.042	clp_std2	blk	19.5165	.001549	02/05/03 12:43:46
Bi2230	223.061	clp_std5	blk	73.5398	.001229	02/05/03 12:43:46
Ca3179	317.933	clp_std1	blk	298.619	-.004123	02/05/03 12:43:46
Cd2265	226.502	clp_std3	blk	7.15406	-.000037	02/05/03 12:43:46
Co2286	228.616	clp_std3	blk	30.8836	.000178	02/05/03 12:43:46
Cr2677	267.716	clp_std2	blk	29.4052	-.000017	02/05/03 12:43:46
Cu3247	324.753	clp_std2	blk	32.4568	-.009168	02/05/03 12:43:46
Fe2714	271.441	clp_std1	blk	421.882	.016750	02/05/03 12:43:46
K_7664	766.491	clp_std1	blk	35.5887	-.058352	02/05/03 12:43:46
La4086	408.672	clp_std6	blk	26.7383	-.013183	02/05/03 12:43:46
Li6707	670.784	clp_std1	blk	3.35699	.000006	02/05/03 12:43:46
Mg2790	279.078	clp_std1	blk	418.122	.001203	02/05/03 12:43:46
Mn2576	257.610	clp_std3	blk	21.2653	-.000073	02/05/03 12:43:46
Mo2020	202.030	clp_std5	blk	51.1959	.000854	02/05/03 12:43:46
Na5889	588.995	clp_std6	blk	7.68507	.035256	02/05/03 12:43:46
Na3302	330.232	clp_std1	blk	4038.73	.485630	02/05/03 12:43:46
Ni2316	231.604	clp_std2	blk	11.0868	-.000217	02/05/03 12:43:46
P_1782	178.287	clp_std5	blk	143.665	-.029094	02/05/03 12:43:46
2203/1	220.351	clp_std4	blk	18.8792	-.001400	02/05/03 12:43:46
2203/2	220.352	clp_std4	blk	18.1294	.001554	02/05/03 12:43:46
Pd3404	340.458	clp_std6	blk	67.5749	-.000000	02/05/03 12:43:46
S_1820	182.040	clp_std6	blk	146.590	-.003963	02/05/03 12:43:46
Sb2068	206.838	clp_std4	blk	71.0264	-.001348	02/05/03 12:43:46
Sc3613	361.384	blk	dark	1.15225	-.145932	02/05/03 12:43:46
1960/1	196.021	clp_std4	blk	33.7257	.004870	02/05/03 12:43:46
1960/2	196.022	clp_std4	blk	19.1981	-.003855	02/05/03 12:43:46
Si2881	288.158	clp_std5	blk	74.5593	-.004419	02/05/03 12:43:46
Pb220	220.353	NONE	NONE	.000000	.000000	*NOT STANDARDIZED
Se196	196.026	NONE	NONE	1.00000	.000000	*NOT STANDARDIZED
Sn1899	189.989	clp_std5	blk	41.8500	-.001156	02/05/03 12:43:46
Sr4215	421.552	clp_std5	blk	6.97843	-.000020	02/05/03 12:43:46
Th2837	283.730	clp_std6	blk	171.357	-.000788	02/05/03 12:43:46
Ti3372	337.280	clp_std5	blk	8.98097	.014039	02/05/03 12:43:46
Tl1908	190.864	clp_std4	blk	244.725	.011266	02/05/03 12:43:46
U_3859	385.958	clp_std6	blk	379.399	-1.65103	02/05/03 12:43:46
V_2924	292.402	clp_std3	blk	125.468	.000650	02/05/03 12:43:46
W_2079	207.910	clp_std6	blk	37.9943	-.005750	02/05/03 12:43:46
Y_3710	371.030	clp_std6	blk	10.1864	.000018	02/05/03 12:43:46
Zn2062	206.200	clp_std3	blk	86.0235	-.000346	02/05/03 12:43:46
Zr3496	349.621	clp_std6	blk	8.73831	-.001302	02/05/03 12:43:46

010243

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 12:51:55
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9957	9.850	5.042	4.659	9.919	1.035	4.897
SDev	.0019	.034	.017	.001	.029	.005	.006
%RSD	.1854	.3482	.3318	.0230	.2957	.4770	.1168
#1	.9944	9.874	5.054	4.659	9.898	1.038	4.901
#2	.9970	9.826	5.031	4.660	9.940	1.031	4.893
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.50	1.006	4.976	1.990	2.011	9.737	18.13
SDev	.07	.001	.013	.010	.001	.072	.09
%RSD	.3549	.1399	.2558	.4945	.0633	.7360	.5217
#1	19.55	1.007	4.985	1.997	2.010	9.787	18.20
#2	19.45	1.005	4.967	1.983	2.012	9.686	18.07
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.963	4.827	19.42	1.027	5.053	Q43.19	27.25
SDev	.016	.014	.10	.002	.001	.26	.05
%RSD	.3282	.2949	.5163	.2228	.0177	.6105	.1850
#1	4.974	4.837	19.49	1.028	5.054	Q43.38	27.29
#2	4.951	4.817	19.35	1.025	5.052	Q43.01	27.22
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.851	4.899	4.964	4.936	.9876	.9743	.9824
SDev	.005	.131	.078	.009	.0037	.0034	.0050
%RSD	.0988	2.682	1.567	.1897	.3717	.3469	.5057
#1	4.854	4.806	5.019	4.942	.9902	.9720	.9859
#2	4.848	4.992	4.909	4.929	.9850	.9767	.9789
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010244

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.44	5.157	5.113	4.791	4.940	5.122	4.972
SDev	.21	.041	.000	.018	.032	.014	.022
%RSD	.2076	.7945	.0044	.3747	.6505	.2693	.4376
#1	99.29	5.186	5.113	4.804	4.963	5.132	4.988
#2	99.58	5.128	5.112	4.779	4.917	5.112	4.957
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.139	.9640	4.860	5.317	.9435	5.012	Q1.218
SDev	.016	.0032	.000	.016	.0200	.020	.000
%RSD	.3137	.3357	.0004	.3061	2.125	.3991	.6560
#1	5.150	.9663	4.860	5.329	.9576	5.026	Q1.223
#2	5.127	.9617	4.860	5.306	.9293	4.998	Q1.212
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	4.988	1.019	4.869
SDev	.009	.003	.002
%RSD	.1730	.2477	.0470
#1	4.994	1.021	4.871
#2	4.982	1.017	4.867
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

010245

IntStd	1	2	3	4	5	6	7
Mode	#Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	864236	10000	--	--	--	--	--
SDev	1779.788	.0000000	--	--	--	--	--
%RSD	.2059378	.0000000	--	--	--	--	--
#1	862977	10000	--	--	--	--	--
#2	865494	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 01:02:57 PM page 1

010246

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 12:58:19
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0066	.0011	.0020	.0001	.0002	.0027
SDev	.0001	.0026	.0017	.0014	.0002	.0001	.0010
%RSD	83.71	38.80	147.7	67.11	152.8	88.13	36.84
#1	-.0000	-.0048	.0023	.0030	.0002	.0002	.0020
#2	-.0002	-.0085	-.0001	.0011	-.0000	.0001	.0034
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0000	.0000	.0001	-.0006	-.0045	-.0050
SDev	.0001	.0000	.0002	.0002	.0004	.0004	.0010
%RSD	28.47	1266.	1300.	269.2	60.64	8.165	19.23
#1	-.0002	.0000	-.0001	-.0001	-.0009	-.0042	-.0056
#2	-.0001	-.0000	.0001	.0002	-.0004	-.0047	-.0043
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0000	-.0013	-.0000	.0018	-.0192	-.0247
SDev	.0002	.0001	.0014	.0000	.0002	.0005	.0060
%RSD	43.16	202.5	105.6	200.4	9.882	2.582	348.1
#1	-.0003	.0001	-.0003	.0000	.0016	-.0188	.0361
#2	-.0005	-.0000	-.0024	-.0000	.0019	-.0195	L-.0855
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0019	-.0004	.0005	-.0000	.0017	-.0010
SDev	.0000	.0081	.0015	.0001	.0005	.0036	.0027
%RSD	10.02	435.7	377.5	9.188	1402.	208.6	283.0
#1	-.0002	-.0076	.0007	.0005	-.0004	.0042	.0010
#2	-.0002	.0039	-.0015	.0005	.0003	-.0008	-.0029
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010247

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.52	.0026	.0005	-.0018	.0002	.0012	-.0001
SDev	.26	.0048	.0006	.0015	.0005	.0012	.0012
%RSD	.2679	185.9	110.4	86.57	243.6	100.2	996.2
#1	96.70	.0060	.0001	-.0029	.0005	.0021	-.0010
#2	96.34	-.0008	.0009	-.0007	-.0001	.0004	.0008
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0016	.0003	.0025	-.0325	-.0000	.0022
SDev	.0001	.0013	.0000	.0049	.0030	.0001	.0008
%RSD	115.3	76.97	.1186	195.7	9.307	655.1	36.78
#1	.0001	.0007	.0003	-.0010	-.0303	.0001	.0017
#2	.0000	.0025	.0003	.0060	-.0346	-.0001	.0028
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	-.0000	-.0002
SDev	.0001	.0003	.0001
%RSD	263.2	769.1	28.71
#1	.0001	.0002	-.0002
#2	-.0000	-.0002	-.0002
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

010248

IntStd	1	2	3	4	5	6	7
Mode	#Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	838827	10000	--	--	--	--	--
SDev	2245.771	.0000000	--	--	--	--	--
%RSD	.2677276	.0000000	--	--	--	--	--
#1	840415	10000	--	--	--	--	--
#2	837239	10000	--	--	--	--	--

010249

Method: DAILY1 Sample Name: pbw-pg52-088 Operator:
Run Time: 02/05/03 13:03:06
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0042	.0009	.0015	.0001	.0000	.0023
SDev	.0002	.0030	.0039	.0006	.0000	.0000	.0037
%RSD	143.6	70.58	444.0	39.55	55.42	187.9	164.9
#1	-.0002	-.0021	-.0019	.0020	.0001	-.0000	-.0004
#2	.0000	-.0063	.0037	.0011	.0000	.0000	.0049
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0245	-.0001	.0013	-.0001	-.0001	.0050	-.0073
SDev	.0001	.0000	.0003	.0000	.0001	.0058	.0001
%RSD	.2324	14.56	20.96	2.936	202.2	115.5	1.467
#1	.0245	-.0001	.0015	-.0001	-.0002	.0091	-.0074
#2	.0245	-.0001	.0011	-.0001	.0000	.0009	-.0072
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	-.0000	-.0004	.0001	.0005	-.0214	L-.1326
SDev	.0002	.0000	.0017	.0000	.0001	.0000	.0643
%RSD	46.11	70.91	384.1	.2481	16.50	.1418	48.51
#1	-.0003	-.0000	.0008	.0001	.0006	-.0214	L-.1781
#2	-.0006	-.0000	-.0017	.0001	.0004	-.0214	L-.0871
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0024	.0027	.0006	-.0008	.0048	-.0018
SDev	.0003	.0005	.0017	.0023	.0009	.0055	.0008
%RSD	75.99	22.08	64.20	373.1	125.4	114.2	46.31
#1	-.0005	-.0020	.0039	-.0010	-.0001	.0087	-.0023
#2	-.0002	-.0028	.0015	.0023	-.0014	.0009	-.0012
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

010250

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.78	.0001	.0002	-.0061	.0013	.0002	-.0007
SDev	.24	.0015	.0012	.0002	.0010	.0003	.0005
%RSD	.2436	1409.	606.8	3.089	75.20	166.7	80.76
#1	99.60	.0012	-.0006	-.0060	.0006	-.0000	-.0003
#2	99.95	-.0010	.0010	-.0063	.0020	.0004	-.0011
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0007	-.0002	.0012	.0151	-.0003	.0026
SDev	.0000	.0004	.0001	.0014	.0028	.0003	.0001
%RSD	19.33	50.37	37.01	115.4	18.82	108.0	4.122
#1	.0001	.0005	-.0002	.0002	.0171	-.0005	.0025
#2	.0001	.0010	-.0003	.0022	.0131	-.0001	.0027
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0008	.0001
SDev	.0001	.0004	.0001
%RSD	66270.	49.99	86.77
#1	.0000	.0011	.0001
#2	-.0000	.0005	.0000
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	867138	10000	--	--	--	--	--
SDev	2124.856	.0000000	--	--	--	--	--
%RSD	.2450425	.0000000	--	--	--	--	--
#1	865635	10000	--	--	--	--	--
#2	868640	10000	--	--	--	--	--

Analysis Report 02/05/03 01:12:25 PM

Method: DAILY1 Sample Name: lcsw-pg52-088 Operator:
Run Time: 02/05/03 13:07:59
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0510	1.895	2.049	.0016	2.038	.0527	.0017
SDev	.0002	.003	.005	.0004	.015	.0001	.0012
%RSD	.3652	.1332	.2213	24.30	.7608	.1968	67.43
#1	.0512	1.897	2.053	.0013	2.027	.0527	.0009
#2	.0509	1.893	2.046	.0019	2.049	.0528	.0025

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.87	.0513	.5036	.2029	.2473	.9580	16.34
SDev	.03	.0002	.0005	.0004	.0003	.0001	.09
%RSD	.1457	.4717	.1001	.1883	.1046	.0061	.5660
#1	19.89	.0511	.5039	.2026	.2471	.9580	16.27
#2	19.85	.0514	.5032	.2031	.2475	.9581	16.40

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0000	19.97	.5143	.0007	27.38	17.33
SDev	.0001	.0000	.03	.0002	.0004	.16	.26
%RSD	72.63	132.1	.1645	.0372	61.25	.5679	1.514
#1	.0000	.0001	19.95	.5142	.0004	27.27	17.52
#2	.0001	.0000	19.99	.5144	.0010	27.49	17.14

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4963	-.0014	.5044	.5022	-.0003	.0026	.5017
SDev	.0034	.0063	.0046	.0003	.0021	.0012	.0001
%RSD	.6918	438.4	.9145	.0501	731.2	44.95	.0252
#1	.4939	.0030	.5011	.5020	-.0018	.0035	.5016
#2	.4987	-.0059	.5077	.5023	.0012	.0018	.5018

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.35	2.036	2.049	4.047	.5024	2.043	.0001
SDev	.64	.004	.019	.008	.0017	.014	.0013
%RSD	.6544	.2124	.9369	.1911	.3391	.6964	881.3
#1	97.80	2.033	2.036	4.042	.5012	2.033	.0011
#2	96.90	2.039	2.063	4.053	.5036	2.053	-.0008

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0001	.0001	2.115	4.007	.5031	-.0022
SDev	.0000	.0016	.0002	.020	.005	.0004	.0056
%RSD	6.669	2047.	253.0	.9639	.1141	.0831	262.2
#1	.0003	-.0012	-.0000	2.101	4.010	.5028	-.0061
#2	.0002	.0011	.0002	2.130	4.004	.5034	.0018

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0023	.5206	-.0024
SDev	.0000	.0007	.0001
%RSD	.4778	.1373	3.930
#1	.0023	.5201	-.0023
#2	.0023	.5211	-.0025

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	846068	10000	--	--	--	--	--
SDev	5480.785	.0000000	--	--	--	--	--
%RSD	.6477952	.0000000	--	--	--	--	--
#1	849943	10000	--	--	--	--	--
#2	842192	10000	--	--	--	--	--

010254

Analysis Report 02/05/03 01:17:00 PM page 1

Method: DAILY1 Sample Name: 218741 df10 Operator:
Run Time: 02/05/03 13:12:34
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0018	.0015	.0278	.1349	.0000	.0013
SDev	.0002	.0093	.0003	.0002	.0002	.0001	.0038
%RSD	1649.	528.3	16.95	.7477	.1488	143.7	298.3
#1	.0001	-.0048	.0017	.0279	.1347	.0001	.0039
#2	-.0001	.0083	.0014	.0276	.1350	-.0000	-.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	38.19	-.0001	.0002	.0003	-.0006	-.0036	.0224
SDev	.12	.0000	.0002	.0001	.0003	.0083	.0016
%RSD	.3023	.6149	124.4	26.39	54.49	231.8	7.361
#1	38.11	-.0001	.0000	.0003	-.0003	.0023	.0236
#2	38.27	-.0001	.0003	.0002	-.0008	-.0095	.0213

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0000	.0049	.0005	-.0003	.9162	.5668
SDev	.0003	.0000	.0034	.0000	.0000	.0068	.0818
%RSD	107.7	280.4	69.40	3.168	11.61	.7463	14.43
#1	-.0005	-.0000	.0025	.0005	-.0003	.9114	.6246
#2	-.0001	.0000	.0073	.0005	-.0003	.9211	.5090

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0002	.0019	-.0002	.0010	.0168	-.0001
SDev	.0003	.0027	.0003	.0018	.0004	.0028	.0010
%RSD	293.6	1132.	18.06	792.8	40.14	16.85	1120.
#1	.0001	-.0021	.0022	-.0015	.0007	.0148	-.0008
#2	-.0004	.0017	.0017	.0010	.0012	.0188	.0006

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.3	.0042	.0009	2.920	.0005	.0020	-.0029
SDev	.5	.0022	.0007	.012	.0011	.0012	.0012
%RSD	.4554	53.30	78.76	.4014	221.6	60.81	42.34
#1	100.6	.0026	.0004	2.911	-.0003	.0012	-.0020
#2	99.95	.0058	.0014	2.928	.0012	.0029	-.0038

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0249	.0014	-.0002	-.0118	-.0060	-.0004	-.0009
SDev	.0001	.0003	.0002	.0025	.0023	.0004	.0008
%RSD	.3278	24.16	77.99	21.05	38.73	111.7	90.41
#1	.0248	.0016	-.0003	-.0100	-.0077	-.0006	-.0015
#2	.0250	.0011	-.0001	-.0135	-.0044	-.0001	-.0003

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0038	-.0002
SDev	.0000	.0005	.0002
%RSD	57.67	13.41	109.6
#1	-.0000	.0034	-.0000
#2	-.0000	.0041	-.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	871450	10000	--	--	--	--	--
SDev	4000.103	.0000000	--	--	--	--	--
%RSD	.4590172	.0000000	--	--	--	--	--
#1	874278	10000	--	--	--	--	--
#2	868621	10000	--	--	--	--	--

Analysis Report 02/05/03 01:21:34 PM

Method: DAILY1 Sample Name: 218743 df10 Operator:
Run Time: 02/05/03 13:17:09
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0091	.0001	.0154	.0549	-.0000	.0014
SDev	.0003	.0091	.0011	.0004	.0002	.0001	.0010
%RSD	3173.	99.96	1116.	2.939	.3855	329.3	70.14
#1	-.0002	.0027	-.0007	.0151	.0548	-.0001	.0007
#2	.0002	.0155	.0009	.0157	.0551	.0000	.0021

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	38.18	-.0001	-.0000	.0001	-.0005	-.0035	.0064
SDev	.01	.0000	.0000	.0001	.0003	.0038	.0064
%RSD	.0189	12.20	96.82	126.5	75.25	110.6	99.96
#1	38.18	-.0000	-.0000	.0001	-.0007	-.0062	.0019
#2	38.17	-.0001	-.0000	.0000	-.0002	-.0008	.0109

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0000	.0027	.0006	-.0003	.1998	.0299
SDev	.0003	.0000	.0003	.0001	.0008	.0013	.1238
%RSD	104.2	280.3	11.70	7.866	287.0	.6267	414.6
#1	.0001	-.0000	.0030	.0006	-.0009	.1989	-.0577
#2	.0004	.0000	.0025	.0006	.0003	.2007	.1174

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0006	.0022	.0015	.0003	.0142	-.0017
SDev	.0001	.0015	.0004	.0004	.0001	.0005	.0014
%RSD	26.84	233.9	18.10	27.89	23.58	3.354	78.76
#1	-.0004	-.0004	.0025	.0017	.0003	.0139	-.0027
#2	-.0006	.0017	.0019	.0012	.0002	.0145	-.0008

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.71	.0017	-.0011	2.902	.0017	-.0002	-.0014
SDev	.63	.0007	.0028	.012	.0004	.0021	.0002
%RSD	.6389	42.06	241.8	.4104	23.69	1124.	12.15
#1	99.15	.0012	-.0031	2.894	.0020	-.0017	-.0013
#2	98.26	.0022	.0008	2.910	.0014	.0013	-.0016

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0256	.0011	-.0000	-.0070	-.0275	-.0002	.0004
SDev	.0001	.0013	.0003	.0015	.0027	.0002	.0018
%RSD	.2244	126.6	762.9	21.40	9.948	88.17	489.5
#1	.0256	.0001	.0001	-.0080	-.0294	-.0004	-.0009
#2	.0257	.0020	-.0002	-.0059	-.0255	-.0001	.0016

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0151	-.0004
SDev	.0001	.0003	.0000
%RSD	160.9	2.076	.7194
#1	.0000	.0149	-.0004
#2	-.0001	.0153	-.0004

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	857848	10000	--	--	--	--	--
SDev	5405.124	.0000000	--	--	--	--	--
%RSD	.6300795	.0000000	--	--	--	--	--
#1	861670	10000	--	--	--	--	--
#2	854026	10000	--	--	--	--	--

Analysis Report 02/05/03 01:26:09 PM page 1

Method: DAILY1 Sample Name: 218752 df10 Operator:
Run Time: 02/05/03 13:21:43
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0020	.0002	.0022	.0001	.0001	-.0008
SDev	.0005	.0013	.0002	.0000	.0000	.0000	.0025
%RSD	87.50	64.82	68.39	1.746	41.00	19.55	294.6
#1	.0002	.0011	.0001	.0022	.0000	.0001	-.0026
#2	.0010	.0030	.0004	.0022	.0001	.0001	.0009

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	44.75	.0001	.0032	.0001	-.0003	-.0031	.0483
SDev	.01	.0001	.0001	.0005	.0001	.0037	.0095
%RSD	.0259	156.9	1.625	517.6	33.31	118.1	19.54
#1	44.74	.0002	.0031	-.0002	-.0004	-.0057	.0417
#2	44.76	-.0000	.0032	.0004	-.0002	-.0005	.0550

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0000	-.0005	.0000	-.0004	.1252	-.0406
SDev	.0001	.0000	.0035	.0000	.0003	.0015	.0014
%RSD	161.1	564.8	688.9	132.2	66.63	1.225	3.479
#1	.0001	-.0000	-.0029	.0000	-.0006	.1241	-.0416
#2	-.0000	.0000	.0019	.0000	-.0002	.1263	-.0396

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0001	.0010	.0013	-.0005	.0075	.0017
SDev	.0004	.0052	.0004	.0011	.0007	.0012	.0003
%RSD	203.0	9958.	46.61	85.75	151.0	15.91	20.90
#1	.0001	-.0037	.0013	.0022	-.0010	.0083	.0014
#2	-.0005	.0036	.0006	.0005	.0000	.0066	.0019

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.62	.0072	-.0001	3.715	.0012	.0023	-.0018
SDev	.12	.0016	.0008	.002	.0009	.0000	.0017
%RSD	.1156	22.17	575.5	.0535	75.38	.0406	95.29
#1	99.70	.0083	-.0007	3.716	.0019	.0023	-.0006
#2	99.53	.0061	.0004	3.713	.0006	.0023	-.0030

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0025	-.0000	.0025	.0099	.0001	-.0004
SDev	.0000	.0006	.0001	.0000	.0192	.0000	.0014
%RSD	8.967	23.67	231.3	.3428	194.0	7.594	337.7
#1	.0003	.0029	-.0001	.0025	-.0037	.0001	-.0014
#2	.0003	.0021	.0000	.0025	.0234	.0001	.0006

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0012	.0003
SDev	.0001	.0000	.0005
%RSD	249.6	.2481	182.7
#1	-.0001	.0012	-.0001
#2	.0000	.0012	.0006

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	865752	10000	--	--	--	--	--
SDev	931.2596	.0000000	--	--	--	--	--
%RSD	.1075666	.0000000	--	--	--	--	--
#1	866410	10000	--	--	--	--	--
#2	865093	10000	--	--	--	--	--

Analysis Report 02/05/03 01:30:44 PM page 1

Method: DAILY1 Sample Name: 218756 df10 Operator:
Run Time: 02/05/03 13:26:19
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0100	.0029	.0017	.0028	.0004	.0013
SDev	.0005	.0066	.0005	.0013	.0039	.0005	.0028
%RSD	197.6	65.60	18.59	74.39	138.0	130.8	219.6
#1	.0006	.0147	.0025	.0026	.0056	.0008	.0032
#2	-.0001	.0054	.0033	.0008	.0001	.0000	-.0007

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	37.39	.0012	.0017	.0005	-.0001	-.0010	.0548
SDev	.09	.0017	.0029	.0006	.0008	.0018	.0042
%RSD	.2481	142.0	165.2	114.2	1061.	180.6	7.656
#1	37.33	.0023	.0038	.0010	.0005	.0003	.0577
#2	37.46	-.0000	-.0003	.0001	-.0007	-.0023	.0518

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0026	.0008	.0087	.0014	.0005	.2392	.0903
SDev	.0036	.0011	.0141	.0018	.0017	.0191	.0775
%RSD	142.6	142.5	162.0	129.6	317.1	7.984	85.75
#1	.0051	.0016	.0187	.0027	.0018	.2527	.0356
#2	-.0000	-.0000	-.0013	.0001	-.0007	.2257	.1451

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	-.0033	.0017	.0012	.0015	.0055	.0008
SDev	.0016	.0043	.0005	.0005	.0029	.0037	.0019
%RSD	176.4	130.4	27.29	37.78	202.6	67.63	229.7
#1	.0021	-.0003	.0020	.0016	.0035	.0029	.0022
#2	-.0002	-.0064	.0014	.0009	-.0006	.0081	-.0005

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.86	.0049	-.0002	3.161	.0014	.0015	-.0007
SDev	.36	.0041	.0011	.003	.0005	.0021	.0029
%RSD	.3654	82.26	526.5	.0957	33.52	139.4	402.3
#1	98.61	.0078	.0006	3.163	.0017	.0030	.0013
#2	99.12	.0021	-.0010	3.158	.0011	.0000	-.0027

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	.0035	.0006	-.0030	.0520	.0015	.0005
SDev	.0014	.0014	.0011	.0005	.0040	.0029	.0026
%RSD	108.0	38.67	170.8	15.67	7.773	188.5	563.0
#1	.0023	.0044	.0014	-.0033	.0492	.0036	-.0014
#2	.0003	.0025	-.0001	-.0026	.0549	-.0005	.0023

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0023	.0030	.0024
SDev	.0033	.0016	.0034
%RSD	142.5	55.84	137.9
#1	.0047	.0041	.0048
#2	-.0000	.0018	.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	859128	10000	--	--	--	--	--
SDev	3144.504	.0000000	--	--	--	--	--
%RSD	.3660109	.0000000	--	--	--	--	--
#1	856905	10000	--	--	--	--	--
#2	861352	10000	--	--	--	--	--

Analysis Report 02/05/03 01:35:18 PM page 1

Method: DAILY1 Sample Name: 218762 df10 Operator:
Run Time: 02/05/03 13:30:53
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0014	.0001	.0098	.0640	.0000	.0036
SDev	.0008	.0098	.0008	.0008	.0006	.0000	.0002
%RSD	382.6	715.7	991.4	8.104	.9005	45.12	4.647
#1	-.0003	-.0055	.0006	.0093	.0636	.0000	.0035
#2	.0007	.0083	-.0005	.0104	.0644	.0000	.0037

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.00	-.0001	.0013	-.0001	-.0005	-.0004	.0140
SDev	.33	.0004	.0002	.0005	.0001	.0056	.0182
%RSD	.8483	651.6	14.14	894.2	24.12	1366.	129.6
#1	38.77	-.0003	.0012	-.0004	-.0005	-.0044	.0012
#2	39.24	.0002	.0015	.0003	-.0006	.0036	.0269

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0000	.0047	.0008	-.0001	.1809	.0290
SDev	.0007	.0001	.0039	.0000	.0003	.0025	.0645
%RSD	279.1	577.3	81.66	3.240	312.6	1.360	222.7
#1	-.0007	-.0000	.0020	.0008	-.0003	.1791	-.0166
#2	.0002	.0000	.0074	.0008	.0001	.1826	.0746

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0014	.0017	.0011	.0004	.0146	-.0010
SDev	.0001	.0037	.0010	.0015	.0014	.0041	.0017
%RSD	36.39	259.0	61.15	141.1	367.9	28.00	172.0
#1	.0004	.0012	.0024	.0022	-.0006	.0117	-.0022
#2	.0002	-.0040	.0009	.0000	.0013	.0175	.0002

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.0	.0032	-.0035	2.882	.0013	-.0012	-.0017
SDev	1.4	.0008	.0010	.018	.0014	.0010	.0005
%RSD	1.410	26.18	30.04	.6372	106.4	79.48	31.01
#1	101.0	.0038	-.0027	2.869	.0022	-.0005	-.0021
#2	99.01	.0026	-.0042	2.895	.0003	-.0019	-.0013

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0267	-.0005	.0000	-.0006	-.0046	.0002	-.0015
SDev	.0002	.0005	.0002	.0053	.0238	.0002	.0002
%RSD	.8893	96.92	57260.	883.3	518.1	94.16	14.83
#1	.0265	-.0009	-.0001	.0032	-.0214	.0001	-.0016
#2	.0268	-.0002	.0001	-.0044	.0122	.0004	-.0013

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0102	.0001
SDev	.0001	.0001	.0005
%RSD	15770.	1.485	344.5
#1	-.0001	.0101	-.0002
#2	.0001	.0103	.0005

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	869058	10000	--	--	--	--	--
SDev	12214.56	.0000000	--	--	--	--	--
%RSD	1.405495	.0000000	--	--	--	--	--
#1	877695	10000	--	--	--	--	--
#2	860421	10000	--	--	--	--	--

Analysis Report 02/05/03 01:39:52 PM page 1

Method: DAILY1 Sample Name: 218763 df10 Operator:
Run Time: 02/05/03 13:35:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0023	.0006	.0080	.0616	.0000	.0026
SDev	.0005	.0054	.0030	.0006	.0003	.0000	.0022
%RSD	683.2	236.2	472.1	7.981	.5454	21.73	84.80
#1	-.0003	-.0015	.0027	.0076	.0613	.0000	.0011
#2	.0004	.0062	-.0015	.0085	.0618	.0000	.0042

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.91	-.0001	-.0000	-.0000	-.0004	-.0029	.0084
SDev	.03	.0000	.0001	.0001	.0001	.0056	.0078
%RSD	.0691	12.22	244.8	1218.	18.89	191.3	93.12
#1	39.89	-.0000	-.0001	.0001	-.0005	-.0069	.0029
#2	39.93	-.0001	.0000	-.0001	-.0004	.0010	.0139

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0000	.0028	.0009	-.0004	.1917	.0620
SDev	.0004	.0000	.0011	.0000	.0000	.0017	.0628
%RSD	7702.	404.3	38.52	2.310	8.121	.9018	101.3
#1	-.0003	-.0000	.0020	.0009	-.0005	.1904	.0176
#2	.0003	.0000	.0035	.0009	-.0004	.1929	.1065

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0008	.0015	-.0002	-.0008	.0123	.0009
SDev	.0001	.0009	.0003	.0014	.0004	.0017	.0001
%RSD	145.2	102.4	21.17	604.1	46.66	13.87	13.98
#1	.0001	-.0014	.0013	.0008	-.0010	.0135	.0008
#2	-.0000	-.0002	.0018	-.0012	-.0005	.0111	.0010

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.0	.0023	-.0034	2.921	.0004	-.0015	-.0004
SDev	.5	.0021	.0010	.009	.0008	.0000	.0001
%RSD	.5470	91.07	30.07	.2916	236.0	.3204	33.55
#1	100.4	.0037	-.0042	2.915	.0009	-.0015	-.0005
#2	99.65	.0008	-.0027	2.927	-.0002	-.0015	-.0003

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0270	.0037	-.0002	-.0000	-.0084	-.0002	.0006
SDev	.0001	.0009	.0001	.0096	.0134	.0001	.0032
%RSD	.5008	23.22	57.94	56700.	158.2	65.46	529.1
#1	.0269	.0031	-.0003	.0068	-.0179	-.0002	-.0016
#2	.0271	.0043	-.0001	-.0068	.0010	-.0001	.0028

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0059	.0000
SDev	.0000	.0004	.0004
%RSD	306.9	6.522	817.0
#1	-.0000	.0062	-.0002
#2	.0000	.0056	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	869410	10000	--	--	--	--	--
SDev	4778.627	.0000000	--	--	--	--	--
%RSD	.5496403	.0000000	--	--	--	--	--
#1	872789	10000	--	--	--	--	--
#2	866031	10000	--	--	--	--	--

Analysis Report 02/05/03 01:44:26 PM page 1

Method: DAILY1 Sample Name: 218764 df10 Operator:
Run Time: 02/05/03 13:40:01
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0085	.0014	.0081	.0606	-.0001	.0017
SDev	.0002	.0021	.0017	.0003	.0004	.0001	.0004
%RSD	355.7	24.68	122.9	3.313	.5972	112.2	20.53
#1	-.0001	.0070	.0002	.0083	.0603	-.0001	.0015
#2	.0002	.0100	.0026	.0079	.0608	-.0000	.0020

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	41.81	-.0000	.0015	-.0002	-.0005	.0015	.0090
SDev	.21	.0001	.0002	.0002	.0001	.0007	.0094
%RSD	.5025	877.7	12.30	136.7	21.47	43.28	105.0
#1	41.66	-.0001	.0013	-.0000	-.0004	.0011	.0023
#2	41.96	.0001	.0016	-.0003	-.0006	.0020	.0156

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0000	.0037	.0011	.0000	.2120	.0414
SDev	.0005	.0000	.0017	.0000	.0004	.0029	.0055
%RSD	970.7	93.55	45.30	.5203	1256.	1.364	13.26
#1	-.0003	.0000	.0025	.0011	-.0002	.2100	.0375
#2	.0004	.0000	.0049	.0011	.0003	.2141	.0452

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0062	.0006	.0010	-.0007	.0168	.0009
SDev	.0000	.0059	.0003	.0004	.0005	.0031	.0002
%RSD	4.703	95.33	51.29	43.27	75.68	18.62	26.20
#1	-.0002	.0020	.0004	.0014	-.0003	.0190	.0008
#2	-.0002	.0104	.0008	.0007	-.0010	.0146	.0011

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.7	.0058	-.0003	3.033	.0009	.0018	-.0001
SDev	.4	.0001	.0003	.019	.0002	.0002	.0014
%RSD	.3600	1.572	128.4	.6140	21.48	11.04	990.1
#1	100.9	.0057	-.0000	3.020	.0010	.0019	.0009
#2	100.4	.0058	-.0005	3.046	.0008	.0016	-.0012

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0283	.0004	-.0001	-.0030	.0194	-.0003	-.0013
SDev	.0001	.0019	.0001	.0020	.0065	.0001	.0015
%RSD	.1613	472.0	84.39	67.60	33.54	35.35	110.5
#1	.0282	-.0009	-.0002	-.0016	.0240	-.0003	-.0003
#2	.0283	.0017	-.0001	-.0044	.0148	-.0002	-.0024

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0087	-.0000
SDev	.0000	.0001	.0001
%RSD	35.33	1.175	126.2
#1	-.0001	.0086	-.0000
#2	-.0001	.0088	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	874783	10000	--	--	--	--	--
SDev	3187.637	.0000000	--	--	--	--	--
%RSD	.3643918	.0000000	--	--	--	--	--
#1	877037	10000	--	--	--	--	--
#2	872529	10000	--	--	--	--	--

Analysis Report 02/05/03 01:49:00 PM page 1

Method: DAILY1 Sample Name: 218765 df10 Operator:
Run Time: 02/05/03 13:44:35
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0200	.0036	.0368	.1489	-.0001	.0004
SDev	.0001	.0030	.0003	.0008	.0008	.0001	.0034
%RSD	61.58	15.02	7.687	2.032	.5492	162.4	769.2
#1	.0002	.0179	.0038	.0373	.1483	-.0001	.0028
#2	.0001	.0222	.0034	.0363	.1495	.0000	-.0020

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	40.50	-.0000	.0018	.0003	-.0004	-.0017	.0060
SDev	.01	.0002	.0004	.0001	.0001	.0093	.0296
%RSD	.0344	1396.	21.50	16.79	27.91	556.8	495.6
#1	40.49	.0001	.0020	.0003	-.0005	-.0083	-.0150
#2	40.51	-.0001	.0015	.0003	-.0004	.0049	.0269

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0001	.0066	.0010	-.0002	.9011	.3249
SDev	.0001	.0001	.0003	.0000	.0002	.0150	.1405
%RSD	82540.	137.4	5.149	1.811	96.79	1.670	43.25
#1	-.0001	-.0001	.0064	.0010	-.0003	.8904	.2255
#2	.0001	-.0000	.0069	.0010	-.0001	.9117	.4242

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0008	.0000	.0012	-.0001	.0184	-.0007
SDev	.0001	.0007	.0007	.0016	.0010	.0027	.0015
%RSD	47.14	83.18	1541.	132.3	781.8	14.97	213.1
#1	-.0001	-.0013	-.0004	.0001	.0006	.0203	-.0018
#2	-.0002	-.0003	.0005	.0023	-.0009	.0164	.0004

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.5	.0023	-.0012	2.971	.0008	-.0001	-.0026
SDev	.1	.0016	.0026	.012	.0013	.0012	.0008
%RSD	.0840	70.50	211.2	.4045	158.0	2068.	32.76
#1	100.5	.0011	.0006	2.963	-.0001	.0008	-.0032
#2	100.6	.0034	-.0031	2.980	.0017	-.0009	-.0020

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0274	.0001	-.0003	-.0041	.0188	-.0001	-.0008
SDev	.0002	.0003	.0002	.0008	.0023	.0000	.0022
%RSD	.6116	295.4	53.13	19.04	12.00	2.317	289.5
#1	.0273	-.0001	-.0004	-.0036	.0172	-.0001	-.0023
#2	.0275	.0003	-.0002	-.0047	.0204	-.0001	.0008

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0177	.0002
SDev	.0000	.0003	.0002
%RSD	105.8	1.857	82.65
#1	.0000	.0175	.0001
#2	.0000	.0179	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	873586	10000	--	--	--	--	--
SDev	747.4119	.0000000	--	--	--	--	--
%RSD	.0855568	.0000000	--	--	--	--	--
#1	873057	10000	--	--	--	--	--
#2	874114	10000	--	--	--	--	--

Analysis Report QC Standard 02/05/03 01:57:28 PM page 1

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 13:52:44
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.004	9.977	5.055	4.677	10.10	1.009	4.936
SDev	.008	.028	.009	.013	.00	.002	.005
%RSD	.7566	.2841	.1805	.2706	.0233	.1995	.0931
#1	.9983	9.957	5.049	4.668	10.10	1.007	4.939
#2	1.009	9.997	5.062	4.686	10.10	1.010	4.933
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.45	1.006	4.999	2.004	2.033	9.828	18.56
SDev	.02	.002	.006	.001	.005	.002	.07
%RSD	.0889	.2405	.1159	.0339	.2412	.0203	.3548
#1	19.44	1.008	5.003	2.004	2.029	9.829	18.61
#2	19.46	1.004	4.995	2.005	2.036	9.826	18.51
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.016	4.930	19.53	1.035	5.060	Q43.95	27.34
SDev	.022	.021	.02	.002	.027	.27	.23
%RSD	.4394	.4180	.1146	.2048	.5290	.6160	.8397
#1	5.000	4.945	19.54	1.037	5.041	Q44.14	27.18
#2	5.031	4.916	19.51	1.034	5.079	Q43.76	27.50
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.860	4.864	4.984	4.958	.9891	.9765	.9878
SDev	.005	.054	.015	.027	.0007	.0016	.0026
%RSD	.1045	1.111	.2970	.5429	.0718	.1663	.2588
#1	4.863	4.902	4.995	4.977	.9886	.9777	.9860
#2	4.856	4.825	4.974	4.939	.9896	.9754	.9896
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.26	5.269	5.180	4.838	4.962	5.204	5.000
SDev	.26	.003	.006	.002	.023	.003	.001
%RSD	.2661	.0626	.1227	.0312	.4607	.0603	.0140
#1	96.08	5.266	5.184	4.839	4.978	5.206	5.001
#2	96.44	5.271	5.175	4.837	4.946	5.202	5.000
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.198	.9821	4.885	5.351	.9499	5.061	Q1.216
SDev	.001	.0039	.006	.000	.0169	.002	.007
%RSD	.0273	.3926	.1258	.0066	1.776	.0455	.5705
#1	5.197	.9793	4.881	5.351	.9380	5.059	Q1.211
#2	5.199	.9848	4.890	5.351	.9618	5.062	Q1.221
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.013	1.014	4.901
SDev	.001	.002	.003
%RSD	.0190	.2382	.0558
#1	5.013	1.016	4.903
#2	5.012	1.013	4.899
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	836603	10000	--	--	--	--	--
SDev	2177.889	.0000000	--	--	--	--	--
%RSD	.2603253	.0000000	--	--	--	--	--
#1	835063	10000	--	--	--	--	--
#2	838143	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 02:04:27 PM page 1

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 13:59:39
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0020	.0028	.0026	.0000	.0002	-.0007
SDev	.0004	.0007	.0009	.0006	.0001	.0001	.0008
%RSD	2362.	36.50	33.54	24.24	351.5	77.23	119.9
#1	-.0003	-.0025	.0021	.0030	.0001	.0003	-.0001
#2	.0002	-.0015	.0034	.0021	-.0000	.0001	-.0013
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	-.0001	-.0002	-.0000	-.0005	.0004	-.0040
SDev	.0006	.0000	.0004	.0002	.0002	.0040	.0011
%RSD	54.66	20.42	233.7	1901.	53.50	901.2	28.20
#1	.0014	-.0001	-.0004	-.0001	-.0003	.0032	-.0048
#2	.0006	-.0002	.0001	.0001	-.0006	-.0024	-.0032
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0000	-.0016	-.0000	.0016	-.0286	L-.0886
SDev	.0000	.0000	.0014	.0000	.0011	.0008	.0482
%RSD	.2252	35.30	84.76	1.202	70.61	2.631	54.47
#1	-.0005	.0000	-.0006	-.0000	.0024	-.0292	L-.0544
#2	-.0005	.0000	-.0026	-.0000	.0008	-.0281	L-.1227
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0032	.0005	-.0004	-.0009	.0012	.0002
SDev	.0002	.0007	.0034	.0026	.0015	.0025	.0000
%RSD	126.5	22.57	673.9	702.7	165.7	213.3	25.38
#1	-.0000	-.0027	-.0019	.0015	-.0020	-.0006	.0001
#2	-.0003	-.0037	.0029	-.0022	.0002	.0029	.0002
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.3	.0008	-.0009	-.0037	-.0001	-.0003	.0006
SDev	.1	.0014	.0014	.0006	.0006	.0005	.0010
%RSD	.1182	165.2	164.3	16.83	762.8	169.2	180.5
#1	100.3	-.0001	.0001	-.0032	.0004	.0001	-.0002
#2	100.4	.0018	-.0019	-.0041	-.0005	-.0006	.0013
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0009	-.0001	.0044	.0294	-.0001	-.0005
SDev	.0000	.0015	.0002	.0014	.0047	.0001	.0032
%RSD	78.37	170.7	212.7	31.35	15.99	89.75	611.9
#1	.0001	.0002	.0001	.0054	.0328	-.0000	-.0028
#2	.0000	-.0020	-.0003	.0034	.0261	-.0002	.0017
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	.0001	.0002
SDev	.0000	.0003	.0001
%RSD	26.09	189.9	55.90
#1	.0001	-.0000	.0003
#2	.0001	.0003	.0001
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	872033	10000	--	--	--	--	--
SDev	1013.991	.0000000	--	--	--	--	--
%RSD	.1162790	.0000000	--	--	--	--	--
#1	871316	10000	--	--	--	--	--
#2	872750	10000	--	--	--	--	--

Analysis Report 02/05/03 02:09:20 PM page 1

Method: DAILY1 Sample Name: 218766 df10 Operator:
Run Time: 02/05/03 14:04:36
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0021	.0018	.0118	.0676	.0000	.0032
SDev	.0001	.0047	.0021	.0000	.0001	.0001	.0010
%RSD	40.03	223.1	117.1	.3567	.1206	162.4	33.06
#1	-.0004	.0054	.0003	.0118	.0676	-.0000	.0024
#2	-.0002	-.0012	.0033	.0117	.0675	.0001	.0039

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	39.46	.0001	-.0001	-.0000	-.0001	.0010	.0199
SDev	.19	.0001	.0002	.0001	.0003	.0012	.0069
%RSD	.4690	84.67	461.3	540.6	185.6	115.2	34.44
#1	39.59	.0000	-.0002	-.0001	-.0003	.0019	.0151
#2	39.33	.0001	.0001	.0001	.0000	.0002	.0248

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0000	.0018	.0012	.0001	.2339	.1288
SDev	.0001	.0000	.0032	.0001	.0004	.0001	.0112
%RSD	147.9	161.2	177.4	5.833	838.9	.0610	8.725
#1	.0001	-.0000	-.0005	.0011	-.0003	.2340	.1209
#2	-.0000	.0000	.0040	.0012	.0004	.2338	.1368

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0018	.0019	.0013	-.0003	.0131	-.0007
SDev	.0009	.0028	.0003	.0024	.0003	.0017	.0006
%RSD	575.4	157.4	16.19	175.9	76.28	12.81	88.81
#1	-.0005	-.0002	.0016	.0030	-.0002	.0119	-.0011
#2	.0008	.0038	.0021	-.0003	-.0005	.0142	-.0003

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.88	.0031	-.0002	2.925	.0015	.0009	-.0012
SDev	.27	.0021	.0017	.010	.0015	.0004	.0001
%RSD	.2832	68.41	919.4	.3348	97.44	46.05	6.078
#1	96.69	.0046	-.0014	2.932	.0026	.0006	-.0011
#2	97.07	.0016	.0010	2.918	.0005	.0012	-.0012

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0275	.0024	-.0003	-.0002	-.0262	-.0001	-.0026
SDev	.0000	.0019	.0001	.0019	.0038	.0004	.0020
%RSD	.1433	77.28	20.70	831.2	14.52	419.3	78.64
#1	.0275	.0011	-.0004	-.0016	-.0289	-.0004	-.0040
#2	.0275	.0038	-.0003	.0011	-.0235	.0002	-.0011

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0117	.0000
SDev	.0001	.0000	.0003
%RSD	386.6	.2778	968.6
#1	-.0000	.0118	-.0002
#2	.0001	.0117	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	841980	10000	--	--	--	--	--
SDev	2328.503	.0000000	--	--	--	--	--
%RSD	.2765507	.0000000	--	--	--	--	--
#1	840334	10000	--	--	--	--	--
#2	843627	10000	--	--	--	--	--

Analysis Report 02/05/03 02:14:12 PM page 1

Method: DAILY1 Sample Name: 218767 df10 Operator:
Run Time: 02/05/03 14:09:29
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0081	.0021	.0009	.0017	.0001	.0018
SDev	.0004	.0053	.0017	.0004	.0001	.0000	.0028
%RSD	233.4	65.92	81.04	46.10	3.009	8.155	158.7
#1	.0005	-.0043	.0009	.0012	.0017	.0001	.0038
#2	-.0001	-.0119	.0033	.0006	.0016	.0001	-.0002

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	37.69	-.0000	.0014	-.0001	-.0005	-.0034	.0025
SDev	.20	.0001	.0001	.0003	.0004	.0019	.0038
%RSD	.5246	816.9	8.511	238.6	75.31	55.04	148.4
#1	37.83	-.0001	.0013	.0001	-.0002	-.0021	-.0001
#2	37.55	.0000	.0015	-.0003	-.0008	-.0048	.0052

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0000	.0008	.0001	-.0003	-.0018	.0007
SDev	.0002	.0000	.0024	.0001	.0000	.0022	.0196
%RSD	95.44	81.04	290.2	59.48	2.050	120.1	2718.
#1	-.0001	-.0000	.0025	.0001	-.0003	-.0033	-.0131
#2	-.0004	-.0000	-.0009	.0001	-.0003	-.0003	.0146

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0059	.0021	.0006	.0004	.0082	.0001
SDev	.0002	.0051	.0001	.0004	.0005	.0048	.0011
%RSD	72.78	86.03	5.846	64.64	124.5	58.09	1930.
#1	-.0005	-.0095	.0020	.0009	.0008	.0116	.0008
#2	-.0002	-.0023	.0022	.0003	.0001	.0048	-.0007

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.98	.0018	-.0001	2.980	.0011	.0006	-.0012
SDev	.54	.0004	.0012	.015	.0002	.0007	.0002
%RSD	.5433	20.43	1502.	.4895	19.38	125.6	20.01
#1	98.60	.0015	.0008	2.990	.0012	.0010	-.0010
#2	99.36	.0021	-.0010	2.969	.0009	.0001	-.0014

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0244	.0010	-.0000	-.0050	-.0048	-.0002	-.0022
SDev	.0000	.0015	.0001	.0033	.0031	.0001	.0019
%RSD	.0523	158.0	197.1	66.68	63.27	64.30	86.23
#1	.0244	-.0001	-.0001	-.0073	-.0027	-.0001	-.0009
#2	.0244	.0020	.0000	-.0026	-.0070	-.0002	-.0035

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0025	.0000
SDev	.0000	.0002	.0004
%RSD	186.7	6.342	1464.
#1	.0000	.0026	.0003
#2	-.0000	.0024	-.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	860224	10000	--	--	--	--	--
SDev	4687.411	.0000000	--	--	--	--	--
%RSD	.5449055	.0000000	--	--	--	--	--
#1	856910	10000	--	--	--	--	--
#2	863539	10000	--	--	--	--	--

Analysis Report 02/05/03 02:19:01 PM page 1

Method: DAILY1 Sample Name: 218768 df10 Operator:
Run Time: 02/05/03 14:14:22
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0070	.0011	.0005	.0017	.0001	-.0007
SDev	.0005	.0021	.0035	.0000	.0000	.0001	.0005
%RSD	298.6	29.39	330.0	5.948	2.603	106.7	66.15
#1	-.0005	-.0055	.0036	.0005	.0017	.0000	-.0004
#2	.0002	-.0084	-.0014	.0005	.0017	.0001	-.0011

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	37.80	.0000	.0002	.0001	-.0003	.0043	.0025
SDev	.12	.0001	.0001	.0002	.0003	.0002	.0060
%RSD	.3153	131.5	46.69	222.0	92.35	3.922	236.7
#1	37.71	.0001	.0001	-.0001	-.0005	.0041	-.0017
#2	37.88	.0000	.0002	.0003	-.0001	.0044	.0068

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0000	.0021	.0001	-.0004	-.0014	-.0219
SDev	.0006	.0000	.0007	.0000	.0001	.0009	.1086
%RSD	204.5	124.0	32.49	36.34	32.78	63.43	496.9
#1	-.0007	.0000	.0025	.0001	-.0003	-.0021	-.0987
#2	.0001	.0000	.0016	.0001	-.0005	-.0008	.0549

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0047	.0016	-.0001	.0001	.0071	-.0007
SDev	.0005	.0052	.0003	.0000	.0000	.0023	.0004
%RSD	164.6	110.7	16.57	16.73	39.90	31.81	54.74
#1	.0000	-.0010	.0018	-.0001	.0001	.0087	-.0010
#2	-.0006	-.0083	.0014	-.0001	.0000	.0055	-.0005

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.41	.0013	-.0002	2.985	.0005	.0003	.0010
SDev	.10	.0012	.0013	.002	.0001	.0005	.0008
%RSD	.1005	95.19	763.6	.0757	21.97	150.9	86.17
#1	99.48	.0004	.0008	2.983	.0005	.0007	.0015
#2	99.34	.0021	-.0011	2.987	.0004	-.0000	.0004

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0242	.0002	.0001	.0029	.0132	-.0001	-.0007
SDev	.0001	.0019	.0003	.0002	.0020	.0002	.0002
%RSD	.2120	953.4	443.9	6.624	15.18	269.2	32.85
#1	.0243	-.0011	-.0001	.0028	.0117	.0001	-.0008
#2	.0242	.0015	.0003	.0030	.0146	-.0002	-.0005

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0014	.0002
SDev	.0001	.0001	.0003
%RSD	88080.	10.19	164.8
#1	-.0000	.0015	-.0000
#2	.0000	.0013	.0004

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	863923	10000	--	--	--	--	--
SDev	878.2266	.0000000	--	--	--	--	--
%RSD	.1016557	.0000000	--	--	--	--	--
#1	864544	10000	--	--	--	--	--
#2	863302	10000	--	--	--	--	--

Analysis Report 02/05/03 02:23:36 PM page 1

Method: DAILY1 Sample Name: 218769 df10 Operator:
Run Time: 02/05/03 14:19:11
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0008	.0011	.0009	.0019	.0002	.0023
SDev	.0001	.0015	.0018	.0001	.0000	.0001	.0006
%RSD	1234.	206.3	165.6	17.94	1.427	53.58	26.05
#1	.0000	.0003	.0024	.0008	.0019	.0002	.0019
#2	-.0001	-.0018	-.0002	.0010	.0019	.0001	.0028

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	38.45	-.0001	-.0001	.0001	-.0001	.0051	.0035
SDev	.07	.0002	.0001	.0002	.0001	.0015	.0033
%RSD	.1906	238.5	48.60	197.1	46.38	28.76	94.73
#1	38.40	.0001	-.0001	.0002	-.0001	.0041	.0012
#2	38.50	-.0002	-.0001	-.0000	-.0002	.0062	.0058

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0000	.0033	.0002	-.0005	-.0044	-.0686
SDev	.0002	.0000	.0010	.0000	.0003	.0016	.0980
%RSD	67.22	.1075	30.83	10.05	45.90	35.99	142.8
#1	-.0001	.0000	.0040	.0002	-.0007	-.0055	-.1379
#2	-.0003	.0000	.0026	.0002	-.0004	-.0033	.0007

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0044	.0009	.0007	-.0000	.0029	.0002
SDev	.0005	.0015	.0011	.0000	.0010	.0023	.0003
%RSD	199.4	33.30	124.3	5.933	19470.	78.87	161.3
#1	.0006	-.0054	.0001	.0008	-.0007	.0013	.0005
#2	-.0001	-.0033	.0017	.0007	.0007	.0045	-.0000

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.98	.0034	-.0011	3.024	.0008	.0004	-.0007
SDev	.16	.0011	.0001	.010	.0003	.0003	.0001
%RSD	.1653	32.75	6.265	.3238	44.30	75.93	10.12
#1	99.10	.0026	-.0010	3.017	.0005	.0002	-.0006
#2	98.87	.0042	-.0011	3.031	.0010	.0007	-.0007

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0255	.0003	.0000	.0006	.0086	.0003	-.0021
SDev	.0001	.0006	.0003	.0046	.0102	.0001	.0022
%RSD	.3162	172.9	1173.	771.6	117.4	35.28	102.8
#1	.0255	.0008	.0002	-.0027	.0015	.0004	-.0037
#2	.0256	-.0001	-.0002	.0039	.0158	.0002	-.0006

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	.0005	.0003
SDev	.0000	.0002	.0002
%RSD	50.59	40.07	69.53
#1	.0001	.0004	.0004
#2	.0001	.0007	.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	860213	10000	--	--	--	--	--
SDev	1381.687	.0000000	--	--	--	--	--
%RSD	.1606214	.0000000	--	--	--	--	--
#1	861190	10000	--	--	--	--	--
#2	859236	10000	--	--	--	--	--

Analysis Report 02/05/03 02:28:11 PM page 1

Method: DAILY1 Sample Name: 218770 df10 Operator:
Run Time: 02/05/03 14:23:46
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0007	.0026	.0007	.0017	.0000	.0044
SDev	.0003	.0055	.0024	.0004	.0000	.0000	.0004
%RSD	75.40	808.8	90.58	56.25	.3322	88.78	9.544
#1	.0006	-.0032	.0043	.0004	.0017	.0000	.0047
#2	.0002	.0046	.0009	.0009	.0017	.0000	.0041

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	37.16	-.0001	.0001	.0002	-.0003	.0035	-.0002
SDev	.13	.0001	.0001	.0003	.0000	.0026	.0067
%RSD	.3441	144.8	140.0	113.6	16.79	75.79	2833.
#1	37.07	.0000	.0001	.0004	-.0002	.0053	-.0049
#2	37.25	-.0002	.0000	.0000	-.0003	.0016	.0045

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0000	.0020	.0001	-.0003	.0036	-.0866
SDev	.0001	.0000	.0000	.0000	.0005	.0010	.0883
%RSD	230.7	910.4	.7441	20.77	164.3	26.68	102.0
#1	-.0000	-.0000	.0020	.0001	-.0007	.0029	-.1490
#2	.0001	.0000	.0020	.0001	.0000	.0043	-.0241

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	-.0032	.0008	.0000	-.0004	.0082	.0001
SDev	.0002	.0072	.0016	.0014	.0011	.0037	.0016
%RSD	22.69	224.0	188.3	61120.	240.7	44.94	1563.
#1	.0008	-.0083	.0019	.0010	-.0012	.0056	.0012
#2	.0011	.0019	-.0003	-.0010	.0003	.0109	-.0010

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.03	.0017	-.0015	2.976	.0003	-.0004	-.0026
SDev	.46	.0024	.0014	.016	.0014	.0001	.0007
%RSD	.4710	142.5	93.12	.5450	512.2	28.59	25.83
#1	98.36	.0034	-.0025	2.964	.0013	-.0005	-.0021
#2	97.70	-.0000	-.0005	2.987	-.0007	-.0003	-.0030

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0253	.0024	.0002	.0027	-.0229	-.0000	-.0019
SDev	.0001	.0002	.0000	.0052	.0071	.0003	.0021
%RSD	.2481	8.183	19.55	197.8	31.12	1514.	106.8
#1	.0253	.0026	.0002	-.0011	-.0178	-.0002	-.0005
#2	.0253	.0023	.0002	.0064	-.0279	.0002	-.0034

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0009	-.0002
SDev	.0001	.0002	.0000
%RSD	115100.	23.90	20.72
#1	-.0000	.0010	-.0002
#2	.0000	.0007	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	852026	10000	--	--	--	--	--
SDev	4022.731	.0000000	--	--	--	--	--
%RSD	.4721373	.0000000	--	--	--	--	--
#1	854870	10000	--	--	--	--	--
#2	849181	10000	--	--	--	--	--

Analysis Report QC Standard 02/05/03 02:36:21 PM page 1

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 14:31:55
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9951	9.851	5.089	4.688	9.969	1.027	4.922
SDev	.0074	.043	.038	.023	.039	.002	.025
%RSD	.7443	.4390	.7415	.4919	.3896	.1716	.5104
#1	1.000	9.882	5.063	4.671	9.941	1.028	4.905
#2	.9899	9.821	5.116	4.704	9.996	1.026	4.940
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.77	1.033	5.061	2.025	1.998	9.924	18.09
SDev	.03	.003	.013	.004	.002	.004	.09
%RSD	.1325	.3095	.2625	.2179	.0951	.0380	.4944
#1	19.79	1.031	5.051	2.022	1.999	9.921	18.03
#2	19.75	1.036	5.070	2.028	1.996	9.926	18.15
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.970	4.840	19.71	1.042	5.108	Q43.00	Q26.91
SDev	.004	.021	.01	.005	.021	.10	.21
%RSD	.0892	.4417	.0412	.4785	.4016	.2399	.7899
#1	4.967	4.825	19.70	1.038	5.093	Q42.92	27.06
#2	4.973	4.855	19.71	1.045	5.122	Q43.07	Q26.76
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.954	4.822	5.033	5.045	.9840	.9864	.9860
SDev	.015	.012	.054	.020	.0023	.0133	.0012
%RSD	.2957	.2391	1.075	.4013	.2341	1.345	.1255
#1	4.944	4.830	4.995	5.031	.9856	.9770	.9869
#2	4.965	4.814	5.072	5.059	.9823	.9958	.9852
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.06	5.231	5.161	4.835	5.036	5.179	5.088
SDev	.68	.075	.016	.004	.032	.035	.005
%RSD	.6911	1.436	.3026	.0826	.6256	.6838	.0886
#1	99.54	5.178	5.150	4.832	5.014	5.154	5.084
#2	98.57	5.285	5.172	4.838	5.058	5.205	5.091
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.140	.9709	4.877	5.352	.9745	5.075	Q1.239
SDev	.000	.0010	.023	.020	.0049	.004	.001
%RSD	.0068	.1066	.4807	.3774	.5004	.0774	.0817
#1	5.139	.9716	4.893	5.338	.9711	5.078	Q1.240
#2	5.140	.9702	4.860	5.366	.9780	5.072	Q1.238
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.002	1.052	4.898
SDev	.004	.002	.015
%RSD	.0901	.2107	.3122
#1	4.999	1.050	4.909
#2	5.005	1.054	4.888
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	860906	10000	--	--	--	--	--
SDev	5867.572	.0000000	--	--	--	--	--
%RSD	.6815578	.0000000	--	--	--	--	--
#1	865055	10000	--	--	--	--	--
#2	856757	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 02:42:44 PM page 1

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 14:38:18
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0117	.0002	.0035	.0016	.0002	.0040
SDev	.0005	.0029	.0021	.0014	.0022	.0004	.0021
%RSD	626.5	25.04	872.7	39.85	136.2	191.1	51.49
#1	.0004	.0138	.0018	.0045	.0032	.0004	H.0054
#2	-.0003	.0096	-.0013	.0025	.0001	-.0001	.0025
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0053	.0001	.0005	-.0001	.0001	-.0061	.0012
SDev	.0043	.0003	.0011	.0005	.0007	.0049	.0044
%RSD	80.76	240.7	211.6	409.1	544.9	81.54	377.1
#1	.0083	.0003	.0013	.0002	.0006	-.0026	.0043
#2	.0023	-.0001	-.0003	-.0005	-.0003	-.0096	-.0019
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0006	.0015	.0001	.0024	-.0223	L-.0531
SDev	.0013	.0008	.0039	.0002	.0009	.0072	.0349
%RSD	247.1	136.0	261.5	139.4	37.70	32.15	65.68
#1	.0014	.0011	.0042	.0003	.0030	-.0173	-.0284
#2	-.0004	.0000	-.0013	.0000	.0018	-.0274	L-.0778
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	.0030	.0009	.0054	-.0003	.0011	.0005
SDev	.0016	.0038	.0010	.0083	.0013	.0017	.0008
%RSD	181.8	128.1	105.6	153.9	440.7	161.8	156.1
#1	.0021	.0057	.0002	.0113	.0006	.0023	-.0001
#2	-.0003	.0003	.0016	-.0005	-.0012	-.0002	.0010
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.13	.0026	.0077	.0021	H.0039	H.0060	.0018
SDev	.32	.0061	.0041	.0014	.0052	.0047	.0013
%RSD	.3278	231.3	52.76	69.25	133.3	78.48	70.72
#1	96.90	.0069	.0106	.0031	H.0076	H.0094	.0028
#2	97.35	-.0017	.0049	.0011	.0002	.0027	.0009
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC High	LC High	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	.0009	.0008	.0093	.0094	.0008	.0023
SDev	.0011	.0002	.0007	.0074	.0106	.0011	.0020
%RSD	133.9	24.37	92.24	79.57	112.9	129.2	88.45
#1	.0017	.0011	.0013	H.0145	.0168	.0016	.0037
#2	.0000	.0008	.0003	.0040	.0019	.0001	.0008
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0008	.0000	.0007
SDev	.0011	.0004	.0013
%RSD	140.4	3491.	189.3
#1	.0016	-.0002	.0016
#2	.0000	.0003	-.0002
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	844098	10000	--	--	--	--	--
SDev	2775.394	.0000000	--	--	--	--	--
%RSD	.3288002	.0000000	--	--	--	--	--
#1	842135	10000	--	--	--	--	--
#2	846060	10000	--	--	--	--	--

Analysis Report 02/05/03 02:47:19 PM page 1

Method: DAILY1 Sample Name: pbw-pg52-084 Operator:
Run Time: 02/05/03 14:42:54
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0088	-.0002	.0010	-.0000	-.0001	.0036
SDev	.0002	.0007	.0028	.0000	.0000	.0000	.0019
%RSD	805.6	7.553	1120.	3.548	132.6	9.337	51.81
#1	.0001	.0083	.0017	.0010	-.0000	-.0001	.0049
#2	-.0001	.0093	-.0022	.0010	-.0000	-.0001	.0023
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0151	-.0001	.0017	-.0001	-.0001	-.0076	-.0070
SDev	.0004	.0001	.0001	.0001	.0003	.0006	.0075
%RSD	2.441	153.7	9.002	43.64	312.7	8.281	107.3
#1	.0154	.0000	.0016	-.0002	.0001	-.0080	-.0124
#2	.0149	-.0001	.0018	-.0001	-.0003	-.0071	-.0017
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0000	-.0008	.0000	.0006	-.0238	L-.1410
SDev	.0003	.0000	.0014	.0000	.0001	.0016	.0528
%RSD	600.8	111.8	180.8	1.899	21.79	6.791	37.43
#1	.0002	-.0000	-.0018	.0000	.0007	-.0249	L-.1783
#2	-.0003	-.0000	.0002	.0000	.0005	-.0227	L-.1037
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0008	.0028	.0015	-.0002	.0001	.0016	.0002
SDev	.0006	.0010	.0022	.0002	.0001	.0003	.0013
%RSD	69.68	33.86	146.5	101.2	87.27	17.00	598.2
#1	-.0004	.0022	-.0001	-.0004	.0000	.0018	.0011
#2	-.0012	.0035	.0030	-.0001	.0001	.0014	-.0007
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.55	.0010	.0014	-.0014	.0003	.0013	-.0017
SDev	.35	.0046	.0010	.0012	.0009	.0022	.0024
%RSD	.3542	468.9	73.67	85.77	259.0	174.2	139.4
#1	97.30	.0043	.0022	-.0005	-.0003	.0029	-.0034
#2	97.79	-.0023	.0007	-.0022	.0010	-.0003	-.0000
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050
Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0018	-.0001	-.0058	.0013	-.0000	-.0030
SDev	.0000	.0014	.0001	.0078	.0028	.0001	.0027
%RSD	22.05	74.52	104.8	135.3	221.6	873.8	88.46
#1	.0001	.0028	-.0000	L-.0113	.0032	-.0001	-.0011
#2	.0000	.0009	-.0002	-.0002	-.0007	.0001	-.0049
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100
Elem	Y_3710	Zn2062	Zr3496				
Units	ppm	ppm	ppm				
Avge	-.0001	.0008	-.0000				
SDev	.0000	.0001	.0001				
%RSD	25.42	9.168	108.0				
#1	-.0001	.0009	-.0000				
#2	-.0001	.0008	-.0001				
Errors	LC Pass	LC Pass	LC Pass				
High	.0050	.0050	.0050				
Low	-.0050	-.0050	-.0050				

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	847753	10000	--	--	--	--	--
SDev	3050.459	.0000000	--	--	--	--	--
%RSD	.3598287	.0000000	--	--	--	--	--
#1	845596	10000	--	--	--	--	--
#2	849910	10000	--	--	--	--	--

Analysis Report 02/05/03 02:51:53 PM page 1

Method: DAILY1 Sample Name: lcsw-pg52-084 Operator:
Run Time: 02/05/03 14:47:28
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0504	1.869	2.013	.0023	1.989	.0514	.0018
SDev	.0002	.002	.002	.0007	.002	.0003	.0005
%RSD	.3328	.1143	.0955	29.72	.0799	.5668	27.73
#1	.0503	1.867	2.015	.0018	1.988	.0512	.0015
#2	.0506	1.870	2.012	.0028	1.990	.0516	.0022

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.90	.0506	.4951	.1995	.2412	.9416	16.27
SDev	.07	.0005	.0048	.0016	.0014	.0151	.01
%RSD	.3614	.9972	.9779	.7841	.5726	1.603	.0665
#1	19.85	.0502	.4916	.1984	.2422	.9309	16.28
#2	19.95	.0509	.4985	.2006	.2402	.9522	16.26

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0001	19.99	.5051	-.0001	27.15	17.24
SDev	.0006	.0001	.15	.0039	.0002	.01	.00
%RSD	213.8	103.8	.7723	.7801	396.1	.0509	.0079
#1	-.0001	.0000	19.88	.5023	-.0002	27.14	17.24
#2	.0007	.0001	20.10	.5079	.0001	27.16	17.24

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4892	-.0003	.4930	.4936	-.0007	.0036	.4890
SDev	.0034	.0029	.0015	.0003	.0019	.0021	.0047
%RSD	.6935	851.6	.3148	.0579	265.3	57.49	.9543
#1	.4868	-.0024	.4919	.4934	-.0021	.0050	.4857
#2	.4916	.0017	.4941	.4938	.0006	.0021	.4923

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.45	1.994	2.013	4.026	.4929	2.005	-.0016
SDev	.31	.007	.008	.016	.0007	.008	.0012
%RSD	.3218	.3606	.3920	.3982	.1435	.3816	75.05
#1	97.67	1.989	2.008	4.015	.4924	1.999	-.0024
#2	97.23	1.999	2.019	4.037	.4934	2.010	-.0007

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0026	.0002	2.073	3.991	.4951	.0025
SDev	.0000	.0019	.0000	.006	.027	.0024	.0031
%RSD	16.01	71.15	9.584	.3009	.6716	.4929	123.1
#1	.0002	.0013	.0002	2.068	3.972	.4934	.0003
#2	.0002	.0039	.0002	2.077	4.010	.4968	.0048

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0023	.5201	-.0021
SDev	.0001	.0083	.0003
%RSD	4.447	1.594	16.73
#1	.0022	.5142	-.0023
#2	.0023	.5259	-.0018

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	846904	10000	--	--	--	--	--
SDev	2738.624	.0000000	--	--	--	--	--
%RSD	.3233688	.0000000	--	--	--	--	--
#1	848841	10000	--	--	--	--	--
#2	844968	10000	--	--	--	--	--

Analysis Report 02/05/03 02:56:29 PM

Method: DAILY1 Sample Name: 218741 df5 Operator:
Run Time: 02/05/03 14:52:03
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0116	.0029	.0552	.2698	-.0001	.0017
SDev	.0001	.0079	.0004	.0001	.0003	.0000	.0006
%RSD	345.5	67.62	14.17	.1023	.0982	41.08	36.96
#1	-.0001	.0061	.0026	.0551	.2696	-.0000	.0012
#2	.0000	.0172	.0032	.0552	.2700	-.0001	.0021

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	74.83	.0001	.0017	.0004	-.0001	-.0022	.0483
SDev	.05	.0001	.0001	.0001	.0003	.0085	.0059
%RSD	.0607	190.6	2.752	28.68	193.7	382.7	12.16
#1	74.80	-.0000	.0017	.0005	.0001	-.0083	.0524
#2	74.87	.0002	.0016	.0003	-.0004	.0038	.0441

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0000	.0148	.0010	-.0001	2.044	1.191
SDev	.0000	.0000	.0028	.0000	.0002	.013	.094
%RSD	5.732	44.11	18.60	.5309	125.7	.6453	7.929
#1	.0002	.0000	.0168	.0010	-.0000	2.035	1.257
#2	.0002	.0000	.0129	.0010	-.0003	2.053	1.124

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0040	.0012	.0011	-.0005	.0297	.0011
SDev	.0001	.0005	.0015	.0007	.0006	.0009	.0003
%RSD	280.0	12.72	121.7	63.53	121.7	2.999	25.51
#1	-.0001	.0037	.0002	.0006	-.0009	.0291	.0013
#2	.0000	.0044	.0023	.0016	-.0001	.0303	.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.12	.0019	-.0018	5.833	.0011	-.0006	-.0022
SDev	.44	.0022	.0032	.025	.0010	.0014	.0018
%RSD	.4502	120.4	176.6	.4315	84.69	241.7	82.84
#1	97.43	.0034	-.0040	5.816	.0005	-.0015	-.0035
#2	96.81	.0003	.0004	5.851	.0018	.0004	-.0009

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0498	.0022	-.0001	.0004	-.0217	.0002	-.0021
SDev	.0000	.0014	.0002	.0001	.0060	.0004	.0000
%RSD	.0180	63.32	149.4	37.24	27.71	209.9	2.169
#1	.0498	.0032	-.0002	.0003	-.0174	-.0001	-.0021
#2	.0498	.0012	.0000	.0005	-.0259	.0005	-.0022

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0078	-.0002
SDev	.0000	.0001	.0000
%RSD	66.91	1.316	10.51
#1	-.0000	.0079	-.0001
#2	-.0000	.0077	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	844067	10000	--	--	--	--	--
SDev	3802.820	.0000000	--	--	--	--	--
%RSD	.4505354	.0000000	--	--	--	--	--
#1	846756	10000	--	--	--	--	--
#2	841378	10000	--	--	--	--	--

Analysis Report 02/05/03 03:01:03 PM page 1

Method: DAILY1 Sample Name: 218742 df5 Operator:
Run Time: 02/05/03 14:56:38
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0224	.0007	.0268	.1452	-.0000	.0006
SDev	.0002	.0054	.0020	.0000	.0005	.0001	.0015
%RSD	279.9	24.05	268.3	.1355	.3374	433.0	274.4
#1	-.0001	.0186	-.0007	.0268	.1449	.0001	.0016
#2	.0002	.0262	.0021	.0267	.1456	-.0001	-.0005

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	84.90	-.0001	.0002	-.0001	-.0004	-.0010	-.0088
SDev	.16	.0001	.0003	.0002	.0000	.0029	.0910
%RSD	.1931	133.2	124.9	163.0	.0700	274.6	1036.
#1	84.78	-.0002	.0000	-.0002	-.0004	.0010	-.0731
#2	85.01	-.0000	.0005	.0000	-.0004	-.0031	.0556

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0002	.0065	.0024	-.0005	.6250	-.2143
SDev	.0003	.0003	.0039	.0001	.0003	.0176	.7894
%RSD	182.3	173.8	59.63	2.011	68.01	2.815	368.3
#1	-.0001	-.0004	.0037	.0024	-.0007	.6126	-.7725
#2	.0004	.0000	.0092	.0023	-.0003	.6375	.3438

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0044	.0003	-.0001	-.0002	.0265	-.0017
SDev	.0000	.0041	.0002	.0013	.0009	.0006	.0016
%RSD	1.611	94.10	52.03	964.8	372.5	2.153	92.62
#1	.0005	.0073	.0002	-.0011	-.0009	.0261	-.0029
#2	.0005	.0015	.0004	.0008	.0004	.0269	-.0006

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.55	.0035	.0000	6.370	.0000	.0012	-.0020
SDev	.25	.0009	.0004	.016	.0009	.0005	.0023
%RSD	.2530	25.07	762.6	.2539	9363.	44.38	115.1
#1	97.73	.0042	.0003	6.358	-.0006	.0016	-.0004
#2	97.38	.0029	-.0002	6.381	.0007	.0008	-.0036

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0574	.0025	-.0001	-.0020	-.0378	-.0000	-.0047
SDev	.0000	.0009	.0003	.0041	.0054	.0003	.0027
%RSD	.0248	35.32	303.8	200.8	14.35	1132.	56.93
#1	.0575	.0031	-.0004	-.0049	-.0417	-.0003	-.0066
#2	.0574	.0019	.0001	.0008	-.0340	.0002	-.0028

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0381	-.0002
SDev	.0001	.0003	.0002
%RSD	93.63	.8210	78.92
#1	-.0001	.0379	-.0003
#2	-.0000	.0383	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	847831	10000	--	--	--	--	--
SDev	2179.303	.0000000	--	--	--	--	--
%RSD	.2570445	.0000000	--	--	--	--	--
#1	849372	10000	--	--	--	--	--
#2	846290	10000	--	--	--	--	--

Analysis Report 02/05/03 03:05:37 PM page 1

Method: DAILY1 Sample Name: 218743 df5 Operator:
Run Time: 02/05/03 15:01:12
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0172	.0004	.0295	.1091	.0000	-.0006
SDev	.0005	.0054	.0002	.0004	.0001	.0002	.0028
%RSD	285.7	31.42	47.91	1.390	.0579	1116.	471.6
#1	-.0006	.0133	.0003	.0293	.1090	.0002	.0014
#2	.0002	.0210	.0006	.0298	.1091	-.0001	-.0026

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	75.89	-.0001	-.0003	-.0003	-.0004	-.0050	-.0141
SDev	.60	.0002	.0001	.0002	.0001	.0079	.0712
%RSD	.7864	277.1	44.40	54.93	14.21	159.9	506.2
#1	75.47	-.0002	-.0004	-.0004	-.0004	-.0106	-.0644
#2	76.32	.0001	-.0002	-.0002	-.0005	.0006	.0363

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0001	.0041	.0013	-.0007	.4612	-.2683
SDev	.0007	.0002	.0024	.0000	.0002	.0155	.6924
%RSD	635.6	183.9	59.45	3.361	36.34	3.358	258.1
#1	-.0004	-.0003	.0024	.0013	-.0008	.4502	-.7579
#2	.0006	.0000	.0058	.0013	-.0005	.4721	.2213

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0002	.0018	.0014	-.0010	.0334	-.0011
SDev	.0005	.0097	.0024	.0005	.0004	.0038	.0023
%RSD	33330.	4103.	128.6	37.93	38.48	11.43	212.1
#1	-.0004	.0071	.0035	.0018	-.0008	.0307	-.0028
#2	.0004	-.0067	.0002	.0010	-.0013	.0362	.0006

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.09	-.0007	.0006	5.833	.0015	.0002	-.0025
SDev	.55	.0003	.0006	.048	.0011	.0005	.0022
%RSD	.5564	45.49	95.57	.8248	73.72	265.7	87.08
#1	99.48	-.0009	.0002	5.798	.0023	-.0002	-.0040
#2	98.70	-.0005	.0010	5.867	.0007	.0005	-.0010

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0506	.0002	-.0002	-.0002	-.0305	.0001	-.0025
SDev	.0001	.0016	.0005	.0049	.0032	.0002	.0010
%RSD	.1113	668.8	241.4	2140.	10.45	355.7	38.46
#1	.0506	-.0009	-.0005	-.0037	-.0283	-.0001	-.0018
#2	.0505	.0014	.0001	.0033	-.0328	.0002	-.0031

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0294	-.0001
SDev	.0001	.0004	.0003
%RSD	283.6	1.268	207.8
#1	-.0001	.0292	-.0003
#2	.0000	.0297	.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	861228	10000	--	--	--	--	--
SDev	4763.071	.0000000	--	--	--	--	--
%RSD	.5530558	.0000000	--	--	--	--	--
#1	864596	10000	--	--	--	--	--
#2	857860	10000	--	--	--	--	--

Analysis Report 02/05/03 03:10:11 PM page 1

Method: DAILY1 Sample Name: 218743d df5 Operator:
Run Time: 02/05/03 15:05:46
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0225	.0016	.0323	.1120	.0002	.0018
SDev	.0002	.0000	.0006	.0012	.0003	.0000	.0004
%RSD	105.5	.0295	37.13	3.577	.3081	9.735	23.63
#1	.0003	.0225	.0021	.0331	.1123	.0002	.0015
#2	.0000	.0225	.0012	.0315	.1118	.0002	.0021

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	78.97	.0000	-.0000	-.0005	-.0008	.0027	.0226
SDev	.28	.0001	.0000	.0002	.0005	.0058	.0042
%RSD	.3520	213.2	96.21	36.58	55.93	220.0	18.45
#1	79.17	.0001	-.0000	-.0006	-.0012	.0068	.0197
#2	78.78	-.0000	-.0000	-.0003	-.0005	-.0015	.0256

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0000	.0060	.0013	-.0004	.4422	.1450
SDev	.0002	.0000	.0010	.0000	.0001	.0007	.0688
%RSD	190.5	4259000.	17.26	.1446	30.09	.1638	47.42
#1	.0000	-.0000	.0053	.0013	-.0005	.4417	.0964
#2	-.0003	.0000	.0068	.0013	-.0003	.4427	.1937

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0053	-.0016	.0018	-.0004	.0229	-.0007
SDev	.0006	.0083	.0011	.0005	.0007	.0021	.0014
%RSD	206.5	155.4	72.15	29.10	160.6	9.101	220.4
#1	-.0001	.0005	-.0023	.0014	-.0009	.0215	.0004
#2	.0007	-.0112	-.0008	.0021	.0001	.0244	-.0017

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.78	-.0018	.0022	6.002	.0007	.0009	-.0010
SDev	.17	.0000	.0018	.005	.0007	.0012	.0012
%RSD	.1677	2.493	82.80	.0808	108.4	139.3	122.9
#1	99.90	-.0018	.0009	6.006	.0002	.0000	-.0019
#2	99.66	-.0017	.0035	5.999	.0012	.0017	-.0001

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0512	.0003	-.0001	.0001	.0153	-.0004	-.0033
SDev	.0000	.0001	.0001	.0054	.0025	.0004	.0014
%RSD	.0035	20.57	65.56	4388.	16.38	112.7	42.98
#1	.0512	.0004	-.0002	-.0037	.0135	-.0007	-.0023
#2	.0512	.0003	-.0001	.0039	.0171	-.0001	-.0043

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0333	.0002
SDev	.0001	.0001	.0000
%RSD	247.5	.4385	15.28
#1	-.0001	.0334	.0002
#2	.0000	.0332	.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	867137	10000	--	--	--	--	--
SDev	1463.711	.0000000	--	--	--	--	--
%RSD	.1687981	.0000000	--	--	--	--	--
#1	868172	10000	--	--	--	--	--
#2	866102	10000	--	--	--	--	--

Analysis Report 02/05/03 03:14:46 PM page 1

Method: DAILY1 Sample Name: 218743s df5 Operator:
Run Time: 02/05/03 15:10:21
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0515	1.955	2.057	.0326	2.156	.0515	.0006
SDev	.0002	.011	.007	.0008	.015	.0006	.0003
%RSD	.4714	.5402	.3456	2.424	.6919	1.261	50.01
#1	.0513	1.963	2.062	.0332	2.167	.0520	.0004
#2	.0516	1.948	2.052	.0321	2.146	.0511	.0009

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.29	.0504	.4989	.2027	.2517	.9611	17.96
SDev	.27	.0004	.0022	.0014	.0016	.0114	.09
%RSD	.2765	.8091	.4427	.6739	.6400	1.184	.5225
#1	96.48	.0507	.5005	.2037	.2529	.9692	18.03
#2	96.10	.0501	.4973	.2018	.2506	.9531	17.90

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0000	20.07	.5122	-.0007	30.20	18.38
SDev	.0001	.0000	.11	.0031	.0001	.21	.09
%RSD	29.49	186.9	.5684	.6080	18.85	.6876	.4863
#1	.0003	-.0000	20.15	.5144	-.0006	30.35	18.32
#2	.0005	.0000	19.99	.5100	-.0007	30.05	18.44

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4906	-.0043	.5043	.5025	-.0012	.0240	.5035
SDev	.0032	.0064	.0001	.0019	.0011	.0065	.0017
%RSD	.6441	149.3	.0307	.3683	91.72	26.91	.3302
#1	.4929	.0002	.5044	.5038	-.0020	.0194	.5047
#2	.4884	-.0088	.5042	.5012	-.0004	.0285	.5024

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	95.62	2.061	2.067	10.10	.5026	2.063	-.0020
SDev	.55	.001	.008	.04	.0013	.006	.0014
%RSD	.5703	.0618	.3836	.4377	.2555	.2765	66.13
#1	95.24	2.062	2.072	10.13	.5035	2.067	-.0011
#2	96.01	2.061	2.061	10.07	.5017	2.059	-.0030

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0512	.0033	-.0002	2.106	4.080	.5055	.0009
SDev	.0004	.0011	.0001	.005	.007	.0015	.0019
%RSD	.7433	32.41	69.61	.2386	.1811	.2927	204.6
#1	.0515	.0041	-.0003	2.109	4.086	.5065	.0023
#2	.0510	.0026	-.0001	2.102	4.075	.5044	-.0004

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0024	.5420	-.0024
SDev	.0001	.0041	.0001
%RSD	2.010	.7587	5.737
#1	.0023	.5449	-.0025
#2	.0024	.5391	-.0023

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	831037	10000	--	--	--	--	--
SDev	4724.888	.0000000	--	--	--	--	--
%RSD	.5685532	.0000000	--	--	--	--	--
#1	827696	10000	--	--	--	--	--
#2	834378	10000	--	--	--	--	--

Analysis Report 02/05/03 03:19:23 PM page 1

Method: DAILY1 Sample Name: 218744 df5 Operator:
Run Time: 02/05/03 15:14:58
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0018	-.0017	.0581	.3048	.0001	.0016
SDev	.0003	.0014	.0013	.0008	.0019	.0000	.0026
%RSD	507.4	81.91	77.12	1.433	.6194	2.512	161.0
#1	-.0002	-.0028	-.0027	.0575	.3034	.0001	.0035
#2	.0001	-.0007	-.0008	.0587	.3061	.0001	-.0002

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	77.74	.0001	-.0002	.0004	-.0006	.0078	.0516
SDev	.12	.0000	.0003	.0004	.0003	.0016	.0078
%RSD	.1491	8.467	146.4	100.3	44.18	20.97	15.08
#1	77.66	.0001	.0000	.0007	-.0008	.0067	.0461
#2	77.82	.0001	-.0004	.0001	-.0004	.0090	.0571

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0000	.0159	.0026	-.0003	2.089	1.272
SDev	.0005	.0000	.0008	.0000	.0004	.017	.057
%RSD	501.9	106.4	5.157	.9272	131.7	.8121	4.493
#1	-.0002	.0000	.0154	.0026	-.0006	2.077	1.231
#2	.0004	.0000	.0165	.0026	-.0000	2.101	1.312

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0033	-.0007	.0021	-.0004	.0326	.0002
SDev	.0001	.0045	.0016	.0013	.0011	.0042	.0001
%RSD	25.04	136.5	238.1	60.41	295.2	12.80	62.61
#1	.0005	.0001	.0005	.0012	-.0011	.0296	.0004
#2	.0003	.0065	-.0018	.0030	.0004	.0355	.0001

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.53	.0035	-.0008	5.882	.0012	.0007	-.0011
SDev	.91	.0037	.0018	.026	.0003	.0024	.0006
%RSD	.9165	106.9	232.3	.4344	27.14	370.0	54.02
#1	100.2	.0062	.0005	5.864	.0009	.0024	-.0007
#2	98.88	.0009	-.0021	5.900	.0014	-.0011	-.0015

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0518	.0019	.0001	.0037	-.0038	.0004	-.0029
SDev	.0004	.0003	.0001	.0115	.0004	.0002	.0011
%RSD	.8355	14.46	105.7	314.3	10.77	57.59	37.13
#1	.0515	.0021	.0002	-.0045	-.0041	.0005	-.0021
#2	.0521	.0017	.0000	.0118	-.0035	.0002	-.0036

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0061	.0002
SDev	.0000	.0000	.0002
%RSD	93.17	.0720	92.53
#1	.0000	.0061	.0001
#2	.0000	.0061	.0004

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	864983	10000	--	--	--	--	--
SDev	7872.927	.0000000	--	--	--	--	--
%RSD	.9101828	.0000000	--	--	--	--	--
#1	870550	10000	--	--	--	--	--
#2	859416	10000	--	--	--	--	--

Analysis Report 02/05/03 03:24:14 PM page 1

Method: DAILY1 Sample Name: 218745 df5 Operator:
Run Time: 02/05/03 15:19:32
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0059	.0025	.0271	.1412	.0001	.0026
SDev	.0000	.0013	.0017	.0001	.0004	.0001	.0006
%RSD	4.782	21.36	69.12	.3531	.2631	55.90	20.72
#1	.0004	.0050	.0013	.0271	.1415	.0001	.0030
#2	.0004	.0068	.0037	.0272	.1409	.0001	.0023

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	78.07	-.0001	.0001	-.0001	-.0006	-.0000	.0281
SDev	.06	.0001	.0004	.0001	.0002	.0001	.0018
%RSD	.0707	71.18	489.9	89.41	26.67	847.6	6.494
#1	78.11	-.0001	-.0002	-.0000	-.0007	-.0000	.0268
#2	78.03	-.0000	.0003	-.0002	-.0005	.0000	.0294

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0000	.0078	.0017	-.0005	.5530	.2226
SDev	.0004	.0000	.0014	.0000	.0000	.0001	.1160
%RSD	199.3	42.56	17.59	2.150	9.347	.0146	52.09
#1	-.0001	.0000	.0068	.0016	-.0005	.5530	.3046
#2	.0005	.0000	.0087	.0017	-.0004	.5529	.1406

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0102	.0022	.0017	-.0000	.0238	.0004
SDev	.0004	.0028	.0006	.0009	.0008	.0018	.0012
%RSD	109.5	27.71	27.57	54.45	2429.	7.542	307.5
#1	.0001	-.0082	.0018	.0023	-.0006	.0251	-.0004
#2	.0006	-.0122	.0026	.0010	.0005	.0226	.0012

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.96	.0018	.0031	5.868	.0018	.0027	.0005
SDev	.01	.0022	.0001	.012	.0004	.0008	.0030
%RSD	.0105	124.8	2.119	.2073	21.71	29.25	669.6
#1	98.97	.0034	.0032	5.877	.0021	.0032	.0026
#2	98.95	.0002	.0031	5.860	.0016	.0021	-.0017

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0522	.0027	-.0002	-.0013	-.0033	-.0001	-.0013
SDev	.0000	.0021	.0001	.0097	.0053	.0000	.0051
%RSD	.0151	77.96	37.89	769.4	160.1	.2558	393.6
#1	.0522	.0042	-.0003	-.0081	.0004	-.0001	-.0049
#2	.0522	.0012	-.0002	.0056	-.0071	-.0001	.0023

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0179	.0002
SDev	.0001	.0000	.0002
%RSD	121.1	.0050	145.1
#1	-.0001	.0179	-.0000
#2	-.0000	.0179	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	860017	10000	--	--	--	--	--
SDev	128.6934	.0000000	--	--	--	--	--
%RSD	.0149641	.0000000	--	--	--	--	--
#1	860108	10000	--	--	--	--	--
#2	859926	10000	--	--	--	--	--

Analysis Report 02/05/03 03:29:05 PM page 1

Method: DAILY1 Sample Name: 218746 df5 Operator:
Run Time: 02/05/03 15:24:23
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0147	.0022	.0358	.1591	.0002	.0045
SDev	.0002	.0070	.0007	.0006	.0002	.0000	.0014
%RSD	99.42	47.70	33.33	1.667	.0990	24.62	30.93
#1	.0003	.0097	.0027	.0362	.1590	.0001	.0035
#2	.0001	.0197	.0017	.0354	.1592	.0002	.0055

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	79.81	-.0000	.0001	-.0002	-.0007	-.0029	.0288
SDev	.23	.0000	.0002	.0003	.0005	.0014	.0061
%RSD	.2905	73.00	251.7	144.4	78.75	46.73	21.08
#1	79.65	-.0000	.0002	.0000	-.0003	-.0039	.0331
#2	79.97	-.0000	-.0001	-.0005	-.0010	-.0019	.0245

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0000	.0036	.0018	-.0004	.3975	.1195
SDev	.0002	.0000	.0024	.0000	.0002	.0057	.1168
%RSD	63.01	617.9	65.63	1.160	46.32	1.435	97.73
#1	-.0004	.0000	.0019	.0018	-.0003	.3934	.2021
#2	-.0001	-.0000	.0053	.0017	-.0005	.4015	.0369

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0028	.0004	-.0005	-.0006	.0221	-.0022
SDev	.0004	.0046	.0005	.0000	.0000	.0034	.0004
%RSD	200.7	166.1	129.3	1.302	1.789	15.51	18.17
#1	.0005	.0060	.0000	-.0005	-.0006	.0245	-.0025
#2	-.0001	-.0005	.0008	-.0005	-.0006	.0197	-.0019

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.26	.0025	-.0002	5.942	-.0002	.0007	-.0017
SDev	.66	.0034	.0024	.050	.0002	.0005	.0023
%RSD	.6664	138.0	1211.	.8401	81.45	65.03	131.6
#1	99.73	.0001	.0015	5.907	-.0003	.0010	-.0033
#2	98.80	.0049	-.0019	5.977	-.0001	.0004	-.0001

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0527	.0016	-.0001	-.0010	.0014	-.0000	-.0015
SDev	.0001	.0000	.0003	.0093	.0175	.0003	.0008
%RSD	.2136	.7709	416.1	971.1	1238.	3365.	54.53
#1	.0526	.0016	.0001	.0056	.0137	.0002	-.0021
#2	.0528	.0015	-.0003	-.0075	-.0109	-.0002	-.0009

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0384	.0001
SDev	.0000	.0003	.0005
%RSD	36.52	.6749	553.1
#1	-.0000	.0383	.0005
#2	-.0000	.0386	-.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	862684	10000	--	--	--	--	--
SDev	5665.339	.0000000	--	--	--	--	--
%RSD	.6567109	.0000000	--	--	--	--	--
#1	866690	10000	--	--	--	--	--
#2	858678	10000	--	--	--	--	--

Analysis Report QC Standard 02/05/03 03:38:00 PM page 1

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 15:33:16
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9902	9.841	5.099	4.700	10.02	1.030	4.951
SDev	.0032	.015	.004	.016	.01	.002	.011
%RSD	.3282	.1509	.0805	.3504	.1402	.2228	.2307
#1	.9879	9.831	5.096	4.688	10.03	1.032	4.943
#2	.9925	9.852	5.102	4.711	10.01	1.029	4.959
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.65	1.033	5.057	2.029	2.002	9.948	18.12
SDev	.01	.001	.000	.000	.008	.007	.11
%RSD	.0476	.0875	.0027	.0178	.4037	.0668	.5806
#1	19.65	1.034	5.057	2.029	1.996	9.944	18.04
#2	19.66	1.033	5.057	2.030	2.007	9.953	18.19
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.009	4.846	19.70	1.044	5.132	Q43.08	Q26.60
SDev	.008	.015	.04	.003	.034	.20	.02
%RSD	.1632	.3037	.2096	.2438	.6627	.4733	.0704
#1	5.015	4.836	19.67	1.042	5.108	Q42.94	Q26.62
#2	5.003	4.857	19.73	1.046	5.156	Q43.22	Q26.59
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.965	4.884	5.052	5.038	.9841	.9936	.9908
SDev	.009	.021	.025	.021	.0003	.0010	.0063
%RSD	.1832	.4218	.5007	.4125	.0294	.1022	.6376
#1	4.971	4.899	5.069	5.053	.9843	.9943	.9864
#2	4.959	4.870	5.034	5.023	.9839	.9929	.9953
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.96	5.225	5.180	4.822	5.037	5.190	5.083
SDev	.49	.003	.020	.008	.022	.014	.003
%RSD	.4941	.0522	.3872	.1684	.4419	.2749	.0576
#1	98.62	5.227	5.194	4.817	5.053	5.200	5.085
#2	99.31	5.223	5.166	4.828	5.022	5.180	5.081
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.181	.9806	4.876	5.367	.9724	5.085	Q1.243
SDev	.017	.0028	.008	.037	.0087	.003	.006
%RSD	.3266	.2831	.1731	.6962	.8963	.0594	.5178
#1	5.193	.9786	4.870	5.340	.9662	5.083	Q1.238
#2	5.169	.9826	4.882	5.393	.9785	5.088	Q1.247
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.017	1.048	4.900
SDev	.002	.003	.006
%RSD	.0414	.2867	.1148
#1	5.019	1.051	4.904
#2	5.016	1.046	4.896
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	860031	10000	--	--	--	--	--
SDev	4225.670	.0000000	--	--	--	--	--
%RSD	.4913393	.0000000	--	--	--	--	--
#1	857043	10000	--	--	--	--	--
#2	863019	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 03:44:23 PM page 1

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 15:39:57
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	-.0040	.0008	.0027	.0000	.0001	.0022
SDev	.0000	.0019	.0002	.0009	.0001	.0000	.0010
%RSD	7.628	48.75	30.65	34.67	502.6	9.084	44.10
#1	.0004	-.0054	.0006	.0033	.0001	.0002	.0015
#2	.0004	-.0026	.0010	.0020	-.0001	.0001	.0028
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0021	.0000	-.0002	-.0002	-.0007	-.0041	.0040
SDev	.0005	.0001	.0003	.0001	.0001	.0023	.0020
%RSD	23.10	210.3	138.9	43.93	9.400	55.63	49.96
#1	.0018	.0001	-.0000	-.0002	-.0007	-.0025	.0026
#2	.0025	-.0000	-.0004	-.0001	-.0006	-.0056	.0054
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0000	.0017	-.0001	.0013	-.0266	.0233
SDev	.0001	.0000	.0020	.0001	.0002	.0007	.0532
%RSD	29.23	82.63	117.5	82.67	13.24	2.511	228.5
#1	-.0003	.0000	.0032	-.0000	.0014	-.0261	-.0143
#2	-.0002	.0000	.0003	-.0001	.0011	-.0270	H.0609
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0049	.0016	.0005	.0000	.0002	.0008
SDev	.0008	.0011	.0001	.0017	.0001	.0056	.0006
%RSD	179.9	22.78	7.222	375.3	251.2	3055.	71.88
#1	.0001	-.0057	.0017	-.0007	-.0000	.0042	.0004
#2	-.0009	-.0041	.0015	.0016	.0001	-.0038	.0012
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.82	.0005	.0006	-.0026	.0008	.0006	-.0000
SDev	.21	.0000	.0007	.0009	.0011	.0004	.0001
%RSD	.2083	1.450	109.1	34.56	130.1	76.67	353.0
#1	99.68	.0005	.0011	-.0019	.0001	.0009	-.0001
#2	99.97	.0005	.0001	-.0032	.0016	.0003	.0000
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0004	.0002	.0027	.0208	.0002	.0013
SDev	.0000	.0001	.0003	.0042	.0052	.0001	.0018
%RSD	64.37	35.71	194.1	155.5	24.81	64.36	134.3
#1	.0001	.0003	.0004	.0056	.0172	.0002	.0025
#2	.0000	.0004	-.0001	-.0003	.0245	.0001	.0001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0001	.0002
SDev	.0001	.0001	.0002
%RSD	496.9	94.24	108.9
#1	.0000	.0000	.0004
#2	-.0001	.0002	.0000
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	867551	10000	--	--	--	--	--
SDev	1804.536	.0000000	--	--	--	--	--
%RSD	.2080035	.0000000	--	--	--	--	--
#1	866275	10000	--	--	--	--	--
#2	868827	10000	--	--	--	--	--

Analysis Report 02/05/03 03:48:57 PM page 1

Method: DAILY1 Sample Name: 218747 df5 Operator:
Run Time: 02/05/03 15:44:32
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0014	-.0010	.0098	.1162	.0001	.0012
SDev	.0002	.0022	.0014	.0002	.0000	.0000	.0003
%RSD	755.6	162.2	135.7	1.646	.0172	39.90	25.42
#1	.0001	.0002	-.0020	.0100	.1162	.0001	.0010
#2	-.0002	-.0030	-.0000	.0097	.1162	.0001	.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	79.47	.0000	-.0001	-.0001	-.0003	-.0064	.0133
SDev	.03	.0001	.0004	.0001	.0001	.0015	.0001
%RSD	.0392	214.0	241.1	103.0	17.03	23.19	.4125
#1	79.45	.0001	.0001	-.0000	-.0003	-.0053	.0133
#2	79.49	-.0000	-.0004	-.0002	-.0003	-.0074	.0133

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0000	.0053	.0019	.0002	.4147	.1243
SDev	.0001	.0000	.0027	.0000	.0001	.0019	.0000
%RSD	1864.	214.5	52.10	1.827	53.13	.4492	.0166
#1	-.0001	-.0000	.0072	.0019	.0001	.4134	.1243
#2	.0001	.0000	.0033	.0020	.0002	.4160	.1243

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	-.0025	.0005	.0003	-.0010	.0561	-.0012
SDev	.0003	.0019	.0004	.0001	.0019	.0041	.0005
%RSD	45.17	76.38	75.55	40.74	194.9	7.271	42.62
#1	.0004	-.0011	.0002	.0002	.0004	.0590	-.0009
#2	.0008	-.0038	.0008	.0003	-.0023	.0532	-.0016

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.32	-.0004	-.0009	5.916	.0003	-.0007	-.0039
SDev	.01	.0003	.0018	.009	.0002	.0011	.0021
%RSD	.0052	83.20	209.8	.1510	57.54	156.3	53.24
#1	99.32	-.0007	.0004	5.910	.0002	.0001	-.0054
#2	99.31	-.0002	-.0022	5.923	.0005	-.0015	-.0025

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0536	.0022	-.0000	.0062	-.0218	-.0003	-.0015
SDev	.0000	.0009	.0002	.0084	.0027	.0003	.0019
%RSD	.0069	41.70	420.9	136.6	12.40	103.3	130.7
#1	.0536	.0028	-.0002	.0002	-.0199	-.0005	-.0028
#2	.0536	.0015	.0001	.0121	-.0237	-.0001	-.0001

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0077	-.0000
SDev	.0000	.0003	.0001
%RSD	275.7	3.656	2048.
#1	-.0000	.0079	.0001
#2	.0000	.0075	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	863136	10000	--	--	--	--	--
SDev	41.01219	.0000000	--	--	--	--	--
%RSD	.0047515	.0000000	--	--	--	--	--
#1	863165	10000	--	--	--	--	--
#2	863107	10000	--	--	--	--	--

Analysis Report 02/05/03 03:53:32 PM page 1

Method: DAILY1 Sample Name: 218748 df5 Operator:
Run Time: 02/05/03 15:49:07
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0027	-.0011	.0120	.1282	.0001	.0014
SDev	.0001	.0000	.0036	.0004	.0005	.0001	.0001
%RSD	156.9	.6674	335.2	3.447	.3615	217.8	4.277
#1	-.0002	.0026	.0015	.0123	.1285	.0002	.0013
#2	.0000	.0027	-.0036	.0117	.1279	-.0000	.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	81.22	.0001	.0000	-.0000	-.0008	-.0014	.0143
SDev	.65	.0002	.0004	.0008	.0006	.0028	.0039
%RSD	.8018	344.6	864.5	1672.	69.07	196.4	27.08
#1	81.69	-.0001	-.0002	.0005	-.0004	.0006	.0115
#2	80.76	.0002	.0003	-.0006	-.0012	-.0034	.0170

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0000	.0131	.0020	-.0002	.4833	.2335
SDev	.0002	.0000	.0030	.0000	.0003	.0016	.0612
%RSD	431.8	.2881	22.86	.4566	165.1	.3384	26.22
#1	.0001	.0000	.0110	.0021	-.0004	.4821	.2768
#2	-.0002	.0000	.0153	.0020	.0000	.4845	.1902

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	-.0037	.0015	.0007	.0009	.0259	-.0013
SDev	.0001	.0030	.0025	.0035	.0012	.0019	.0004
%RSD	8.413	82.36	159.7	498.7	136.4	7.303	31.40
#1	.0006	-.0015	-.0002	.0032	.0000	.0273	-.0016
#2	.0005	-.0058	.0033	-.0018	.0017	.0246	-.0010

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.4	-.0011	-.0004	5.991	.0010	-.0007	-.0009
SDev	.4	.0006	.0007	.035	.0015	.0003	.0025
%RSD	.3908	52.18	165.9	.5897	156.0	42.91	292.5
#1	100.1	-.0016	.0001	6.016	.0021	-.0005	.0009
#2	100.7	-.0007	-.0010	5.966	-.0001	-.0009	-.0027

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0540	.0022	-.0000	.0010	.0005	-.0001	-.0012
SDev	.0001	.0019	.0001	.0033	.0027	.0002	.0002
%RSD	.1535	84.22	238.4	320.2	546.5	291.3	18.55
#1	.0540	.0036	-.0001	.0034	-.0014	-.0002	-.0011
#2	.0539	.0009	.0000	-.0013	.0024	.0001	-.0014

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0076	.0002
SDev	.0001	.0004	.0004
%RSD	23460.	4.976	179.2
#1	.0001	.0078	.0005
#2	-.0001	.0073	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	872724	10000	--	--	--	--	--
SDev	3461.288	.0000000	--	--	--	--	--
%RSD	.3966076	.0000000	--	--	--	--	--
#1	870276	10000	--	--	--	--	--
#2	875171	10000	--	--	--	--	--

Analysis Report 02/05/03 03:58:09 PM page 1

Method: DAILY1 Sample Name: 218749 df5 Operator:
Run Time: 02/05/03 15:53:41
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0045	.0011	.0585	.2716	.0000	.0038
SDev	.0002	.0010	.0000	.0003	.0015	.0001	.0014
%RSD	190.7	21.41	.2706	.5268	.5482	364.0	35.97
#1	-.0002	.0038	.0011	.0588	.2727	.0001	.0028
#2	.0000	.0052	.0011	.0583	.2706	-.0000	.0048

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	80.38	-.0000	.0002	.0001	-.0004	-.0021	.0435
SDev	.30	.0001	.0001	.0001	.0000	.0022	.0087
%RSD	.3720	1328.	45.82	57.82	4.341	106.5	19.96
#1	80.17	-.0001	.0001	.0001	-.0004	-.0005	.0373
#2	80.60	.0001	.0003	.0002	-.0004	-.0036	.0496

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0000	.0120	.0019	-.0013	2.028	1.120
SDev	.0002	.0000	.0014	.0000	.0001	.002	.073
%RSD	163.5	473.7	11.70	.9717	9.604	.0795	6.489
#1	-.0000	-.0000	.0130	.0018	-.0012	2.027	1.069
#2	.0002	.0000	.0110	.0019	-.0014	2.029	1.172

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0009	-.0004	.0004	-.0003	.0387	-.0020
SDev	.0001	.0017	.0007	.0015	.0003	.0007	.0013
%RSD	74.60	179.9	190.6	418.6	86.39	1.751	67.39
#1	.0002	.0003	.0001	-.0007	-.0001	.0382	-.0010
#2	.0001	-.0021	-.0009	.0014	-.0005	.0392	-.0029

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.76	.0016	.0017	6.003	.0001	.0017	-.0010
SDev	.08	.0005	.0020	.010	.0008	.0012	.0008
%RSD	.0820	28.28	119.7	.1722	676.6	71.39	76.74
#1	99.70	.0019	.0003	5.996	-.0004	.0008	-.0005
#2	99.82	.0013	.0031	6.011	.0006	.0025	-.0016

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0542	.0039	-.0002	-.0009	-.0112	-.0002	-.0046
SDev	.0005	.0007	.0003	.0072	.0147	.0002	.0004
%RSD	.9499	18.54	130.5	824.8	131.3	86.15	8.735
#1	.0546	.0034	-.0004	.0042	-.0008	-.0004	-.0043
#2	.0539	.0044	-.0000	-.0059	-.0216	-.0001	-.0049

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0120	-.0001
SDev	.0001	.0001	.0001
%RSD	83.16	.7070	180.9
#1	-.0001	.0121	.0000
#2	-.0000	.0119	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	867030	10000	--	--	--	--	--
SDev	748.8261	.0000000	--	--	--	--	--
%RSD	.0863668	.0000000	--	--	--	--	--
#1	866501	10000	--	--	--	--	--
#2	867560	10000	--	--	--	--	--

Analysis Report 02/05/03 04:02:44 PM

Method: DAILY1 Sample Name: 218750 df5 Operator:
Run Time: 02/05/03 15:58:18
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0063	.0013	.0617	.2770	.0000	.0025
SDev	.0004	.0046	.0004	.0006	.0001	.0001	.0029
%RSD	2358.	71.83	28.92	.9122	.0176	608.2	114.7
#1	-.0003	.0031	.0015	.0613	.2770	-.0001	.0005
#2	.0003	.0095	.0010	.0621	.2770	.0001	.0046

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	83.88	-.0001	-.0002	.0004	-.0007	-.0019	.0589
SDev	.15	.0002	.0003	.0001	.0001	.0017	.0053
%RSD	.1829	161.9	149.8	26.36	19.47	91.52	9.031
#1	83.77	-.0003	-.0004	.0003	-.0006	-.0031	.0551
#2	83.99	.0000	.0000	.0004	-.0008	-.0007	.0626

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0000	.0121	.0020	-.0002	2.096	1.262
SDev	.0001	.0000	.0003	.0000	.0004	.017	.002
%RSD	51.64	.3549	2.453	.3375	194.5	.8190	.1924
#1	-.0004	.0000	.0123	.0020	.0001	2.083	1.263
#2	-.0002	.0000	.0119	.0020	-.0005	2.108	1.260

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	-.0026	-.0001	.0023	-.0008	.0439	.0014
SDev	.0002	.0037	.0033	.0015	.0005	.0011	.0009
%RSD	34.94	144.9	2474.	64.46	66.21	2.418	63.88
#1	.0006	-.0052	-.0025	.0033	-.0004	.0432	.0008
#2	.0004	.0001	.0022	.0012	-.0012	.0447	.0020

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.7	-.0007	.0013	6.171	.0015	.0007	-.0029
SDev	.5	.0013	.0006	.025	.0001	.0000	.0009
%RSD	.4863	169.8	47.31	.4081	7.892	1.132	30.58
#1	101.0	-.0016	.0018	6.153	.0014	.0007	-.0023
#2	100.3	.0001	.0009	6.189	.0016	.0007	-.0035

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0553	.0004	-.0002	.0079	.0090	-.0003	-.0013
SDev	.0000	.0019	.0001	.0024	.0047	.0001	.0028
%RSD	.0094	478.2	52.61	30.27	52.82	38.56	214.0
#1	.0553	.0018	-.0002	.0096	.0123	-.0002	-.0033
#2	.0553	-.0010	-.0001	.0062	.0056	-.0004	.0007

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0110	.0002
SDev	.0001	.0002	.0001
%RSD	637.8	1.809	59.84
#1	.0000	.0108	.0003
#2	-.0001	.0111	.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	875108	10000	--	--	--	--	--
SDev	4277.289	.0000000	--	--	--	--	--
%RSD	.4887730	.0000000	--	--	--	--	--
#1	878132	10000	--	--	--	--	--
#2	872083	10000	--	--	--	--	--

Analysis Report 02/05/03 04:07:19 PM page 1

Method: DAILY1 Sample Name: 218751 df5 Operator:
Run Time: 02/05/03 16:02:53
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0042	.0011	.0012	.0001	.0001	.0020
SDev	.0003	.0004	.0017	.0001	.0000	.0001	.0038
%RSD	336.2	9.530	155.6	13.00	34.86	57.53	187.3
#1	.0001	.0044	.0023	.0011	.0001	.0000	.0047
#2	-.0003	.0039	-.0001	.0013	.0001	.0001	-.0007

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	92.29	-.0000	.0001	-.0000	-.0002	.0061	.2715
SDev	.27	.0001	.0004	.0006	.0003	.0061	.0021
%RSD	.2880	354.7	353.7	1585.	142.3	99.37	.7716
#1	92.11	.0001	.0004	.0004	.0000	.0105	.2700
#2	92.48	-.0001	-.0002	-.0005	-.0004	.0018	.2729

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0004	-.0010	.0015	-.0005	.1462	-.1539
SDev	.0003	.0000	.0011	.0001	.0000	.0020	.0245
%RSD	98.38	2.357	101.9	3.214	7.690	1.345	15.89
#1	.0005	.0004	-.0003	.0016	-.0005	.1449	-.1366
#2	.0001	.0004	-.0018	.0015	-.0005	.1476	-.1712

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0011	.0003	.0000	-.0001	.0036	.0003
SDev	.0005	.0014	.0006	.0004	.0010	.0045	.0017
%RSD	243.9	126.5	213.1	1119.	885.8	123.6	649.0
#1	.0002	-.0001	-.0001	.0003	.0006	.0005	.0015
#2	-.0006	-.0021	.0007	-.0003	-.0008	.0068	-.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.56	.0031	.0005	5.206	.0001	.0014	-.0008
SDev	.17	.0004	.0011	.012	.0001	.0009	.0001
%RSD	.1771	14.02	227.9	.2359	65.89	65.29	8.096
#1	98.68	.0028	-.0003	5.198	.0002	.0007	-.0008
#2	98.43	.0034	.0013	5.215	.0001	.0020	-.0009

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0007	.0015	-.0001	.0008	.0248	.0003	-.0013
SDev	.0000	.0015	.0001	.0071	.0050	.0003	.0032
%RSD	3.313	105.3	121.7	852.0	20.03	109.8	237.1
#1	.0007	.0025	-.0000	.0058	.0283	.0005	.0009
#2	.0007	.0004	-.0001	-.0042	.0213	.0001	-.0036

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0029	.0006
SDev	.0000	.0001	.0004
%RSD	118.3	2.316	66.84
#1	-.0000	.0030	.0009
#2	-.0001	.0029	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	856574	10000	--	--	--	--	--
SDev	1472.196	.0000000	--	--	--	--	--
%RSD	.1718703	.0000000	--	--	--	--	--
#1	857615	10000	--	--	--	--	--
#2	855533	10000	--	--	--	--	--

Analysis Report 02/05/03 04:11:54 PM page 1

Method: DAILY1 Sample Name: 218752 df5 Operator:
Run Time: 02/05/03 16:07:28
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0116	.0017	.0031	.0002	-.0000	.0008
SDev	.0010	.0036	.0021	.0001	.0000	.0001	.0014
%RSD	514.1	31.30	119.3	2.936	12.52	377.8	185.0
#1	-.0009	.0091	.0003	.0030	.0003	-.0001	-.0002
#2	.0005	.0142	.0032	.0031	.0002	.0000	.0017

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	88.24	.0001	.0020	.0001	-.0004	.0136	.1074
SDev	.10	.0003	.0000	.0001	.0000	.0033	.0131
%RSD	.1104	487.1	.1107	146.0	7.801	24.06	12.23
#1	88.17	-.0002	.0020	-.0000	-.0005	.0160	.0981
#2	88.31	.0003	.0020	.0002	-.0004	.0113	.1167

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0000	-.0015	.0002	-.0007	.2910	.0227
SDev	.0003	.0000	.0079	.0000	.0005	.0034	.1551
%RSD	141.4	130.2	517.5	1.198	79.93	1.155	682.7
#1	-.0000	-.0000	-.0071	.0002	-.0011	.2887	-.0870
#2	.0004	-.0000	.0041	.0002	-.0003	.2934	.1324

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0014	.0014	.0023	-.0012	.0012	-.0017
SDev	.0002	.0009	.0015	.0018	.0009	.0022	.0036
%RSD	92.83	70.18	106.8	77.54	77.33	186.2	206.5
#1	.0004	-.0007	.0003	.0036	-.0019	-.0004	-.0043
#2	.0001	-.0020	.0024	.0010	-.0005	.0027	.0008

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.92	.0051	-.0006	7.346	.0020	.0013	-.0006
SDev	.01	.0009	.0013	.007	.0007	.0006	.0025
%RSD	.0090	17.04	207.0	.1004	35.22	42.98	399.4
#1	98.91	.0045	.0003	7.341	.0025	.0017	-.0024
#2	98.93	.0057	-.0015	7.351	.0015	.0009	.0011

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0006	-.0004	-.0095	-.0050	-.0001	.0000
SDev	.0000	.0003	.0004	.0028	.0139	.0002	.0005
%RSD	3.207	43.34	102.1	29.42	276.7	228.6	1444.
#1	.0006	.0008	-.0007	-.0076	-.0149	.0001	-.0003
#2	.0006	.0004	-.0001	-.0115	.0048	-.0002	.0004

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0023	.0007
SDev	.0000	.0000	.0000
%RSD	.0497	.0633	5.951
#1	-.0000	.0023	.0007
#2	-.0000	.0023	.0007

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	859634	10000	--	--	--	--	--
SDev	72.83200	.0000000	--	--	--	--	--
%RSD	.0084724	.0000000	--	--	--	--	--
#1	859583	10000	--	--	--	--	--
#2	859686	10000	--	--	--	--	--

Analysis Report 02/05/03 04:16:31 PM page 1

Method: DAILY1 Sample Name: 218753 df5 Operator:
Run Time: 02/05/03 16:12:04
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0056	.0008	.0041	.0001	.0001	.0012
SDev	.0008	.0023	.0008	.0006	.0000	.0001	.0010
%RSD	2308.	41.27	96.60	15.23	1.536	67.60	77.54
#1	-.0005	.0040	.0014	.0046	.0001	.0001	.0006
#2	.0006	.0072	.0003	.0037	.0001	.0000	.0019

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	81.64	.0001	-.0002	.0004	-.0007	.0018	.4073
SDev	.16	.0001	.0000	.0001	.0002	.0010	.0065
%RSD	.1996	77.92	11.59	18.41	28.12	55.24	1.589
#1	81.53	.0000	-.0002	.0003	-.0008	.0025	.4027
#2	81.76	.0001	-.0002	.0004	-.0005	.0011	.4119

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0000	.0008	.0001	-.0009	.2435	.0960
SDev	.0003	.0000	.0017	.0000	.0004	.0007	.1154
%RSD	267.9	36.41	203.2	19.94	49.13	.2793	120.2
#1	-.0001	-.0000	-.0004	.0001	-.0006	.2431	.0144
#2	.0004	-.0000	.0021	.0001	-.0012	.2440	.1776

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0012	.0009	.0023	.0004	.0012	-.0014
SDev	.0001	.0082	.0001	.0004	.0008	.0006	.0010
%RSD	37.46	703.5	7.862	15.34	204.1	46.40	70.27
#1	-.0004	-.0046	.0008	.0026	-.0002	.0016	-.0007
#2	-.0002	.0070	.0009	.0021	.0010	.0008	-.0021

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.3	-.0008	-.0015	7.688	.0018	-.0013	.0001
SDev	.6	.0007	.0025	.011	.0002	.0019	.0004
%RSD	.5926	96.15	159.2	.1431	11.68	147.7	449.0
#1	100.7	-.0002	.0002	7.680	.0020	.0001	-.0002
#2	99.90	-.0013	-.0033	7.695	.0017	-.0026	.0004

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0018	-.0001	.0038	.0077	.0001	.0001
SDev	.0000	.0002	.0003	.0042	.0081	.0001	.0030
%RSD	2.797	10.36	280.2	110.3	105.9	69.54	2044.
#1	.0005	.0017	-.0004	.0068	.0019	.0001	.0023
#2	.0006	.0020	.0001	.0008	.0134	.0002	-.0020

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0022	.0005
SDev	.0000	.0003	.0002
%RSD	531.9	11.83	42.25
#1	-.0000	.0024	.0003
#2	.0000	.0020	.0006

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	871816	10000	--	--	--	--	--
SDev	5091.169	.0000000	--	--	--	--	--
%RSD	.5839729	.0000000	--	--	--	--	--
#1	875416	10000	--	--	--	--	--
#2	868216	10000	--	--	--	--	--

Analysis Report 02/05/03 04:21:05 PM page 1

Method: DAILY1 Sample Name: 218754 df5 Operator:
Run Time: 02/05/03 16:16:40
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0023	.0020	.0013	.0001	.0001	.0017
SDev	.0001	.0061	.0009	.0001	.0001	.0001	.0008
%RSD	49.68	264.1	46.48	10.77	86.75	295.9	48.78
#1	.0002	-.0020	.0026	.0012	.0001	-.0001	.0023
#2	.0004	.0066	.0013	.0014	.0000	.0002	.0011

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	84.23	-.0000	.0001	-.0000	-.0008	-.0014	.0550
SDev	1.62	.0000	.0005	.0003	.0001	.0056	.0004
%RSD	1.925	231.0	335.2	2283.	10.60	394.3	.6630
#1	85.38	-.0001	-.0002	.0002	-.0008	.0025	.0547
#2	83.08	.0000	.0005	-.0002	-.0007	-.0053	.0552

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0000	.0006	.0001	-.0005	.3891	.0865
SDev	.0002	.0000	.0003	.0000	.0001	.0106	.0873
%RSD	67.49	39.56	51.51	56.02	19.53	2.714	100.9
#1	.0001	-.0000	.0004	.0000	-.0004	.3817	.0248
#2	.0004	-.0000	.0008	.0001	-.0006	.3966	.1483

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0035	.0025	.0005	.0003	.0052	.0004
SDev	.0002	.0052	.0013	.0016	.0007	.0006	.0011
%RSD	79.53	145.8	50.92	315.1	243.3	11.77	277.2
#1	-.0003	.0072	.0016	.0017	-.0002	.0048	-.0004
#2	-.0001	-.0001	.0034	-.0006	.0008	.0057	.0012

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.4	.0012	-.0001	6.552	.0012	.0003	.0002
SDev	2.4	.0014	.0028	.002	.0007	.0014	.0016
%RSD	2.397	122.7	2546.	.0282	56.57	430.4	797.1
#1	102.1	.0002	.0019	6.554	.0016	.0013	-.0009
#2	98.66	.0022	-.0021	6.551	.0007	-.0007	.0013

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0023	-.0001	.0004	-.0093	-.0001	-.0005
SDev	.0001	.0019	.0002	.0013	.0322	.0001	.0022
%RSD	10.09	81.24	218.0	280.2	345.8	52.34	479.4
#1	.0005	.0036	-.0003	.0013	.0135	-.0002	-.0020
#2	.0006	.0010	.0001	-.0004	-.0321	-.0001	.0011

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0023	.0002
SDev	.0000	.0001	.0003
%RSD	25.00	2.034	170.6
#1	-.0001	.0023	.0004
#2	-.0001	.0023	-.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	872190	10000	--	--	--	--	--
SDev	20790.35	.0000000	--	--	--	--	--
%RSD	2.383695	.0000000	--	--	--	--	--
#1	886891	10000	--	--	--	--	--
#2	857489	10000	--	--	--	--	--

Analysis Report 02/05/03 04:25:54 PM page 1

Method: DAILY1 Sample Name: 218755 df5 Operator:
Run Time: 02/05/03 16:21:15
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0014	.0001	.0017	.0001	.0001	.0018
SDev	.0002	.0023	.0011	.0009	.0000	.0000	.0003
%RSD	117.5	157.5	1012.	53.01	24.36	41.42	16.87
#1	.0003	.0030	.0009	.0010	.0001	.0001	.0020
#2	.0000	-.0002	-.0007	.0023	.0001	.0001	.0016

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	74.27	-.0000	.0002	-.0001	-.0001	.0001	.1365
SDev	.29	.0001	.0001	.0004	.0008	.0015	.0047
%RSD	.3917	882.1	48.17	418.2	587.1	1835.	3.412
#1	74.07	.0000	.0001	.0002	.0004	.0012	.1332
#2	74.48	-.0000	.0003	-.0003	-.0007	-.0010	.1397

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0000	-.0020	.0001	-.0005	.1386	-.0776
SDev	.0004	.0000	.0000	.0000	.0004	.0030	.0008
%RSD	387.5	282.5	1.298	2.338	71.89	2.153	.9739
#1	-.0004	-.0000	-.0020	.0001	-.0003	.1365	-.0771
#2	.0002	.0000	-.0020	.0001	-.0008	.1407	-.0782

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0036	.0018	.0022	-.0005	.0274	-.0008
SDev	.0002	.0001	.0009	.0005	.0014	.0026	.0002
%RSD	47.36	2.969	50.94	22.82	273.5	9.513	21.32
#1	-.0004	.0037	.0025	.0018	.0005	.0292	-.0007
#2	-.0002	.0035	.0012	.0026	-.0015	.0256	-.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.2	.0056	.0007	6.983	.0021	.0023	-.0007
SDev	.3	.0007	.0018	.006	.0000	.0010	.0023
%RSD	.3354	13.12	257.3	.0910	1.118	41.08	313.8
#1	99.93	.0051	.0020	6.979	.0021	.0030	-.0023
#2	100.4	.0061	-.0006	6.988	.0021	.0017	.0009

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0011	-.0003	-.0049	.0789	.0001	-.0021
SDev	.0000	.0003	.0004	.0041	.0164	.0002	.0017
%RSD	5.662	32.16	115.8	84.73	20.80	250.4	81.06
#1	.0005	.0008	-.0006	-.0020	.0906	.0002	-.0033
#2	.0005	.0013	-.0001	-.0078	.0673	-.0001	-.0009

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0019	.0003
SDev	.0000	.0000	.0000
%RSD	170.3	.8591	13.08
#1	.0000	.0019	.0004
#2	-.0001	.0019	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	870556	10000	--	--	--	--	--
SDev	2835.498	.0000000	--	--	--	--	--
%RSD	.3257112	.0000000	--	--	--	--	--
#1	868551	10000	--	--	--	--	--
#2	872561	10000	--	--	--	--	--

010337

Analysis Report QC Standard 02/05/03 04:34:55 PM page 1

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 16:30:08
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9925	9.805	5.068	4.673	10.05	1.025	4.907
SDev	.0006	.016	.037	.006	.01	.003	.008
%RSD	.0614	.1644	.7353	.1301	.0934	.2549	.1676
#1	.9921	9.794	5.042	4.669	10.04	1.023	4.901
#2	.9929	9.817	5.094	4.678	10.05	1.027	4.913
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.59	1.030	5.043	2.026	1.994	9.931	18.05
SDev	.08	.006	.034	.014	.003	.057	.10
%RSD	.4256	.5414	.6687	.6717	.1592	.5785	.5291
#1	19.53	1.026	5.019	2.017	1.991	9.891	Q17.98
#2	19.65	1.034	5.067	2.036	1.996	9.972	18.12
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.008	4.847	19.63	1.043	5.112	Q43.03	Q26.66
SDev	.002	.033	.14	.008	.023	.27	.13
%RSD	.0417	.6811	.6942	.7988	.4453	.6341	.4809
#1	5.006	4.823	19.53	1.037	5.096	Q42.84	Q26.57
#2	5.009	4.870	19.73	1.049	5.128	Q43.22	Q26.75
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.951	4.902	5.034	5.029	.9804	.9844	.9847
SDev	.017	.072	.013	.011	.0003	.0071	.0073
%RSD	.3478	1.474	.2636	.2182	.0271	.7177	.7433
#1	4.939	4.953	5.024	5.021	.9806	.9794	.9796
#2	4.963	4.850	5.043	5.037	.9802	.9894	.9899
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.23	5.181	5.141	4.804	5.025	5.149	5.076
SDev	.05	.001	.014	.027	.012	.009	.022
%RSD	.0557	.0137	.2658	.5559	.2333	.1813	.4357
#1	98.20	5.180	5.132	4.785	5.017	5.143	5.060
#2	98.27	5.181	5.151	4.823	5.034	5.156	5.091
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.163	.9745	4.871	5.361	.9759	5.076	Q1.237
SDev	.008	.0003	.001	.059	.0084	.026	.004
%RSD	.1642	.0293	.0247	1.103	.8651	.5164	.3298
#1	5.157	.9743	4.872	5.320	.9700	5.057	Q1.234
#2	5.169	.9747	4.870	5.403	.9819	5.094	Q1.240
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.014	1.048	4.905
SDev	.003	.009	.009
%RSD	.0694	.8893	.1873
#1	5.012	1.042	4.912
#2	5.017	1.055	4.899
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	853756	10000	--	--	--	--	--
SDev	432.7494	.0000000	--	--	--	--	--
%RSD	.0506877	.0000000	--	--	--	--	--
#1	853450	10000	--	--	--	--	--
#2	854062	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 04:41:53 PM page 1

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 16:37:06
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	-.0056	-.0000	.0021	.0000	.0002	.0009
SDev	.0003	.0011	.0017	.0003	.0001	.0000	.0004
%RSD	79.98	20.41	5880.	14.77	163.4	10.21	41.98
#1	.0002	-.0048	.0012	.0023	.0001	.0002	.0012
#2	.0006	-.0064	-.0012	.0019	-.0000	.0002	.0006
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0023	.0001	.0001	-.0000	-.0006	-.0017	.0048
SDev	.0000	.0001	.0001	.0002	.0004	.0033	.0025
%RSD	.3081	106.0	74.21	891.2	67.92	187.2	52.11
#1	.0023	.0002	.0002	.0001	-.0009	.0006	.0065
#2	.0023	.0000	.0001	-.0001	-.0003	-.0041	.0030
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0000	.0020	-.0000	.0018	-.0313	-.0104
SDev	.0000	.0000	.0004	.0000	.0003	.0009	.0875
%RSD	8.445	59.44	18.36	163.7	19.51	2.910	839.4
#1	-.0005	.0000	.0023	-.0000	.0020	-.0307	H.0515
#2	-.0004	.0000	.0017	.0000	.0015	-.0320	L-.0723
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	-.0001	.0013	-.0001	.0005	-.0010	.0004
SDev	.0003	.0011	.0010	.0008	.0016	.0000	.0005
%RSD	113.0	771.2	79.03	576.0	338.9	.0414	133.1
#1	-.0001	.0006	.0020	-.0007	.0016	-.0010	.0000
#2	-.0005	-.0009	.0006	.0004	-.0007	-.0010	.0008
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.78	-.0007	.0017	-.0044	.0003	.0009	.0011
SDev	.05	.0026	.0015	.0005	.0002	.0001	.0011
%RSD	.0510	387.7	86.52	10.52	59.76	11.19	104.6
#1	96.74	-.0025	.0027	-.0047	.0002	.0010	.0003
#2	96.81	.0012	.0007	-.0041	.0005	.0008	.0019
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0001	.0001	.0021	.0213	.0002	-.0004
SDev	.0000	.0001	.0001	.0031	.0070	.0000	.0003
%RSD	51.00	74.32	51.70	145.8	32.90	1.759	80.79
#1	.0001	.0000	.0001	.0043	.0262	.0002	-.0006
#2	.0000	.0001	.0002	-.0001	.0163	.0002	-.0002
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0005	.0004
SDev	.0000	.0003	.0000
%RSD	4390.	61.46	4.714
#1	.0000	.0007	.0004
#2	-.0000	.0003	.0004
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	841130	10000	--	--	--	--	--
SDev	473.7615	.0000000	--	--	--	--	--
%RSD	.0563244	.0000000	--	--	--	--	--
#1	840795	10000	--	--	--	--	--
#2	841465	10000	--	--	--	--	--

010343

Analysis Report 02/05/03 04:46:45 PM page 1

Method: DAILY1 Sample Name: pbw-pg52-085 Operator:
Run Time: 02/05/03 16:42:03
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0104	.0023	.0008	.0000	.0001	.0015
SDev	.0001	.0008	.0011	.0001	.0001	.0001	.0028
%RSD	48.10	7.398	48.81	12.81	217.4	66.53	184.3
#1	-.0003	-.0099	.0031	.0009	-.0000	.0001	-.0005
#2	-.0001	-.0110	.0015	.0007	.0001	.0001	.0035
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0165	H.0127	.0038	.0000	.0004	.0049	.0010
SDev	.0008	.0001	.0000	.0005	.0001	.0027	.0069
%RSD	4.759	.4816	1.129	6274.	30.51	55.24	685.4
#1	.0170	H.0127	.0038	-.0004	.0003	.0030	-.0039
#2	.0159	H.0128	.0038	.0004	.0005	.0068	.0059
Errors	LC Pass	LC High	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0000	-.0007	.0000	.0002	-.0278	L-.0538
SDev	.0001	.0000	.0021	.0000	.0003	.0018	.1012
%RSD	21.99	43.73	292.6	151.2	123.7	6.401	188.3
#1	-.0003	-.0000	.0008	-.0000	.0004	-.0290	L-.1253
#2	-.0005	-.0000	-.0022	.0000	.0000	-.0265	.0178
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	-.0062	.0026	.0008	.0004	.0096	-.0002
SDev	.0001	.0064	.0017	.0004	.0007	.0027	.0010
%RSD	12.20	103.4	66.11	58.16	171.1	27.83	660.3
#1	.0011	L-.0107	.0038	.0005	-.0001	H.0115	.0006
#2	.0013	-.0017	.0014	.0011	.0009	.0077	-.0009
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.28	.0028	.0011	-.0057	.0014	.0017	-.0016
SDev	.26	.0015	.0014	.0002	.0003	.0004	.0006
%RSD	.2584	53.67	125.0	4.106	19.27	25.68	36.13
#1	99.10	.0039	.0001	-.0055	.0016	.0014	-.0020
#2	99.46	.0017	.0021	-.0058	.0012	.0020	-.0012
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0000	-.0000	-.0061	.0108	.0001	.0000
SDev	.0000	.0003	.0001	.0061	.0070	.0000	.0017
%RSD	.3820	1028.	320.2	99.92	64.88	2.674	6241.
#1	.0000	-.0003	.0001	L-.0103	.0158	.0001	.0012
#2	.0000	.0002	-.0002	-.0018	.0059	.0001	-.0011
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	.0016	.0003
SDev	.0000	.0002	.0002
%RSD	25.65	13.34	62.98
#1	.0001	.0017	.0002
#2	.0001	.0014	.0004
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	862852	10000	--	--	--	--	--
SDev	2194.152	.0000000	--	--	--	--	--
%RSD	.2542909	.0000000	--	--	--	--	--
#1	861300	10000	--	--	--	--	--
#2	864403	10000	--	--	--	--	--

Analysis Report 02/05/03 04:51:39 PM page 1

Method: DAILY1 Sample Name: lcsw-pg52-085 Operator:
Run Time: 02/05/03 16:46:55
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0506	1.970	2.040	.0017	2.042	.0512	.0008
SDev	.0008	.001	.004	.0008	.009	.0001	.0016
%RSD	1.503	.0698	.2098	45.77	.4448	.1836	214.7
#1	.0500	1.969	2.037	.0011	2.049	.0511	-.0004
#2	.0511	1.971	2.043	.0022	2.036	.0513	.0019

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.67	.0508	.5011	.2028	.2462	.9665	16.42
SDev	.11	.0002	.0005	.0005	.0009	.0024	.01
%RSD	.5717	.3338	.1077	.2549	.3861	.2519	.0304
#1	19.59	.0510	.5007	.2024	.2456	.9683	16.43
#2	19.75	.0507	.5015	.2031	.2469	.9648	16.42

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0001	19.91	.5129	.0005	27.34	17.11
SDev	.0004	.0000	.03	.0003	.0000	.04	.25
%RSD	584.3	13.67	.1291	.0678	9.079	.1300	1.464
#1	-.0002	.0001	19.89	.5131	.0005	27.36	16.93
#2	.0003	.0001	19.93	.5126	.0005	27.31	17.29

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4947	-.0034	.4997	.4987	.0002	.0066	.5008
SDev	.0031	.0040	.0014	.0025	.0013	.0016	.0005
%RSD	.6193	117.7	.2702	.5091	764.4	23.65	.0979
#1	.4969	-.0006	.5007	.5005	-.0008	.0055	.5012
#2	.4925	-.0062	.4987	.4969	.0011	.0077	.5005

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.46	2.026	2.028	4.006	.4985	2.025	.0017
SDev	.39	.004	.002	.008	.0021	.003	.0006
%RSD	.4061	.1950	.1020	.2021	.4294	.1330	33.00
#1	96.18	2.023	2.026	4.000	.5001	2.023	.0013
#2	96.73	2.028	2.029	4.012	.4970	2.027	.0021

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0028	.0002	2.116	3.997	.5040	.0005
SDev	.0000	.0021	.0004	.017	.009	.0012	.0023
%RSD	11.38	74.36	185.6	.8138	.2196	.2466	459.9
#1	.0003	.0042	-.0001	2.128	3.991	.5031	-.0011
#2	.0002	.0013	.0004	2.104	4.003	.5048	.0021

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0023	.5173	-.0025
SDev	.0000	.0017	.0001
%RSD	1.937	.3368	2.257
#1	.0023	.5186	-.0024
#2	.0022	.5161	-.0025

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	838300	10000	--	--	--	--	--
SDev	3405.426	.0000000	--	--	--	--	--
%RSD	.4062300	.0000000	--	--	--	--	--
#1	835892	10000	--	--	--	--	--
#2	840708	10000	--	--	--	--	--

Analysis Report 02/05/03 04:56:31 PM page 1

Method: DAILY1 Sample Name: 218756 df5 Operator:
Run Time: 02/05/03 16:51:48
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0024	.0022	.0011	.0001	.0001	.0008
SDev	.0002	.0090	.0017	.0006	.0000	.0000	.0004
%RSD	128.6	373.5	76.39	59.50	1.498	8.202	48.65
#1	.0000	-.0040	.0035	.0015	.0001	.0001	.0010
#2	.0003	.0088	.0010	.0006	.0001	.0001	.0005

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	72.21	-.0001	.0000	.0003	-.0003	.0026	.1123
SDev	.36	.0001	.0000	.0003	.0001	.0011	.0073
%RSD	.4931	63.56	379.6	78.00	28.17	40.20	6.470
#1	71.96	-.0002	.0000	.0001	-.0003	.0034	.1071
#2	72.46	-.0001	-.0000	.0005	-.0002	.0019	.1174

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0000	.0043	.0000	-.0009	.4968	.2538
SDev	.0005	.0000	.0003	.0000	.0004	.0054	.0495
%RSD	313.9	163.0	7.785	93.31	39.10	1.096	19.52
#1	-.0002	-.0000	.0045	.0000	-.0007	.4930	.2188
#2	.0005	.0000	.0041	.0001	-.0012	.5007	.2888

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0024	.0018	-.0002	-.0004	.0064	-.0018
SDev	.0005	.0079	.0016	.0004	.0003	.0022	.0012
%RSD	335.9	327.9	87.48	192.8	80.32	35.13	67.97
#1	-.0005	-.0080	.0007	-.0005	-.0002	.0048	-.0027
#2	.0002	.0032	.0030	.0001	-.0006	.0080	-.0009

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.70	-.0002	.0000	6.192	.0005	-.0000	-.0012
SDev	.60	.0041	.0003	.049	.0008	.0015	.0001
%RSD	.6122	2230.	554.4	.7839	183.0	7775.	12.16
#1	98.12	-.0031	-.0001	6.158	-.0001	-.0011	-.0013
#2	97.27	.0027	.0002	6.227	.0010	.0011	-.0011

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0024	.0002	.0025	.0889	-.0001	-.0012
SDev	.0000	.0015	.0001	.0047	.0020	.0002	.0018
%RSD	1.933	63.76	64.37	190.7	2.280	245.4	151.7
#1	.0006	.0013	.0002	.0058	.0904	-.0002	-.0024
#2	.0006	.0035	.0001	-.0009	.0875	.0001	.0001

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0018	.0005
SDev	.0000	.0003	.0002
%RSD	35.35	19.60	48.39
#1	-.0000	.0020	.0003
#2	-.0000	.0015	.0006

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	849072	10000	--	--	--	--	--
SDev	5174.607	.0000000	--	--	--	--	--
%RSD	.6094427	.0000000	--	--	--	--	--
#1	852731	10000	--	--	--	--	--
#2	845413	10000	--	--	--	--	--

Analysis Report 02/05/03 05:01:25 PM page 1

Method: DAILY1 Sample Name: 218756d df5 Operator:
Run Time: 02/05/03 16:56:42
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0038	.0028	.0011	.0001	.0001	-.0001
SDev	.0001	.0047	.0003	.0005	.0001	.0000	.0002
%RSD	34.68	124.1	9.993	42.54	138.2	5.508	230.8
#1	.0002	.0005	.0026	.0008	.0001	.0001	-.0003
#2	.0004	.0071	.0030	.0014	.0000	.0001	.0001

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	72.59	.0000	.0000	-.0005	-.0009	-.0114	.1116
SDev	.48	.0003	.0001	.0004	.0002	.0004	.0022
%RSD	.6595	1278.	194.0	91.43	22.75	3.687	1.960
#1	72.26	.0002	.0001	-.0002	-.0007	-.0111	.1101
#2	72.93	-.0002	-.0000	-.0008	-.0010	-.0117	.1132

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0000	.0008	.0000	-.0004	.5019	.2498
SDev	.0003	.0000	.0003	.0001	.0005	.0044	.0357
%RSD	113.8	40.82	38.88	333.8	143.3	.8837	14.28
#1	.0000	-.0000	.0006	.0001	.0000	.4988	.2246
#2	.0005	-.0000	.0011	-.0000	-.0007	.5051	.2751

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0019	.0021	-.0003	-.0002	.0009	.0006
SDev	.0006	.0016	.0016	.0020	.0003	.0028	.0001
%RSD	148.9	83.82	75.92	786.4	141.2	305.0	16.90
#1	.0000	-.0030	.0010	.0012	-.0004	-.0011	.0007
#2	-.0009	-.0008	.0032	-.0017	-.0000	.0029	.0006

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.38	.0046	-.0008	6.214	.0005	.0010	-.0025
SDev	.52	.0004	.0002	.031	.0008	.0000	.0016
%RSD	.5282	8.989	31.98	.4929	155.3	2.254	61.05
#1	98.75	.0043	-.0006	6.192	.0011	.0011	-.0036
#2	98.01	.0049	-.0009	6.235	-.0001	.0010	-.0014

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0015	-.0001	.0080	.0872	-.0004	-.0006
SDev	.0000	.0022	.0000	.0014	.0062	.0002	.0016
%RSD	2.770	146.3	32.43	17.42	7.151	59.26	287.0
#1	.0006	.0030	-.0001	.0070	.0916	-.0002	-.0017
#2	.0006	-.0001	-.0001	.0090	.0828	-.0005	.0006

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0018	.0001
SDev	.0001	.0003	.0003
%RSD	128.9	18.95	205.6
#1	-.0000	.0021	.0003
#2	-.0001	.0016	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	855062	10000	--	--	--	--	--
SDev	4494.371	.0000000	--	--	--	--	--
%RSD	.5256193	.0000000	--	--	--	--	--
#1	858240	10000	--	--	--	--	--
#2	851884	10000	--	--	--	--	--

Analysis Report 02/05/03 05:06:18 PM page 1

Method: DAILY1 Sample Name: 218756s df5 Operator:
Run Time: 02/05/03 17:01:35
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0494	1.889	2.021	.0015	2.036	.0498	-.0017
SDev	.0009	.017	.003	.0015	.008	.0006	.0042
%RSD	1.758	.8989	.1238	102.6	.4029	1.197	252.0
#1	.0487	1.877	2.023	.0004	2.030	.0502	-.0047
#2	.0500	1.901	2.019	.0026	2.041	.0493	.0013

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	92.33	.0496	.4918	.2001	.2488	.9540	17.99
SDev	.74	.0001	.0019	.0019	.0006	.0141	.17
%RSD	.7962	.2854	.3803	.9566	.2213	1.482	.9678
#1	92.85	.0497	.4931	.2014	.2492	.9640	17.87
#2	91.81	.0495	.4904	.1987	.2484	.9440	18.12

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	-.0000	19.75	.5048	-.0003	29.96	17.89
SDev	.0013	.0001	.06	.0024	.0005	.11	.29
%RSD	263.2	401.3	.2951	.4773	157.0	.3752	1.628
#1	-.0014	-.0001	19.79	.5065	.0000	29.88	17.68
#2	.0004	.0001	19.71	.5031	-.0006	30.04	18.09

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4855	.0023	.4861	.5044	-.0029	.4223	.4940
SDev	.0030	.0016	.0177	.0197	.0047	.0005	.0063
%RSD	.6108	71.31	3.647	3.913	165.8	.1188	1.283
#1	.4876	.0034	.4736	.5184	-.0062	.4219	.4895
#2	.4834	.0011	.4986	.4905	.0005	.4226	.4985

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.72	2.004	2.047	10.22	.4978	2.031	-.0025
SDev	.61	.029	.026	.01	.0072	.008	.0042
%RSD	.6328	1.426	1.275	.1374	1.455	.3871	164.6
#1	97.15	1.984	2.066	10.23	.5029	2.036	-.0055
#2	96.29	2.024	2.029	10.21	.4927	2.025	.0004

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0007	.0093	-.0008	2.088	4.040	.4997	-.0006
SDev	.0001	.0064	.0009	.020	.044	.0021	.0052
%RSD	15.59	68.85	114.1	.9405	1.086	.4205	915.0
#1	.0006	.0138	-.0015	2.074	4.009	.5012	-.0042
#2	.0007	.0048	-.0002	2.102	4.071	.4982	.0031

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0023	.5070	-.0011
SDev	.0002	.0041	.0001
%RSD	8.168	.8163	7.621
#1	.0025	.5099	-.0010
#2	.0022	.5041	-.0011

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	840565	10000	--	--	--	--	--
SDev	5347.142	.0000000	--	--	--	--	--
%RSD	.6361366	.0000000	--	--	--	--	--
#1	844346	10000	--	--	--	--	--
#2	836784	10000	--	--	--	--	--

Analysis Report 02/05/03 05:11:11 PM page 1

Method: DAILY1 Sample Name: 218757 df5 Operator:
Run Time: 02/05/03 17:06:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	.0031	-.0018	.0627	.2617	.0002	-.0031
SDev	.0024	.0167	.0050	.0015	.0040	.0001	.0048
%RSD	170.4	533.3	274.2	2.329	1.537	41.37	156.4
#1	-.0031	-.0087	-.0053	.0617	.2589	.0002	-.0065
#2	.0003	.0150	.0017	.0637	.2646	.0001	.0003

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	75.74	-.0002	-.0013	.0019	.0012	.0352	.0136
SDev	1.13	.0003	.0013	.0021	.0014	.0397	.0585
%RSD	1.490	147.4	100.6	115.0	114.9	112.6	431.1
#1	76.54	-.0004	-.0023	.0034	.0022	.0633	-.0278
#2	74.94	.0000	-.0004	.0003	.0002	.0072	.0549

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0012	-.0001	.0047	.0010	.0005	2.146	.8845
SDev	.0018	.0002	.0150	.0003	.0009	.043	.5122
%RSD	158.6	159.8	317.2	28.68	164.2	1.983	57.91
#1	-.0025	-.0002	-.0059	.0012	.0012	2.116	.5223
#2	.0001	.0000	.0153	.0008	-.0001	2.177	1.247

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0015	-.0015	-.0164	.0127	-.0052	.0296	-.0048
SDev	.0028	.0097	.0260	.0154	.0064	.0050	.0083
%RSD	192.8	625.7	158.8	121.2	122.3	16.91	171.0
#1	.0035	-.0084	-.0348	.0236	-.0098	.0261	-.0107
#2	-.0005	.0053	.0020	.0018	-.0007	.0332	.0010

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.19	-.0150	.0100	5.898	.0030	.0017	-.0050
SDev	2.23	.0214	.0135	.002	.0016	.0018	.0034
%RSD	2.275	143.3	134.2	.0383	52.99	107.1	67.02
#1	99.77	-.0301	.0196	5.900	.0041	.0030	-.0074
#2	96.61	.0002	.0005	5.897	.0019	.0004	-.0026

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0522	.0082	-.0011	-.0065	-.0550	.0014	-.0071
SDev	.0006	.0079	.0014	.0086	.0054	.0022	.0037
%RSD	1.244	96.52	124.4	132.3	9.846	152.2	53.16
#1	.0518	.0137	-.0021	-.0125	-.0588	.0030	-.0097
#2	.0527	.0026	-.0001	-.0004	-.0512	-.0001	-.0044

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0003	.0128	.0014
SDev	.0006	.0003	.0022
%RSD	164.2	2.645	154.2
#1	.0007	.0126	.0030
#2	-.0001	.0131	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	853416	10000	--	--	--	--	--
SDev	19365.53	.0000000	--	--	--	--	--
%RSD	2.269177	.0000000	--	--	--	--	--
#1	867110	10000	--	--	--	--	--
#2	839723	10000	--	--	--	--	--

Analysis Report 02/05/03 05:16:04 PM page 1

Method: DAILY1 Sample Name: 218758 df5 Operator:
Run Time: 02/05/03 17:11:20
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0003	.0017	.0112	.1299	.0001	.0011
SDev	.0002	.0015	.0009	.0005	.0007	.0001	.0004
%RSD	347.1	462.1	51.98	4.515	.5438	86.12	36.45
#1	.0002	-.0007	.0024	.0115	.1304	.0001	.0013
#2	-.0001	.0014	.0011	.0108	.1294	.0000	.0008

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	82.74	.0002	-.0001	.0015	.0007	.0284	.0147
SDev	1.54	.0001	.0001	.0021	.0016	.0454	.0071
%RSD	1.856	48.79	263.0	143.3	242.5	159.8	48.05
#1	83.82	.0002	-.0002	.0029	.0018	.0605	.0097
#2	81.65	.0001	.0000	-.0000	-.0005	-.0037	.0197

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0000	.0045	.0026	.0008	.5178	.2000
SDev	.0003	.0000	.0010	.0003	.0012	.0104	.0608
%RSD	327.2	332.0	23.25	13.58	147.9	2.018	30.38
#1	-.0003	-.0000	.0053	.0029	.0016	.5104	.1571
#2	.0001	.0000	.0038	.0024	-.0000	.5252	.2430

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0017	-.0021	.0006	.0000	-.0008	.0185	-.0021
SDev	.0019	.0048	.0022	.0004	.0010	.0035	.0026
%RSD	113.2	226.3	375.3	8625.	126.8	18.82	121.7
#1	.0030	-.0055	-.0010	.0003	-.0015	.0209	-.0003
#2	.0003	.0013	.0021	-.0003	-.0001	.0160	-.0040

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.1	.0007	-.0007	6.086	.0002	-.0002	-.0003
SDev	1.4	.0032	.0008	.049	.0004	.0016	.0001
%RSD	1.409	459.5	117.6	.8019	218.0	730.2	34.22
#1	101.1	-.0016	-.0013	6.121	-.0001	-.0014	-.0004
#2	99.06	.0030	-.0001	6.052	.0005	.0009	-.0003

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0569	.0015	-.0006	-.0054	-.0001	.0014	-.0016
SDev	.0001	.0004	.0002	.0030	.0462	.0021	.0018
%RSD	.1937	26.08	32.33	55.21	31330.	150.3	109.8
#1	.0569	.0012	-.0007	-.0033	.0325	.0028	-.0004
#2	.0568	.0018	-.0005	-.0075	-.0328	-.0001	-.0028

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0003	.0175	.0017
SDev	.0006	.0007	.0026
%RSD	183.1	3.929	156.2
#1	.0007	.0180	.0035
#2	-.0001	.0170	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	869568	10000	--	--	--	--	--
SDev	12264.77	.0000000	--	--	--	--	--
%RSD	1.410445	.0000000	--	--	--	--	--
#1	878240	10000	--	--	--	--	--
#2	860895	10000	--	--	--	--	--

Analysis Report 02/05/03 05:20:57 PM page 1

Method: DAILY1 Sample Name: 218759 df5 Operator:
Run Time: 02/05/03 17:16:13
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0169	.0011	.0298	.1263	-.0000	.0027
SDev	.0000	.0011	.0005	.0002	.0002	.0001	.0013
%RSD	21.47	6.765	43.77	.6322	.1933	448.8	48.40
#1	-.0001	.0177	.0014	.0300	.1265	.0000	.0037
#2	-.0002	.0160	.0007	.0297	.1261	-.0001	.0018

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	76.07	.0000	-.0003	-.0002	-.0009	.0028	.0253
SDev	.17	.0000	.0000	.0001	.0002	.0044	.0099
%RSD	.2296	86.17	9.860	71.96	24.14	157.0	39.05
#1	75.95	.0000	-.0002	-.0003	-.0007	.0059	.0183
#2	76.20	.0001	-.0003	-.0001	-.0010	-.0003	.0323

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	-.0000	.0082	.0011	-.0001	.5862	.1534
SDev	.0005	.0000	.0021	.0000	.0003	.0043	.0069
%RSD	195.8	69760.	25.27	2.775	506.1	.7374	4.468
#1	.0001	-.0000	.0096	.0012	-.0003	.5831	.1485
#2	-.0006	.0000	.0067	.0011	.0002	.5892	.1582

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0005	-.0001	.0015	-.0017	.0203	-.0019
SDev	.0001	.0017	.0006	.0007	.0006	.0030	.0012
%RSD	66.70	362.0	906.3	47.57	35.98	14.59	64.97
#1	-.0001	-.0007	.0003	.0010	-.0012	.0224	-.0027
#2	-.0002	.0017	-.0004	.0020	-.0021	.0182	-.0010

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.54	-.0002	-.0004	5.784	.0010	-.0003	-.0023
SDev	.14	.0013	.0026	.013	.0003	.0013	.0009
%RSD	.1437	762.1	666.0	.2214	29.80	421.5	37.28
#1	99.64	-.0011	.0014	5.775	.0008	.0006	-.0017
#2	99.44	.0007	-.0022	5.793	.0012	-.0012	-.0029

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0521	.0006	-.0004	-.0067	-.0251	-.0004	.0004
SDev	.0001	.0005	.0001	.0010	.0117	.0001	.0008
%RSD	.1367	86.17	27.01	15.25	46.49	23.23	202.2
#1	.0521	.0009	-.0003	-.0060	-.0169	-.0004	-.0002
#2	.0520	.0002	-.0005	-.0074	-.0334	-.0005	.0010

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0247	-.0001
SDev	.0000	.0001	.0001
%RSD	11.50	.4355	100.3
#1	-.0001	.0247	-.0000
#2	-.0001	.0246	-.0002

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	865128	10000	--	--	--	--	--
SDev	1204.203	.0000000	--	--	--	--	--
%RSD	.1391935	.0000000	--	--	--	--	--
#1	865980	10000	--	--	--	--	--
#2	864277	10000	--	--	--	--	--

Analysis Report 02/05/03 05:25:49 PM page 1

Method: DAILY1 Sample Name: 218760 df5 Operator:
Run Time: 02/05/03 17:21:06
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0105	-.0002	.0612	.3110	.0001	.0002
SDev	.0004	.0002	.0023	.0003	.0024	.0000	.0004
%RSD	507.6	1.505	1411.	.4668	.7567	14.03	242.8
#1	-.0004	.0106	-.0018	.0610	.3094	.0001	-.0001
#2	.0002	.0104	.0015	.0614	.3127	.0001	.0005

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	77.76	-.0001	-.0001	.0003	-.0010	.0061	.0459
SDev	.32	.0001	.0000	.0006	.0001	.0032	.0011
%RSD	.4120	102.9	39.37	182.3	12.91	52.66	2.302
#1	77.98	-.0000	-.0001	.0008	-.0009	.0039	.0452
#2	77.53	-.0002	-.0000	-.0001	-.0011	.0084	.0467

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0000	.0157	.0012	-.0003	2.047	1.247
SDev	.0001	.0000	.0007	.0000	.0001	.002	.060
%RSD	20.44	50.39	4.590	1.681	38.02	.1092	4.801
#1	-.0004	.0000	.0152	.0012	-.0004	2.049	1.289
#2	-.0003	.0000	.0162	.0012	-.0002	2.046	1.204

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0006	.0001	.0008	.0011	.0004	.0215	.0004
SDev	.0002	.0009	.0001	.0001	.0014	.0005	.0005
%RSD	36.78	1576.	8.347	6.709	344.7	2.156	134.7
#1	.0007	.0007	.0008	.0011	-.0006	.0212	.0000
#2	.0004	-.0006	.0007	.0012	.0014	.0219	.0008

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	100.9	.0060	-.0007	5.813	.0010	.0015	-.0012
SDev	.0	.0023	.0002	.011	.0000	.0009	.0012
%RSD	.0369	38.34	22.26	.1865	2.759	56.90	96.12
#1	100.9	.0044	-.0008	5.820	.0010	.0009	-.0021
#2	101.0	.0076	-.0006	5.805	.0010	.0021	-.0004

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0525	-.0003	-.0002	.0027	.0004	.0001	-.0025
SDev	.0003	.0022	.0000	.0061	.0221	.0001	.0013
%RSD	.5794	703.5	27.25	222.9	5880.	71.17	52.11
#1	.0523	-.0019	-.0001	-.0016	-.0153	.0001	-.0016
#2	.0527	.0013	-.0002	.0071	.0160	.0002	-.0035

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0130	.0002
SDev	.0000	.0003	.0001
%RSD	96.39	2.130	72.20
#1	-.0000	.0128	.0001
#2	-.0000	.0132	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	877150	10000	--	--	--	--	--
SDev	277.8930	.0000000	--	--	--	--	--
%RSD	.0316813	.0000000	--	--	--	--	--
#1	876954	10000	--	--	--	--	--
#2	877347	10000	--	--	--	--	--

Method: DAILY1 Sample Name: 218761 df5 Operator:
Run Time: 02/05/03 17:25:59
Comment:
Mode: CONC Corr. Factor: 1

010362

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0078	.0006	.0233	.1308	.0001	.0017
SDev	.0001	.0002	.0000	.0002	.0001	.0001	.0008
%RSD	69.19	2.879	5.698	.8104	.0506	118.5	47.78
#1	-.0001	.0077	.0006	.0234	.1308	.0001	.0023
#2	-.0002	.0080	.0007	.0232	.1307	.0000	.0011

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	76.54	-.0001	-.0001	-.0001	-.0004	.0033	.0158
SDev	.23	.0001	.0002	.0001	.0001	.0027	.0101
%RSD	.3006	125.7	212.4	96.61	17.98	81.56	63.75
#1	76.37	-.0001	-.0002	-.0002	-.0005	.0052	.0087
#2	76.70	-.0000	.0000	-.0000	-.0004	.0014	.0229

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0002	.0000	.0054	.0015	-.0005	.5797	.1701
SDev	.0005	.0000	.0014	.0000	.0001	.0049	.0455
%RSD	203.8	1503.	25.90	1.750	9.435	.8418	26.76
#1	.0001	-.0000	.0064	.0015	-.0005	.5763	.2023
#2	-.0006	.0000	.0044	.0016	-.0006	.5832	.1379

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	-.0077	.0009	-.0007	-.0010	.0215	-.0006
SDev	.0004	.0034	.0016	.0003	.0007	.0027	.0016
%RSD	95.02	44.18	172.1	39.63	67.90	12.50	264.0
#1	.0001	-.0053	-.0002	-.0005	-.0015	.0234	-.0017
#2	.0006	-.0101	.0020	-.0009	-.0005	.0196	.0005

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.77	.0024	-.0003	5.829	-.0002	.0006	-.0028
SDev	.53	.0000	.0001	.032	.0003	.0001	.0023
%RSD	.5469	.5575	20.92	.5461	197.4	8.393	84.59
#1	97.15	.0024	-.0003	5.806	-.0004	.0006	-.0011
#2	96.40	.0023	-.0004	5.851	.0001	.0005	-.0044

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0541	.0008	-.0002	-.0061	-.0464	-.0001	-.0013
SDev	.0001	.0010	.0001	.0001	.0040	.0000	.0013
%RSD	.1921	127.5	61.08	1.872	8.702	4.132	101.3
#1	.0540	.0015	-.0002	-.0061	-.0436	-.0001	-.0022
#2	.0541	.0001	-.0001	-.0060	-.0493	-.0001	-.0004

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0132	.0001
SDev	.0000	.0002	.0000
%RSD	1.297	1.665	24.68
#1	-.0000	.0131	.0001
#2	-.0000	.0134	.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	841026	10000	--	--	--	--	--
SDev	4564.374	.0000000	--	--	--	--	--
%RSD	.5427147	.0000000	--	--	--	--	--
#1	844254	10000	--	--	--	--	--
#2	837799	10000	--	--	--	--	--

Analysis Report 02/05/03 05:35:35 PM page 1

Method: DAILY1 Sample Name: 218762 df5 Operator:
Run Time: 02/05/03 17:30:52
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.4023	208.5	-4.553	24.54	158.3	-1.859	.0044
SDev	.0766	4.7	1.103	.04	2.8	.125	2.959
%RSD	19.05	2.275	24.23	.1616	1.767	6.742	66660.
#1	-.3481	205.1	-5.334	24.57	156.3	-1.947	2.097
#2	-.4565	211.8	-3.773	24.51	160.3	-1.770	-2.088

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98730.	-.1208	-.1502	-.0289	10.45	-11.22	99.53
SDev	1262.	.0191	.4068	.0877	.21	1.19	1.02
%RSD	1.279	15.84	270.8	303.2	2.011	10.63	1.023
#1	97840.	-.1344	.1374	-.0910	10.30	-12.07	100.3
#2	99620.	-.1073	-.4379	.0331	10.60	-10.38	98.81

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.7234	.0644	7.133	2.226	-1.483	426.2	-388.9
SDev	.3569	.0090	1.974	.060	.794	5.2	75.2
%RSD	49.34	14.02	27.67	2.690	53.57	1.221	19.33
#1	.9758	.0708	8.529	2.184	-.9211	422.5	-335.7
#2	.4710	.0581	5.737	2.269	-2.045	429.9	-442.0

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5642	35.70	3.290	-1.168	.3045	29.25	1.822
SDev	.3457	6.83	1.273	.475	.1453	2.16	1.739
%RSD	61.26	19.13	38.69	40.64	47.71	7.388	95.43
#1	.3198	30.87	2.390	-1.503	.4072	30.78	.5925
#2	.8087	40.53	4.190	-.8323	.2018	27.72	3.052

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0650	-4.035	4.098	7265.	.3176	1.398	-.5541
SDev	.0014	1.020	.495	88.	.7399	.010	.7881
%RSD	2.131	25.27	12.08	1.212	232.9	.7143	142.2
#1	-.0640	-4.757	4.448	7203.	-.2056	1.391	-1.111
#2	-.0660	-3.314	3.748	7327.	.8409	1.405	.0032

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	65.79	4.486	1.258	-8.784	5.395	.3421	7.386
SDev	1.02	1.106	.097	12.466	.123	.0013	1.393
%RSD	1.543	24.65	7.695	141.9	2.283	.3888	18.86
#1	65.07	3.704	1.327	.0314	5.308	.3430	6.401
#2	66.51	5.268	1.190	-17.60	5.483	.3412	8.371

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0081	25.64	-.1610
SDev	.0310	.01	.1537
%RSD	384.5	.0391	95.46
#1	-.0139	25.63	-.2696
#2	.0300	25.64	-.0523

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	702	10000	--	--	--	--	--
SDev	12.02082	.0000000	--	--	--	--	--
%RSD	1.711148	.0000000	--	--	--	--	--
#1	711	10000	--	--	--	--	--
#2	694	10000	--	--	--	--	--

Analysis Report QC Standard 02/05/03 05:44:35 PM page 1

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 17:39:48
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9964	9.802	5.079	4.668	9.945	1.031	4.903
SDev	.0082	.042	.020	.002	.047	.010	.008
%RSD	.8251	.4292	.3972	.0447	.4710	.9472	.1654
#1	1.002	9.832	5.065	4.666	9.978	1.038	4.909
#2	.9906	9.772	5.093	4.669	9.912	1.024	4.898
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.65	1.029	5.048	2.028	1.988	9.922	18.08
SDev	.04	.005	.001	.005	.001	.017	.01
%RSD	.1848	.4872	.0142	.2646	.0357	.1742	.0524
#1	19.68	1.032	5.049	2.032	1.988	9.934	18.08
#2	19.63	1.025	5.047	2.024	1.987	9.909	18.07
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.983	4.847	19.67	1.044	5.114	Q43.03	Q26.71
SDev	.005	.007	.04	.000	.017	.05	.25
%RSD	.0984	.1363	.1807	.0152	.3361	.1139	.9414
#1	4.980	4.852	19.69	1.044	5.101	Q43.07	Q26.89
#2	4.987	4.842	19.64	1.044	5.126	Q43.00	Q26.54
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.938	4.778	5.043	5.038	.9791	.9727	.9825
SDev	.017	.014	.007	.014	.0014	.0018	.0012
%RSD	.3404	.2982	.1449	.2790	.1402	.1836	.1216
#1	4.950	4.788	5.037	5.048	.9801	.9714	.9833
#2	4.926	4.768	5.048	5.028	.9782	.9739	.9816
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.95	5.197	5.136	4.802	5.035	5.151	5.086
SDev	.06	.016	.001	.019	.007	.005	.017
%RSD	.0618	.3146	.0221	.3905	.1376	.0910	.3415
#1	97.91	5.185	5.137	4.815	5.040	5.148	5.073
#2	98.00	5.209	5.135	4.789	5.030	5.154	5.098
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00
Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.140	.9765	4.876	5.355	.9720	5.076	Q1.236
SDev	.005	.0006	.007	.019	.0100	.015	.003
%RSD	.0980	.0644	.1396	.3619	1.033	.2864	.2149
#1	5.143	.9769	4.881	5.341	.9649	5.086	Q1.238
#2	5.136	.9760	4.871	5.368	.9791	5.066	Q1.234
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Y_3710	Zn2062	Zr3496				
Units	ppm	ppm	ppm				
Avge	5.009	1.050	4.895				
SDev	.000	.006	.007				
%RSD	.0011	.5901	.1467				
#1	5.009	1.046	4.900				
#2	5.009	1.054	4.890				
Errors	QC Pass	QC Pass	QC Pass				
Value	5.000	1.000	5.000				
Range	10.00	10.00	10.00				

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	851268	10000	--	--	--	--	--
SDev	473.7615	.0000000	--	--	--	--	--
%RSD	.0556536	.0000000	--	--	--	--	--
#1	850933	10000	--	--	--	--	--
#2	851603	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 05:51:33 PM page 1

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 17:46:46
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0066	.0004	.0022	.0001	.0001	.0015
SDev	.0001	.0043	.0004	.0005	.0001	.0001	.0014
%RSD	32.92	64.40	100.6	24.81	95.64	44.41	96.06
#1	.0002	-.0096	.0006	.0026	.0001	.0001	.0005
#2	.0003	-.0036	.0001	.0018	.0000	.0002	.0025
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0022	-.0000	-.0000	.0000	-.0006	.0029	.0024
SDev	.0001	.0001	.0003	.0001	.0003	.0040	.0037
%RSD	6.562	190.4	714.0	200.0	45.93	135.4	151.5
#1	.0021	.0000	.0002	-.0000	-.0008	.0057	-.0002
#2	.0023	-.0001	-.0003	.0001	-.0004	.0001	.0051
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0000	.0001	-.0000	.0011	-.0351	L-.0615
SDev	.0004	.0000	.0010	.0000	.0006	.0002	.0491
%RSD	76.60	96.32	1889.	101.4	59.81	.6812	79.86
#1	-.0002	.0000	.0008	-.0000	.0015	-.0349	-.0268
#2	-.0008	.0000	-.0007	-.0000	.0006	-.0352	L-.0963
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0086	.0023	.0008	.0008	.0021	-.0005
SDev	.0000	.0031	.0008	.0006	.0002	.0031	.0002
%RSD	46.91	36.14	33.08	77.04	23.29	142.5	46.09
#1	-.0001	-.0064	.0018	.0013	.0006	-.0000	-.0007
#2	-.0000	L-.0108	.0028	.0004	.0009	.0043	-.0003
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.14	.0053	-.0000	-.0052	.0013	.0018	-.0010
SDev	.46	.0031	.0045	.0012	.0002	.0020	.0006
%RSD	.4649	58.81	11050.	22.62	12.99	112.7	64.51
#1	98.47	.0075	-.0032	-.0044	.0014	.0004	-.0014
#2	97.82	.0031	.0032	-.0061	.0012	.0032	-.0005
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	T11908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0002	.0001	.0035	.0367	.0001	-.0002
SDev	.0000	.0029	.0002	.0012	.0019	.0002	.0002
%RSD	63.23	1570.	247.6	33.68	5.153	285.1	157.8
#1	.0001	-.0023	.0002	.0027	.0354	.0002	-.0003
#2	.0000	.0019	-.0001	.0044	.0381	-.0001	.0000
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	.0001	.0003
SDev	.0000	.0000	.0000
%RSD	21.11	4.601	6.346
#1	.0001	.0001	.0003
#2	.0001	.0001	.0003
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	852990	10000	--	--	--	--	--
SDev	3978.890	.0000000	--	--	--	--	--
%RSD	.4664636	.0000000	--	--	--	--	--
#1	855804	10000	--	--	--	--	--
#2	850177	10000	--	--	--	--	--

Method: DAILY1 Sample Name: 218763 df5 Operator:
Run Time: 02/05/03 17:51:43
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0047	.0021	.0164	.1250	.0002	.0009
SDev	.0002	.0009	.0022	.0008	.0011	.0001	.0008
%RSD	101.3	18.37	106.4	4.833	.8896	55.02	92.20
#1	.0004	-.0041	.0005	.0169	.1242	.0003	.0003
#2	.0001	-.0053	.0036	.0158	.1258	.0001	.0015

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	78.49	-.0001	-.0002	.0019	.0012	.0428	.0105
SDev	1.97	.0002	.0002	.0026	.0019	.0566	.0032
%RSD	2.504	287.8	80.54	137.4	154.7	132.3	30.95
#1	79.88	-.0002	-.0001	.0038	.0025	.0828	.0082
#2	77.10	.0001	-.0004	.0001	-.0001	.0027	.0128

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	.0000	.0074	.0021	.0014	.4196	.1838
SDev	.0000	.0000	.0001	.0004	.0020	.0145	.0145
%RSD	6.978	186.6	1.932	21.02	150.0	3.457	7.887
#1	-.0003	-.0000	.0073	.0025	.0028	.4093	.1735
#2	-.0003	.0000	.0075	.0018	-.0001	.4298	.1940

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0019	.0003	.0006	.0006	-.0012	.0180	-.0018
SDev	.0022	.0045	.0005	.0002	.0008	.0062	.0014
%RSD	112.1	1463.	88.99	34.89	64.43	34.54	76.40
#1	.0034	-.0029	.0002	.0008	-.0017	.0136	-.0028
#2	.0004	.0035	.0009	.0005	-.0007	.0224	-.0008

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.07	.0032	.0008	5.848	.0006	.0016	.0000
SDev	3.19	.0037	.0005	.017	.0000	.0016	.0033
%RSD	3.257	115.0	63.43	.2901	3.041	96.58	6821.
#1	100.3	.0058	.0012	5.860	.0006	.0028	-.0023
#2	95.81	.0006	.0005	5.836	.0006	.0005	.0024

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0542	.0008	-.0002	.0034	-.0063	.0019	-.0003
SDev	.0006	.0029	.0002	.0043	.0457	.0025	.0019
%RSD	1.162	389.6	102.5	125.6	728.5	127.7	669.7
#1	.0537	-.0013	-.0004	.0064	.0261	.0037	.0011
#2	.0546	.0028	-.0001	.0004	-.0386	.0002	-.0016

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0005	.0111	.0021
SDev	.0006	.0010	.0030
%RSD	132.4	8.925	140.1
#1	.0009	.0118	.0042
#2	.0000	.0104	.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	852302	10000	--	--	--	--	--
SDev	27703.03	.0000000	--	--	--	--	--
%RSD	3.250377	.0000000	--	--	--	--	--
#1	871891	10000	--	--	--	--	--
#2	832713	10000	--	--	--	--	--

Analysis Report 02/05/03 06:01:19 PM page 1

Method: DAILY1 Sample Name: 218764 df5 Operator:
Run Time: 02/05/03 17:56:36
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0054	.0028	.0157	.1209	.0002	.0018
SDev	.0006	.0012	.0021	.0001	.0004	.0000	.0004
%RSD	2216.	22.32	76.26	.3060	.3516	12.36	23.86
#1	-.0004	.0046	.0042	.0156	.1212	.0001	.0015
#2	.0004	.0063	.0013	.0157	.1206	.0002	.0021

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	81.85	-.0001	.0016	.0000	.0001	.0134	.0350
SDev	.06	.0001	.0003	.0003	.0002	.0059	.0144
%RSD	.0757	161.9	18.19	3356.	217.0	44.46	40.99
#1	81.81	-.0001	.0014	-.0002	.0003	.0176	.0249
#2	81.90	.0000	.0019	.0002	-.0001	.0092	.0452

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0000	.0092	.0023	-.0002	.4821	.2312
SDev	.0001	.0000	.0027	.0000	.0007	.0018	.0395
%RSD	330.7	104.2	29.81	1.885	394.1	.3801	17.09
#1	-.0000	.0000	.0072	.0023	.0003	.4808	.2033
#2	.0001	.0001	.0111	.0024	-.0007	.4834	.2592

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0071	.0026	.0000	-.0002	.0349	-.0004
SDev	.0000	.0022	.0010	.0004	.0016	.0008	.0014
%RSD	98.71	31.14	41.05	6874.	824.2	2.404	308.3
#1	.0000	.0087	.0018	-.0003	-.0013	.0355	-.0014
#2	.0001	.0056	.0033	.0003	.0009	.0343	.0005

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.49	.0071	-.0036	6.022	.0009	-.0000	-.0015
SDev	.29	.0029	.0021	.001	.0006	.0024	.0009
%RSD	.2931	40.35	59.21	.0126	72.23	6327.	58.09
#1	99.28	.0051	-.0051	6.023	.0004	-.0017	-.0022
#2	99.69	.0091	-.0021	6.022	.0013	.0016	-.0009

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0556	.0002	.0003	.0029	.0077	-.0003	.0017
SDev	.0002	.0014	.0000	.0054	.0113	.0003	.0023
%RSD	.3257	890.7	5.729	188.5	145.6	103.9	131.4
#1	.0557	-.0008	.0003	-.0010	-.0002	-.0005	.0033
#2	.0554	.0011	.0004	.0067	.0157	-.0001	.0001

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0001	.0170	.0001
SDev	.0000	.0001	.0001
%RSD	24.03	.3170	140.7
#1	-.0001	.0171	.0002
#2	-.0001	.0170	.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	864564	10000	--	--	--	--	--
SDev	2534.271	.0000000	--	--	--	--	--
%RSD	.2931270	.0000000	--	--	--	--	--
#1	862772	10000	--	--	--	--	--
#2	866356	10000	--	--	--	--	--

Analysis Report 02/05/03 06:06:12 PM page 1

Method: DAILY1 Sample Name: 218765 df5 Operator:
Run Time: 02/05/03 18:01:28
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0206	.0009	.0746	.3045	.0001	.0033
SDev	.0001	.0022	.0013	.0009	.0030	.0000	.0002
%RSD	67.77	10.42	135.2	1.237	.9727	45.09	5.572
#1	-.0001	.0221	.0000	.0739	.3066	.0001	.0035
#2	-.0002	.0191	.0018	.0752	.3024	.0000	.0032

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	78.42	-.0002	-.0001	-.0000	-.0007	-.0074	.0624
SDev	.24	.0001	.0000	.0000	.0000	.0003	.0010
%RSD	.3109	42.33	41.23	152.1	6.511	3.914	1.550
#1	78.25	-.0001	-.0001	.0000	-.0007	-.0076	.0618
#2	78.59	-.0002	-.0000	-.0001	-.0007	-.0072	.0631

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0000	.0158	.0018	-.0001	2.023	1.081
SDev	.0002	.0000	.0003	.0000	.0005	.003	.039
%RSD	54.67	7.774	2.040	.1389	570.8	.1558	3.600
#1	-.0005	.0000	.0156	.0018	.0003	2.021	1.054
#2	-.0002	.0000	.0160	.0018	-.0004	2.025	1.109

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	-.0027	.0025	.0025	.0002	.0367	-.0023
SDev	.0001	.0029	.0009	.0009	.0009	.0004	.0002
%RSD	85.44	105.1	36.12	34.56	378.9	1.185	10.54
#1	.0003	-.0007	.0031	.0019	.0009	.0364	-.0021
#2	.0001	-.0048	.0018	.0031	-.0004	.0370	-.0024

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.48	.0033	-.0025	5.968	.0025	-.0005	-.0026
SDev	.13	.0021	.0014	.003	.0003	.0002	.0003
%RSD	.1292	64.22	55.65	.0549	11.21	39.70	11.70
#1	98.39	.0047	-.0034	5.966	.0023	-.0007	-.0024
#2	98.57	.0018	-.0015	5.970	.0027	-.0004	-.0029

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0549	.0011	-.0001	.0027	-.0204	-.0002	-.0013
SDev	.0001	.0010	.0004	.0008	.0004	.0003	.0007
%RSD	.2419	86.11	322.6	29.67	2.163	191.0	49.28
#1	.0550	.0018	-.0004	.0033	-.0201	-.0004	-.0018
#2	.0548	.0004	.0001	.0021	-.0207	.0001	-.0009

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0331	-.0001
SDev	.0000	.0003	.0000
%RSD	112.3	1.002	68.96
#1	-.0001	.0333	-.0000
#2	-.0000	.0328	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	855888	10000	--	--	--	--	--
SDev	1059.953	.0000000	--	--	--	--	--
%RSD	.1238426	.0000000	--	--	--	--	--
#1	855138	10000	--	--	--	--	--
#2	856637	10000	--	--	--	--	--

Analysis Report 02/05/03 06:11:04 PM page 1

Method: DAILY1 Sample Name: 218766 df5 Operator:
Run Time: 02/05/03 18:06:21
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0032	.0003	.0224	.1350	.0001	.0014
SDev	.0004	.0050	.0022	.0002	.0006	.0001	.0012
%RSD	458.5	156.0	853.4	.7175	.4531	60.85	90.76
#1	.0002	-.0003	.0018	.0225	.1354	.0001	.0022
#2	-.0004	.0067	-.0013	.0222	.1346	.0002	.0005

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	80.63	.0002	-.0001	.0000	-.0008	.0059	.0236
SDev	.01	.0001	.0001	.0000	.0002	.0031	.0022
%RSD	.0171	29.67	193.7	120.2	20.23	52.02	9.326
#1	80.64	.0001	-.0002	.0001	-.0007	.0037	.0221
#2	80.62	.0002	.0000	.0000	-.0009	.0080	.0252

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0000	.0052	.0022	-.0004	.5054	.1804
SDev	.0001	.0000	.0007	.0000	.0006	.0023	.0003
%RSD	28.29	160.4	12.80	.0818	157.5	.4470	.1369
#1	-.0004	.0000	.0057	.0022	-.0008	.5038	.1802
#2	-.0006	-.0000	.0047	.0022	.0000	.5070	.1806

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	.0021	.0018	-.0009	-.0003	.0233	-.0013
SDev	.0001	.0016	.0036	.0003	.0015	.0008	.0010
%RSD	16.29	76.73	203.1	38.24	603.5	3.592	80.76
#1	.0008	.0032	.0043	-.0011	.0008	.0227	-.0020
#2	.0010	.0009	-.0008	-.0006	-.0013	.0239	-.0005

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	101.8	.0018	-.0008	5.911	-.0000	.0000	-.0011
SDev	.1	.0015	.0026	.006	.0010	.0012	.0012
%RSD	.0500	83.69	308.5	.1005	28160.	3198.	115.4
#1	101.9	.0028	-.0027	5.907	.0007	-.0008	-.0002
#2	101.8	.0007	.0010	5.915	-.0007	.0009	-.0019

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0544	.0013	-.0002	-.0019	.0143	-.0003	-.0023
SDev	.0000	.0009	.0002	.0014	.0025	.0000	.0006
%RSD	.0312	69.49	150.9	73.68	17.51	.8820	25.21
#1	.0544	.0007	.0000	-.0009	.0161	-.0003	-.0027
#2	.0544	.0019	-.0003	-.0029	.0126	-.0003	-.0019

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0233	.0003
SDev	.0000	.0007	.0000
%RSD	36.36	3.198	10.80
#1	-.0000	.0238	.0003
#2	-.0000	.0228	.0003

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	884944	10000	--	--	--	--	--
SDev	437.6991	.0000000	--	--	--	--	--
%RSD	.0494607	.0000000	--	--	--	--	--
#1	885253	10000	--	--	--	--	--
#2	884634	10000	--	--	--	--	--

Analysis Report 02/05/03 06:15:58 PM page 1

Method: DAILY1 Sample Name: 218767 df5 Operator:
Run Time: 02/05/03 18:11:14
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0042	-.0008	.0007	.0035	-.0000	.0022
SDev	.0001	.0055	.0042	.0000	.0000	.0000	.0011
%RSD	42.08	129.8	538.6	5.990	.2407	114.3	51.74
#1	.0002	.0003	.0022	.0007	.0035	-.0000	.0030
#2	.0003	.0081	-.0038	.0007	.0034	-.0001	.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	75.02	-.0001	.0001	-.0003	-.0007	.0021	.0027
SDev	.19	.0000	.0002	.0005	.0002	.0034	.0043
%RSD	.2547	62.21	137.4	191.1	23.59	159.1	159.8
#1	74.89	-.0000	.0003	.0001	-.0008	-.0003	-.0004
#2	75.16	-.0001	.0000	-.0006	-.0006	.0045	.0058

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0000	.0046	.0001	-.0003	.0171	-.1809
SDev	.0000	.0000	.0003	.0000	.0003	.0020	.0483
%RSD	23.02	70.90	7.116	27.44	124.6	11.98	26.69
#1	.0002	.0000	.0048	.0001	-.0005	.0156	-.1467
#2	.0001	.0001	.0043	.0001	-.0000	.0185	-.2150

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0055	.0004	.0010	-.0002	.0107	-.0018
SDev	.0002	.0007	.0001	.0003	.0007	.0013	.0000
%RSD	196.2	11.94	13.02	31.90	444.9	12.05	.3704
#1	.0003	-.0050	.0004	.0008	-.0006	.0116	-.0018
#2	-.0000	-.0060	.0004	.0012	.0003	.0098	-.0018

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.48	.0023	-.0003	5.998	.0008	.0006	-.0016
SDev	.21	.0002	.0004	.008	.0002	.0002	.0011
%RSD	.2062	9.662	118.3	.1399	24.43	31.63	67.46
#1	99.62	.0021	-.0001	5.992	.0007	.0007	-.0009
#2	99.33	.0024	-.0006	6.004	.0009	.0004	-.0024

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0484	-.0000	-.0004	.0008	.0010	-.0001	-.0019
SDev	.0001	.0019	.0001	.0032	.0062	.0000	.0012
%RSD	.2906	6417.	18.08	401.6	599.7	4.634	62.63
#1	.0485	.0013	-.0003	-.0015	-.0034	-.0001	-.0027
#2	.0483	-.0014	-.0004	.0030	.0054	-.0001	-.0011

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0001	.0017	.0000
SDev	.0000	.0000	.0001
%RSD	11.66	.0924	97.53
#1	.0001	.0017	.0001
#2	.0001	.0017	.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	864520	10000	--	--	--	--	--
SDev	1785.445	.0000000	--	--	--	--	--
%RSD	.2065245	.0000000	--	--	--	--	--
#1	865782	10000	--	--	--	--	--
#2	863257	10000	--	--	--	--	--

Analysis Report 02/05/03 06:20:51 PM page 1

Method: DAILY1 Sample Name: 218768 df5 Operator:
Run Time: 02/05/03 18:16:08
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0022	.0001	.0008	.0035	.0001	.0016
SDev	.0002	.0031	.0001	.0005	.0000	.0001	.0003
%RSD	152.9	139.5	86.55	69.66	.6330	197.1	19.15
#1	.0000	.0000	.0001	.0004	.0035	.0002	.0018
#2	-.0002	.0044	.0002	.0011	.0035	-.0000	.0014

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	74.04	.0001	.0000	-.0002	-.0005	-.0029	.0048
SDev	.01	.0001	.0001	.0000	.0004	.0025	.0001
%RSD	.0188	81.98	4507.	18.71	83.73	85.65	3.213
#1	74.05	.0002	-.0001	-.0002	-.0007	-.0012	.0049
#2	74.03	.0001	.0001	-.0003	-.0002	-.0047	.0047

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0000	.0051	.0002	-.0003	.0336	-.1363
SDev	.0004	.0000	.0031	.0000	.0000	.0001	.0117
%RSD	705.1	345.0	61.73	9.113	.3357	.3727	8.556
#1	.0003	.0000	.0073	.0002	-.0003	.0335	-.1446
#2	-.0002	-.0000	.0029	.0002	-.0003	.0336	-.1281

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	-.0032	.0017	-.0002	-.0010	.0153	-.0003
SDev	.0003	.0039	.0018	.0004	.0011	.0052	.0023
%RSD	71.14	121.9	101.1	221.8	118.1	33.77	749.2
#1	.0007	-.0004	.0005	-.0004	-.0018	.0117	.0013
#2	.0002	-.0059	.0030	.0001	-.0002	.0190	-.0019

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	98.22	.0023	-.0006	5.985	.0005	.0004	-.0009
SDev	.24	.0006	.0025	.002	.0008	.0019	.0001
%RSD	.2404	25.20	422.7	.0406	177.7	498.4	15.22
#1	98.06	.0027	.0012	5.984	-.0001	.0017	-.0008
#2	98.39	.0019	-.0024	5.987	.0011	-.0009	-.0010

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0487	.0012	-.0003	.0047	-.0187	-.0002	.0018
SDev	.0001	.0007	.0002	.0045	.0040	.0000	.0017
%RSD	.1541	62.18	56.61	95.95	21.16	.8091	96.85
#1	.0486	.0017	-.0002	.0015	-.0159	-.0002	.0006
#2	.0487	.0007	-.0004	.0078	-.0215	-.0002	.0030

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0013	.0000
SDev	.0001	.0001	.0001
%RSD	169.0	10.69	878.2
#1	.0000	.0012	.0001
#2	-.0001	.0014	-.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	853693	10000	--	--	--	--	--
SDev	2070.409	.0000000	--	--	--	--	--
%RSD	.2425238	.0000000	--	--	--	--	--
#1	852229	10000	--	--	--	--	--
#2	855157	10000	--	--	--	--	--

Analysis Report 02/05/03 06:25:43 PM page 1

Method: DAILY1 Sample Name: 218769 df5 Operator:
Run Time: 02/05/03 18:21:00
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0057	-.0023	.0011	.0037	.0001	.0014
SDev	.0003	.0024	.0019	.0003	.0000	.0002	.0052
%RSD	288.3	41.71	85.25	29.14	.0086	143.1	377.5
#1	-.0001	.0073	-.0009	.0008	.0037	.0002	-.0023
#2	.0004	.0040	-.0037	.0013	.0037	-.0000	.0051

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	75.01	.0000	-.0001	.0002	-.0001	.0012	-.0005
SDev	.22	.0002	.0004	.0000	.0001	.0062	.0039
%RSD	.2875	18690.	248.7	8.602	63.34	514.7	762.2
#1	75.16	-.0002	-.0004	.0002	-.0002	-.0032	-.0032
#2	74.85	.0002	.0001	.0002	-.0001	.0056	.0022

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	-.0000	.0026	.0002	-.0005	.0247	-.1383
SDev	.0003	.0000	.0032	.0000	.0002	.0007	.1044
%RSD	251.2	30.47	121.1	8.002	33.32	2.821	75.50
#1	-.0001	-.0000	.0004	.0002	-.0007	.0242	-.2122
#2	.0003	-.0000	.0049	.0002	-.0004	.0252	-.0645

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.0039	.0011	.0015	-.0003	.0182	-.0006
SDev	.0005	.0045	.0008	.0007	.0010	.0011	.0003
%RSD	48.36	115.2	74.99	49.56	406.4	6.006	47.08
#1	.0006	.0071	.0005	.0020	-.0010	.0189	-.0004
#2	.0013	.0007	.0016	.0010	.0005	.0174	-.0008

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.68	.0020	-.0027	6.090	.0013	-.0011	-.0026
SDev	.46	.0003	.0016	.023	.0002	.0010	.0010
%RSD	.4711	14.74	59.65	.3735	16.27	86.87	38.30
#1	96.36	.0022	-.0038	6.106	.0015	-.0018	-.0033
#2	97.00	.0018	-.0015	6.074	.0012	-.0004	-.0019

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0520	.0022	-.0001	-.0069	-.0270	-.0000	-.0030
SDev	.0003	.0002	.0003	.0018	.0069	.0001	.0010
%RSD	.5858	9.462	283.5	25.54	25.71	336.5	32.37
#1	.0522	.0020	-.0004	-.0057	-.0319	-.0001	-.0037
#2	.0517	.0023	.0001	-.0082	-.0221	.0000	-.0023

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	.0000	.0006	.0000
SDev	.0000	.0001	.0001
%RSD	71.42	12.22	992.1
#1	.0001	.0007	-.0001
#2	.0000	.0006	.0001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	840272	10000	--	--	--	--	--
SDev	4014.952	.0000000	--	--	--	--	--
%RSD	.4778158	.0000000	--	--	--	--	--
#1	837433	10000	--	--	--	--	--
#2	843111	10000	--	--	--	--	--

Analysis Report 02/05/03 06:30:34 PM page 1

Method: DAILY1 Sample Name: 218770 df5 Operator:
Run Time: 02/05/03 18:25:52
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0012	.0006	.0011	.0035	.0000	.0039
SDev	.0000	.0032	.0015	.0004	.0000	.0001	.0004
%RSD	196.9	268.5	233.4	39.75	1.071	176.8	9.269
#1	-.0000	.0035	.0017	.0008	.0036	.0001	.0041
#2	.0000	-.0011	-.0004	.0014	.0035	-.0000	.0036

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	74.51	-.0000	-.0001	-.0000	-.0006	-.0040	-.0013
SDev	.08	.0000	.0000	.0002	.0003	.0007	.0067
%RSD	.1118	149.7	47.55	737.9	55.73	17.25	496.3
#1	74.45	-.0000	-.0001	.0001	-.0009	-.0045	-.0060
#2	74.57	.0000	-.0001	-.0002	-.0004	-.0036	.0034

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0000	.0026	.0001	-.0007	.0184	-.1322
SDev	.0001	.0000	.0010	.0000	.0002	.0023	.0707
%RSD	1534.	40.69	40.22	1.066	21.99	12.31	53.46
#1	.0001	.0000	.0019	.0001	-.0006	.0168	-.1822
#2	-.0001	.0000	.0034	.0001	-.0009	.0200	-.0822

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	.0041	.0012	.0006	.0005	.0132	.0004
SDev	.0003	.0020	.0005	.0007	.0001	.0068	.0002
%RSD	211.9	48.91	38.68	126.4	26.26	51.33	43.05
#1	-.0004	.0055	.0015	.0001	.0006	.0084	.0005
#2	.0001	.0027	.0009	.0011	.0004	.0180	.0003

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899
Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.25	.0015	.0006	6.001	.0008	.0009	-.0018
SDev	.30	.0017	.0040	.016	.0003	.0033	.0029
%RSD	.3063	112.3	710.1	.2713	41.47	362.2	166.0
#1	99.04	.0003	-.0023	6.012	.0006	-.0014	-.0039
#2	99.47	.0028	.0034	5.989	.0010	.0032	.0003

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0503	.0001	-.0001	.0016	-.0018	-.0004	-.0032
SDev	.0004	.0016	.0000	.0016	.0104	.0002	.0047
%RSD	.7490	2518.	25.94	101.0	561.5	54.53	145.5
#1	.0500	-.0011	-.0002	.0005	-.0092	-.0002	-.0066
#2	.0506	.0012	-.0001	.0028	.0055	-.0005	.0001

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0003	.0000
SDev	.0000	.0001	.0000
%RSD	175.0	28.07	474.4
#1	.0000	.0003	.0000
#2	-.0001	.0002	-.0000

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	862566	10000	--	--	--	--	--
SDev	2547.706	.0000000	--	--	--	--	--
%RSD	.2953637	.0000000	--	--	--	--	--
#1	860764	10000	--	--	--	--	--
#2	864367	10000	--	--	--	--	--

Analysis Report QC Standard 02/05/03 06:41:34 PM page 1

Method: DAILY1 Sample Name: icv/ccv Operator:
Run Time: 02/05/03 18:36:48
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9793	9.730	5.106	4.672	9.963	1.019	4.902
SDev	.0015	.019	.022	.011	.025	.005	.009
%RSD	.1542	.1995	.4312	.2400	.2481	.5053	.1932
#1	.9782	9.716	5.091	4.664	9.945	1.015	4.896
#2	.9803	9.744	5.122	4.680	9.980	1.022	4.909
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	10.00	5.000	5.000	10.00	1.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.43	1.029	5.035	2.010	1.986	9.865	18.11
SDev	.02	.004	.005	.004	.002	.020	.03
%RSD	.1172	.3817	.0972	.1875	.0975	.1984	.1536
#1	19.41	1.026	5.038	2.008	1.985	9.851	18.09
#2	19.44	1.032	5.031	2.013	1.987	9.879	18.13
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.00	1.000	5.000	2.000	2.000	10.00	20.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.984	4.833	19.55	1.037	5.117	Q42.75	Q26.20
SDev	.021	.007	.05	.000	.010	.00	.06
%RSD	.4303	.1470	.2371	.0401	.2036	.0067	.2402
#1	5.000	4.828	19.52	1.036	5.110	Q42.75	Q26.15
#2	4.969	4.838	19.59	1.037	5.124	Q42.74	Q26.24
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail
Value	5.000	5.000	20.00	1.000	5.000	30.00	30.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.935	4.788	4.993	5.011	.9799	.9750	.9864
SDev	.018	.054	.018	.031	.0007	.0075	.0048
%RSD	.3747	1.122	.3699	.6115	.0707	.7665	.4847
#1	4.922	4.750	5.006	5.033	.9794	.9803	.9898
#2	4.948	4.826	4.980	4.990	.9804	.9697	.9830
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5.000	5.000			1.000	1.000	1.000
Range	10.00	10.00			10.00	10.00	10.00

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.16	5.226	5.179	4.780	5.000	5.190	5.071
SDev	.02	.019	.023	.012	.027	.022	.007
%RSD	.0239	.3708	.4469	.2464	.5312	.4214	.1441
#1	99.18	5.240	5.195	4.772	5.019	5.205	5.065
#2	99.15	5.213	5.163	4.789	4.981	5.174	5.076
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value				5.000	5.000	5.000	5.000
Range				10.00	10.00	10.00	10.00

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.135	.9699	4.854	5.359	.9797	5.041	Q1.232
SDev	.026	.0013	.004	.007	.0092	.016	.001
%RSD	.5099	.1290	.0772	.1341	.9406	.3171	.0703
#1	5.153	.9691	4.856	5.353	.9862	5.029	Q1.232
#2	5.116	.9708	4.851	5.364	.9732	5.052	Q1.233
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	5.000	1.000	5.000	5.000	1.000	5.000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	5.018	1.048	4.892
SDev	.005	.001	.004
%RSD	.1065	.0653	.0849
#1	5.022	1.048	4.889
#2	5.014	1.048	4.895
Errors	QC Pass	QC Pass	QC Pass
Value	5.000	1.000	5.000
Range	10.00	10.00	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	861834	10000	--	--	--	--	--
SDev	184.5549	.0000000	--	--	--	--	--
%RSD	.0214142	.0000000	--	--	--	--	--
#1	861965	10000	--	--	--	--	--
#2	861704	10000	--	--	--	--	--

Analysis Report Blank Sample 02/05/03 06:48:33 PM page 1

Method: DAILY1 Sample Name: icb/ccb Operator:
Run Time: 02/05/03 18:43:45
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0001	-.0012	.0003	.0021	.0000	.0001	.0028
SDev	.0000	.0027	.0005	.0006	.0000	.0000	.0020
%RSD	34.11	233.0	203.2	27.68	3.597	34.53	70.73
#1	-.0001	.0007	.0006	.0025	.0000	.0001	.0042
#2	-.0001	-.0031	-.0001	.0017	.0000	.0001	.0014
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0500	.0050	.0500	.0050	.0050	.0050
Low	-.0050	-.0500	-.0050	-.0500	-.0050	-.0050	-.0050

Elem	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0016	-.0000	-.0002	.0000	-.0002	-.0013	-.0104
SDev	.0000	.0001	.0001	.0001	.0002	.0006	.0097
%RSD	1.064	202.8	76.36	241.6	102.6	44.05	93.78
#1	.0016	.0000	-.0003	.0001	-.0001	-.0009	-.0172
#2	.0016	-.0001	-.0001	-.0000	-.0004	-.0018	-.0035
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0050	.0050	.0050	.0050	.0250	.1000
Low	-.0500	-.0050	-.0050	-.0050	-.0050	-.0250	-.1000

Elem	La4086	Li6707	Mg2790	Mn2576	Mo2020	Na5889	Na3302
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	-.0000	-.0020	.0000	.0014	-.0306	L-.1283
SDev	.0006	.0001	.0011	.0000	.0002	.0011	.0458
%RSD	104.2	18900.	52.61	1130.	15.82	3.638	35.70
#1	-.0001	-.0000	-.0028	.0000	.0015	-.0314	L-.1607
#2	-.0010	.0000	-.0013	-.0000	.0012	-.0298	L-.0959
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Low
High	.0050	.0050	.0500	.0050	.0050	.0500	.0500
Low	-.0050	-.0050	-.0500	-.0050	-.0050	-.0500	-.0500

Elem	Ni2316	P_1782	2203/1	2203/2	Pd3404	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0003	L-.0102	.0012	.0012	.0002	.0029	-.0021
SDev	.0004	.0038	.0003	.0010	.0005	.0008	.0002
%RSD	158.7	37.47	22.02	81.41	252.7	26.45	11.40
#1	-.0006	-.0075	.0014	.0019	-.0002	.0034	-.0023
#2	.0000	L-.0128	.0010	.0005	.0006	.0023	-.0019
Errors	LC Pass	LC Low	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0050	.0100			.0050	.0100	.0100
Low	-.0050	-.0100			-.0050	-.0100	-.0100

Elem	Sc3613	1960/1	1960/2	Si2881	Pb220	Se196	Sn1899

Units	%R	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.48	.0004	-.0007	-.0011	.0012	-.0003	-.0013
SDev	.25	.0018	.0002	.0002	.0008	.0007	.0001
%RSD	.2591	475.2	28.47	20.32	61.92	235.2	7.969
#1	96.30	-.0009	-.0008	-.0013	.0017	-.0008	-.0013
#2	96.65	.0017	-.0005	-.0010	.0007	.0002	-.0014
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High				.0100	.0030	.0050	.0050
Low				-.0100	-.0030	-.0050	-.0050

Elem	Sr4215	Th2837	Ti3372	Tl1908	U_3859	V_2924	W_2079
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0006	-.0001	-.0017	-.0020	.0001	-.0004
SDev	.0000	.0007	.0001	.0122	.0017	.0001	.0012
%RSD	13.41	111.8	106.7	703.3	86.04	77.70	305.8
#1	.0000	.0001	-.0002	L-.0104	-.0032	.0002	.0005
#2	.0000	.0011	-.0000	.0069	-.0008	.0001	-.0013
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0050	.0100	.0050	.0100	.1000	.0050	.0100
Low	-.0050	-.0100	-.0050	-.0100	-.1000	-.0050	-.0100

Elem	Y_3710	Zn2062	Zr3496
Units	ppm	ppm	ppm
Avge	-.0000	.0002	-.0000
SDev	.0000	.0004	.0002
%RSD	337.3	164.4	466.7
#1	.0000	-.0000	.0001
#2	-.0000	.0005	-.0002
Errors	LC Pass	LC Pass	LC Pass
High	.0050	.0050	.0050
Low	-.0050	-.0050	-.0050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	Time	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Sc	--	--	--	--	--	--
Wavlen	361.384	--	--	--	--	--	--
Avge	838511	10000	--	--	--	--	--
SDev	2204.759	.0000000	--	--	--	--	--
%RSD	.2629374	.0000000	--	--	--	--	--
#1	836952	10000	--	--	--	--	--
#2	840070	10000	--	--	--	--	--

TRACE METALS PREPARATORY LABORATORY DIGESTION LOG

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 52 034

CLIENT(S): DIV 20 cont'd on page 52-035
WORK ORDER(S): 23658 SDG(S): 218741 010394
PROJECT NO(S): 06002.01.071
METHOD: 3005A ___ 3050B ___ 3050B-7.5 ___ 3010A ___ 3020A ___ 7760A ___ 7740A ___ HCLO4 ___ H2SO4 Sb ___
Microwave ___ Fusion ___ Teflon ___ Rock ___ OTHER df 10 dilutions
MATRIX: Water ___ Soil ___ Biota ___ Solid ___ Liquid ✓ TCLP Ext ___ OTHER ___
INSTRUMENT: GFAA ___ ICP ✓ ICP-MS ___ IC ___ FLAA ___ HYDRIDE ___ OTHER ___
ACID INORG #: HNO3# ___ HCl# ___ H2SO4# ___ HCLO4# ___ HF# ___
INTERNAL STD: Sc @ 10 PPM ✓ Be @ 10 PPM ___ SOURCE: IV INORG# 3776 EXP: 12/03 AMT: 50ml
Oven/Hotplate ID: / Temperature: /

SAMPLE IDENTIFICATION	pH	WT (g)	I.V. (mL)	F.V. (mL)	
PBW - A16W2			5	5	
LCSW - A16W2 *			↓	↓	
218741 df 10 dilution			500ml		
8741d					
8742					
8743 ③ *					
8743					
8744					
8745					
8746					
8747					
8748					
8749					
8750					
8751					
8752					
8753					
8754					
✓ 8755			↓	↓	
PBW and LCSW are prepared as 5ml 1% HNO_3 / 5% HCL				RLB-02-011-03	Exp 2/4/03
df 10 dilution are prepared as 500ml sample: 4.5ml				RLB ↓	↓ ↓ ↓ ↓ ↓
* Spike 50ml Spike I		Spex# 3583	Exp 7/03		
↓ 20ml I-CAL I		Spex# 3748	Exp 10/03		
↓ 20ml Si @ 1kppm		IV# 3399	Exp 4/03		
↓ 20ml Ir @ 1kppm		IV# 3397	Exp 4/03		
		1-16-03			
					LOCATION:
					N/A

PREPARED BY: John Wills DATE: 1-16-03
REVIEWED BY: Laura Rivera DATE: 1/16/03
DISPOSAL INT/DATE/LOC: ___

TRACE METALS PREPARATORY LABORATORY DIGESTION LOG

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 52 035
010395

CLIENT(S): Div 20 cont'd from page 52-034
WORK ORDER(S): 23658 SDG(S):
PROJECT NO(S): 06002.01.071
METHOD: 3005A___3050B___3050B-7.5___3010A___3020A___7760A___7740A___HCLO4___H2SO4 Sb
Microwave___Fusion___Teflon___Rock___OTHER df 10 dilution
MATRIX: Water___Soil___Biota___Solid___Liquid ✓TCLP Ext___OTHER
INSTRUMENT: GFAA___ICP ✓ICP-MS___IC___FLAA___HYDRIDE___OTHER
ACID INORG #: HNO3#___HCl#___H2SO4#___HCLO4#___HF#___
INTERNAL STD: Sc @ 10 PPM ✓Be @ 10 PPM___SOURCE: IV___INORG# 3776 EXP: 12/03 AMT: 500 ml
Oven/Hotplate ID: ✓ Temperature: ✓

SAMPLE IDENTIFICATION	pH	WT (g)	I.V. (mL)	F.V. (mL)	
PBW - A16W3			5	5	
LCSW - A16W3			↓	↓	
218756 df 10 dilution			500ml		
8756d					
8757					
8757S					
8758					
8759					
8760					
8761					
8762					
8763					
8764					
8765					
8766					
8767					
8768					
8769					
↓ 8770			↓	↓	
PBW and LCSW are prepared as 5ml 1% HNO3/5% HCl				RLB-02-011-03	Exp 2-14-03
df 10 dilution are prepared as 500ml sample : 4.5ml				RLB-↓	↓ ↓ ↓ ↓
* Spike 50ml Spike1		Ser# 3583	Exp 7/03		
↓ 20ml I-CAL 1		Ser# 3748	Exp 10/03		
↓ 20ml Si @ 1kppm		W# 3399	Exp 4/03		
↓ 20ml N @ 1kppm		W# 3397 1-16-03	Exp 4/03		
					LOCATION: N/A

PREPARED BY: John Wills DATE: 1-16-03
REVIEWED BY: Laura Navarro DATE: 1/16/03
DISPOSAL INT/DATE/LOC:

TRACE METALS PREPARATORY LABORATORY DIGESTION LOG

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 52 084

010396

CLIENT(S): DIV 20
WORK ORDER(S): 23658 SDG(S): 218741
PROJECT NO(S): 06002.01.071
METHOD: 3005A___3050B___3050B-7.5___3010A___3020A___7760A___7740A___HCLO4___H2SO4 Sb___
Microwave___Fusion___Teflon___Rock___OTHER___ df ~~TE~~ 5 dilutions
MATRIX: Water___Soil___Biota___Solid___Liquid ✓ TCLP Ext___OTHER___ JW 2-6-03
INSTRUMENT: GFAA___ICP ✓ ICP-MS___IC___FLAA___HYDRIDE___OTHER___
ACID INORG #: HNO3#___HCl#___H2SO4#___HCLO4#___HF#___
INTERNAL STD: Sc @ 10 PPM ✓ Be @ 10 PPM___SOURCE: IV INORG# 3776 EXP: 12/03 AMT: 50 ml
Oven/Hotplate ID: — Temperature: —

SAMPLE IDENTIFICATION	pH	WT (g)	I.V. (mL)	F.V. (mL)	
PBW-B05W1			5	5	
LCSW-B05W1 *			↓	↓	
218741 ~~df 10~~ df 5			1ml ~~500 ml~~	2-6-03 JW	
~~8741d~~ 8743d JW 2-6-03	x3				
~~8741~~ ⑤ *8743 ⑤					
8742					
8743					
8744					
8745					
8746					
8747					
8748					
8749					
8750					
8751					
8752					
8753					
8754					
↓ 8755 ↓			↓	↓	
* Spike 50ml Spike 1	Spex#	3583	Exp 7/03		
20ml I-CAL 1	Spex#	3748	Exp 10/03		
20ml Si @ 1kppm	IV#	3399	Exp 4/03		
↓ 20ml U @ 1kppm	IV#	3397	Exp 4/03		
PBW and LCSW are prep as 5 ml 1% HNO3/5% HCL			RLB-02-012-04		Exp 3-5-03
df ~~10~~ 5 dilution are prep as	~~500 ml~~	Sample:	~~4.5 ml~~	RLB-02-012-04	Exp 3-5-03
JW 2-6-03	1ml	JW 2-5-03	4ml JW	2-6-03 x2	
					LOCATION: n/a

PREPARED BY: John Wilks DATE: 2-5-03
REVIEWED BY: Laura Wright DATE: 2/5/03
DISPOSAL INT/DATE/LOC:

FRM-191 (Rev 1/Jan 02)

TRACE METALS PREPARATORY LABORATORY DIGESTION LOG

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 52 C85

010397

CLIENT(S): Div 20
WORK ORDER(S): 23658 SDG(S): 218741
PROJECT NO(S): 06002.01.071
METHOD: 3005A ___ 3050B ___ 3050B-7.5 ___ 3010A ___ 3020A ___ 7760A ___ 7740A ___ HCLO4 ___ H2SO4 Sb ___
Microwave ___ Fusion ___ Teflon ___ Rock ___ OTHER ___ ~~df 10~~ dilution
MATRIX: Water ___ Soil ___ Biota ___ Solid ___ Liquid ✓ TCLP Ext ___ OTHER 5 jw 2-6-03
INSTRUMENT: GFAA ___ ICP ✓ ICP-MS ___ IC ___ FLAA ___ HYDRIDE ___ OTHER ___
ACID INORG #: HNO3# ___ HCl# ___ H2SO4# ___ HCLO4# ___ HF# ___
INTERNAL STD: Sc @ 10 PPM ✓ Be @ 10 PPM ___ SOURCE: IV INORG# 3776 EXP: 12/03 AMT: 50ml
Oven/Hotplate ID: ___ Temperature: ___

SAMPLE IDENTIFICATION	pH	WT (g)	I.V. (mL)	F.V. (mL)	
PBW-B05W2			5	5	
LCSW-B05W2 *			↓	↓	
218756 ~~df 10~~ 5			~~1ml~~ 500ml jw 2-6-03		
8756d 2-6-03 jw					
8756 ⑤ *					
8757					
8758					
8759					
8760					
8761					
8762					
8763					
8764					
8765					
8766					
8767					
8768					
8769					
✓8770 ↓			↓	↓	
* Spike 50ml Spike I	Spec#	3583	Exp 7/03		
20ml I-CAL I	Spec #	3748	Exp 10/03		
20ml Si @ 1ppm	IV#	3399	Exp 4/03		
↓ 50ml U @ 1ppm	IV #	3397	Exp 4/03		
PBW and LCSW are prep as	5ml	1% HNO_3/5% HCL	RLB	02-012-04	Exp 3-5-03
~~df 10~~ dilution are prep as	~~50ml~~ 1ml	sample	~~4.5ml~~ RLB	02-012-04	Exp 3-5-03
5 2-06-03 jw	jw	2-5-03	4 jw 2-6-03 x2		
					LOCATION:
					N/a

PREPARED BY: John Wills DATE: 2-5-03
REVIEWED BY: Raina Wright DATE: 2/5/03
DISPOSAL INT/DATE/LOC: ___

TRACE METALS PREPARATORY LABORATORY DIGESTION LOG

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 52 088

CLIENT(S): DW 20 010398
WORK ORDER(S): 23658 SDG(S): 218741
PROJECT NO(S): 06002.01.071
METHOD: 3005A ___ 3050B ___ 3050B-7.5 ___ 3010A ___ 3020A ___ 7760A ___ 7740A ___ HCLO4 ___ H2SO4 Sb ___
Microwave ___ Fusion ___ Teflon ___ Rock ___ OTHER ___ # 10 Dilutions
MATRIX: Water ___ Soil ___ Biota ___ Solid ___ Liquid ✓ TCLP Ext ___ OTHER ___
INSTRUMENT: GFAA ___ ICP ✓ ICP-MS ___ IC ___ FLAA ___ HYDRIDE ___ OTHER ___
ACID INORG #: HNO3# ___ HCl# ___ H2SO4# ___ HCLO4# ___ HF# ___
INTERNAL STD: Sc @ 10 PPM ✓ Be @ 10 PPM ___ SOURCE: IV INORG# 3776 EXP: 12/03 AMT: 50ml
Oven/Hotplate ID: ___ Temperature: ___

SAMPLE IDENTIFICATION	pH	WT (g)	I.V. (mL)	F.V. (mL)	
PBW-B05W3			5	5	
LCSW-B05W3 *			↓		
218741 # 10			500 ml		
8741					
8741② *					
8743					
8752					
8756					
8762					
8763					
8764					
8765					
8766					
8767					
8768					
8769					
✓8770 ✓			↓	↓	
* Spike 50ml Spike1	Spec#	3583	Exp 7/03		
20ml I-CAL1	Spec#	3748	Exp 10/03		
20ml Si @ 1kppm	10#	3399	Exp 4/03		
↓ 20ml U @ 1kppm	10#	3397	Exp 4/03		
PBW and LCSW one prep as 5ml	1%	HNO_3/5%	HCL	RLB-02-012-04	Exp 3-5-03
# 10 Dilutions one prep as	500ml	sample:	4.5ml	RLB-02-012-04	Exp 3-5-03
		JW 2-5-03			
					LOCATION: n/a

PREPARED BY: Glen Wills DATE: 2-5-03
REVIEWED BY: Dawna Wright DATE: 2/6/03
DISPOSAL INT/DATE/LOC: ___

Trace Metals Reagent Logbook

010399

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 02 011

Reagent I.D.:	Preparation Description:	Prep Date:	Exp Date:	Initials:
RLB-02-011-01	30% HNO_3	1/9/03	AU	LW (JW)
↓	42 mL di H_2O (LW 1/9/03)	↓	↓	↓
	18 mL HNO_3 #3781			
	for TRC: 52-016			
RLB-02-011-02	Extraction Fluid #2:	1/10/03	4/10/03	LW
↓	11.4 mL Acetic Acid (Fisher #0705)	↓	↓	↓
	FV = 2L w/ di H_2O.			
	pH = 2.87, "EF#2-A09N1"			
	for JACADS TCLP: Prep Logbk 52-021			
RLB-02-011-03	1% HNO_3/5% HCl → 500 mL FV	1/13/03	AU (2/13/03)	LW
↓	5 mL HNO_3 #3781	↓	↓	↓
	25 mL HCl #3888			
	for Div. 20 WO# 23622			
	Prep Logbk pg: 52-023			
RLB-02-011-04	1% HNO_3	1/14/03	2/14/03	LW
↓	5 mL HNO_3 #3780	↓	↓	↓
	in 500 mL Squirt btl.			
	for Blue Line: 52-027			
RLB-02-011-05	1% HNO_3	1/23/03	2/23/03 AU (LW 1/27/03)	LW
↓	10 mL HNO_3 #3782	↓	↓	↓
	into 1L Nalgene w/ di H_2O.			
	for Healthpoint			
	WO# 23695 / 52-051 & 52 & 52-079 - 2/3/03 LW			

Trace Metals Reagent Logbook

010400

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO, TEXAS 78228

BOOK / PAGE: 02 012

Reagent I.D.:	Preparation Description:	Prep Date:	Exp Date:	Initials:
RLB-02-012-01	1% HNO_3 / 5% HCl (~~500~~ 1000 mL FV)	1/24/03	2/24/03	LW
	HNO_3 #3782 / HCl #3889	↓	↓	↓
	for Healthpoint 52-056			
RLB-02-012-02	1% HNO_3 / 5% HCl	1/28/03	2/28/03	LW
↓	HNO_3 #3782 / HCl #3889	LW 1/28/03	(ALL	↓
LW 1/28/03	~~10~~ ~~5~~ mL HNO_3 / ~~50~~ ~~25~~ mL HCl	LW 1/28/03	↓	
	FV = ~~500 mL~~ 1000 mL			
RLB-02-012-03	1% HNO_3 / 5% HCL	1-29-03	2-28-03	JW
↓	To a 500ml Nalgene bottle, add 300 mls	↓	↓	↓
	di water, add 5ml HNO_3 insg # 3914,			
	add 25ml HCL - insg # 3890, F.V. to			
↓	500ml with di water			
RLB-02-012-04	1% HNO_3 / 5% HCL	2-5-03	3-5-03	JW
↓	~~Add~~ ~ 250ml di water to 500 Nalgene	↓	↓	↓
	bottle, add 5ml HNO_3 insg # 3914 and			
	25ml HCL - insg # 3891, F.V. to 500ml			
↓	with di water			
RLB-02-012-05	1% HNO_3	2-6-03	3-6-03	JW
↓	add ~ 200ml di water to 500ml Nalgene	↓	↓	↓
	bottle, add 5ml HNO_3 - insg # 3915			
↓	F.V. to 500ml with di water			

BOOK/ PAGE 05 050

010401

SOUTHWEST RESEARCH INSTITUTE

6220 Culebra Rd
San Antonio, Texas 78228

TJA_2 TRACE ICP DAILY LOG

ANALYST DL

DATE 1-20-03

As 189.042 Profile Line

As Intensity: 543,753

PEAK POSITION -1026697

VERNIER POSITION 757

QC PREP DATE:	
CCV/ICV	03A09
CRI	03A063 DU
ICSA	03A06
ICSAB	02M02

STDs PREP DATE:	
CLP_STD1_SC	02L20
CLP_STD2_SC	02M27
CLP_STD3_SC	03A09
CLP_STD4_SC	02M27
CLP_STD5_SC	02L20
CLP_STD6_SC	03A15
BLK_SC	03A06

COMMENTS	FILE	CLIENT	WO#	PROJECT NO.	METHOD
B23656A	Daily 15	Div 20	23658	06002.01.071	Daily 52 034
B23634	1	INEEL	23654/66	03167.61.006	Daily 52 034

1-20-03

COMMENTS:

MAINTENANCE:

REVIEWED BY: Teresa Ohmit DATE: 2/10/3

BOOK/ PAGE 05 049

SOUTHWEST RESEARCH INSTITUTE

010402

6220 Culebra Rd
San Antonio, Texas 78228

TJA_2 TRACE ICP DAILY LOG

blk	01/20/03	09:23	DAILY45	DAILY2
clp_std4	01/20/03	09:27	DAILY45	DAILY2
clp_std1	01/20/03	09:32	DAILY45	DAILY2
clp_std5	01/20/03	09:35	DAILY45	DAILY2
clp_std2	01/20/03	09:39	DAILY45	DAILY2
clp_std3	01/20/03	09:42	DAILY45	DAILY2
clp_std6	01/20/03	09:46	DAILY45	DAILY2
icv7ccv	01/20/03	09:51	DAILY45	DAILY2
icb/ccb	01/20/03	09:58	DAILY45	DAILY2
218762	01/20/03	10:03	DAILY45	DAILY2
218763	01/20/03	10:07	DAILY45	DAILY2
218762	01/20/03	10:15	DAILY45	DAILY2
218763	01/20/03	10:20	DAILY45	DAILY2
218764	01/20/03	10:25	DAILY45	DAILY2
218765	01/20/03	10:29	DAILY45	DAILY2
218766	01/20/03	10:34	DAILY45	DAILY2
218767	01/20/03	10:39	DAILY45	DAILY2
218768	01/20/03	10:43	DAILY45	DAILY2
218769	01/20/03	10:48	DAILY45	DAILY2
218770	01/20/03	10:53	DAILY45	DAILY2
icv/ccv	01/20/03	11:01	DAILY45	DAILY2
icb/ccb	01/20/03	11:08	DAILY45	DAILY2
icv	01/20/03	12:02	DAILY45	DAILY2
icb/ccb	01/20/03	12:08	DAILY45	DAILY2
cri	01/20/03	12:13	DAILY45	DAILY2
icsa	01/20/03	12:18	DAILY45	DAILY2
icsab	01/20/03	12:22	DAILY45	DAILY2
icv/ccv	01/20/03	12:31	DAILY45	DAILY2
icb/ccb	01/20/03	12:37	DAILY45	DAILY2
lrs-1	01/20/03	12:42	DAILY45	DAILY2
lrs-2	01/20/03	12:47	DAILY45	DAILY2
lrs-3	01/20/03	12:51	DAILY45	DAILY2
lrs-4	01/20/03	12:56	DAILY45	DAILY2
zzzzzz	01/20/03	13:01	DAILY45	DAILY2
pbw-a16w6 pg52-038	01/20/03	13:11	DAILY45	DAILY2
lcsw-a16w6	01/20/03	13:15	DAILY45	DAILY2
icv/ccv	01/20/03	13:22	DAILY45	DAILY2
icb/ccb	01/20/03	13:28	DAILY45	DAILY2
218525	01/20/03	14:05	DAILY45	DAILY2
218525d	01/20/03	14:10	DAILY45	DAILY2
218525L	01/20/03	14:15	DAILY45	DAILY2
218525s	01/20/03	14:19	DAILY45	DAILY2
218525sd	01/20/03	14:24	DAILY45	DAILY2
218525aspk	01/20/03	14:29	DAILY45	DAILY2
218811	01/20/03	14:34	DAILY45	DAILY2
218812	01/20/03	14:38	DAILY45	DAILY2
icv/ccv	01/20/03	14:47	DAILY45	DAILY2
icb/ccb	01/20/03	14:56	DAILY45	DAILY2
cri	01/20/03	15:00	DAILY45	DAILY2
icsa	01/20/03	15:05	DAILY45	DAILY2
icsab	01/20/03	15:10	DAILY45	DAILY2
icv/ccv	01/20/03	15:18	DAILY45	DAILY2
icb/ccb	01/20/03	15:25	DAILY45	DAILY2

ANALYST: [signature] DATE: 1-20-03

BOOK/ PAGE 05 048

010403

SOUTHWEST RESEARCH INSTITUTE

6220 Culebra Rd
San Antonio, Texas 78228

TJA_2 TRACE ICP DAILY LOG

ANALYST T. O'Brien

DATE 01/17/2003

As 189.042 Profile Line

As Intensity: 695.4

PEAK POSITION -0.037529

VERNIER POSITION 754

QC PREP DATE:	
CCV/ICV	03A09
CRI	03A03
ICSA	03A06
ICSAB	02M02

STDs PREP DATE:	
CLP_STD1_SC	02L20
CLP_STD2_SC	02M27
CLP_STD3_SC	03A09
CLP_STD4_SC	02M27
CLP_STD5_SC	02L20
CLP_STD6_SC	03A15
BLK_SC	03A06

COMMENTS	FILE	CLIENT	WO#	PROJECT NO.	METHOD
B23658		Div. 20	23658	06002.01.071	DAIY2 S2 034

1-17-03

COMMENTS:

MAINTENANCE: Updated All IECs TOD 1/17/03

REVIEWED BY:

DATE: 1-17-03

BOOK/ PAGE 05 047

SOUTHWEST RESEARCH INSTITUTE

010404

6220 Culebra Rd
San Antonio, Texas 78228

TJA_2 TRACE ICP DAILY LOG

BLK SIR	01/17/03	10:38	DAILY45	DAILY2
W 500ppm	01/17/03	10:45	DAILY45	DAILY2
W 500ppm	01/17/03	11:08	DAILY45	DAILY2
blk	01/17/03	13:33	DAILY45	DAILY2
blk	01/17/03	13:38	DAILY45	DAILY2
clp_std4	01/17/03	13:43	DAILY45	DAILY2
clp_std1	01/17/03	13:47	DAILY45	DAILY2
clp_std5	01/17/03	13:51	DAILY45	DAILY2
clp_std2	01/17/03	13:54	DAILY45	DAILY2
clp_std3	01/17/03	13:57	DAILY45	DAILY2
clp_std6	01/17/03	14:01	DAILY45	DAILY2
icv/ccv	01/17/03	14:07	DAILY45	DAILY2
icb/ccb	01/17/03	14:13	DAILY45	DAILY2
cri	01/17/03	14:18	DAILY45	DAILY2
icsa	01/17/03	14:23	DAILY45	DAILY2
icsab	01/17/03	14:27	DAILY45	DAILY2
pbw-a16w2_pg52-034	01/17/03	15:11	DAILY45	DAILY2
lcsw-a16w2	01/17/03	15:16	DAILY45	DAILY2
218741	01/17/03	15:20	DAILY45	DAILY2
218741d	01/17/03	15:25	DAILY45	DAILY2
218742	01/17/03	15:30	DAILY45	DAILY2
218742s	01/17/03	15:34	DAILY45	DAILY2
218743	01/17/03	15:39	DAILY45	DAILY2
218744	01/17/03	15:44	DAILY45	DAILY2
218745	01/17/03	15:48	DAILY45	DAILY2
218746	01/17/03	15:53	DAILY45	DAILY2
icv/ccv	01/17/03	16:00	DAILY45	DAILY2
icb/ccb	01/17/03	16:06	DAILY45	DAILY2
218747	01/17/03	16:11	DAILY45	DAILY2
218748	01/17/03	16:16	DAILY45	DAILY2
218749	01/17/03	16:20	DAILY45	DAILY2
218750	01/17/03	16:25	DAILY45	DAILY2
218751	01/17/03	16:30	DAILY45	DAILY2
218752	01/17/03	16:35	DAILY45	DAILY2
218753	01/17/03	16:39	DAILY45	DAILY2
218754	01/17/03	16:44	DAILY45	DAILY2
218755	01/17/03	16:49	DAILY45	DAILY2
icv/ccv	01/17/03	16:57	DAILY45	DAILY2
icb/ccb	01/17/03	17:04	DAILY45	DAILY2
pbw-a16w3_52-035	01/17/03	17:10	DAILY45	DAILY2
lcsw-a16w3	01/17/03	17:15	DAILY45	DAILY2
218756	01/17/03	17:20	DAILY45	DAILY2
218756d	01/17/03	17:24	DAILY45	DAILY2
218757	01/17/03	17:29	DAILY45	DAILY2
218757s	01/17/03	17:34	DAILY45	DAILY2
218758	01/17/03	17:38	DAILY45	DAILY2
218759	01/17/03	17:43	DAILY45	DAILY2
218760	01/17/03	17:48	DAILY45	DAILY2
218761	01/17/03	17:52	DAILY45	DAILY2
218766	01/17/03	18:34	DAILY45	DAILY2
218767	01/17/03	18:38	DAILY45	DAILY2
218768				

ANALYST: T. Ohmer DATE: 1/17/2003

010405

TJA 2 Trace ICP SMPLNAME.....	DATESTMP.	TIMESTMP	FILENAME	METHNAM
icv/ccv	01/17/03	17:59	DAILY45	DAILY2
icb/ccb	01/17/03	18:05	DAILY45	DAILY2
218762	01/17/03	18:10	DAILY45	DAILY2
218763	01/17/03	18:15	DAILY45	DAILY2
218764	01/17/03	18:20	DAILY45	DAILY2
218765	01/17/03	18:24	DAILY45	DAILY2
218766	01/17/03	18:29	DAILY45	DAILY2
218767	01/17/03	18:34	DAILY45	DAILY2
218768	01/17/03	18:38	DAILY45	DAILY2

ANALYST: T. Shrier DATE: 1/17/2003

BOOK/ PAGE 13 122

010406

SOUTHWEST RESEARCH INSTITUTE

6220 Culebra Rd
San Antonio, Texas 78228

TJA TRACE ICP DAILY LOG

ANALYST T. Ohri / DL

DATE 2-~~4~~-03 5 TOB 2/7/03

As 189.042 Profile Line As Intensity: 677.563

PEAK POSITION -0.033627
VERNIER POSITION 294
AUTOSAMPLER Yes X No

QC PREP DATE:	
CCV/ICV	03A23
CRI	
ICSA	
ICSAB	

STDs PREP DATE:	
CLP_STD1_SC	03A22
CLP_STD2_SC	02M27
CLP_STD3_SC	03A09
CLP_STD4_SC	03B03
CLP_STD5_SC	03A22
CLP_STD6_SC	03A15
BLK_SC	03B03

COMMENTS	FILE	CLIENT	WO#	PROJECT NO.	METHOD	
S-W-SC	Daily 24	DSM	23728	06053.06.019	S-W-SC	52-075
23658	Daily 24	Div. 20	23658	06002.01.071	Daily1	52 084
						52 085
						52 088

DL 2.11.03

COMMENTS:

MAINTENANCE:

REVIEWED BY: C. Aduña DATE: 2/11/03

BOOK/ PAGE 13 121

010407

SOUTHWEST RESEARCH INSTITUTE

6220 Culebra Rd
San Antonio, Texas 78228

TJA TRACE ICP DAILY LOG

blk	02/05/03	09:35	DAILY24	S_W_SC
clp_std6	02/05/03	09:37	DAILY24	S_W_SC
icv/ccv	02/05/03	09:39	DAILY24	S_W_SC
icv/ccv	02/05/03	09:44	DAILY24	S_W_SC
icb/ccb	02/05/03	09:47	DAILY24	S_W_SC
PBW-A38L4 DF2	02/05/03	09:50	DAILY24	S_W_SC
PBW-A38L5 DF2	02/05/03	09:53	DAILY24	S_W_SC
PBW-A38L6 DF2	02/05/03	09:55	DAILY24	S_W_SC
219555 df2	02/05/03	09:58	DAILY24	S_W_SC
219556 df2	02/05/03	10:01	DAILY24	S_W_SC
219557 df2	02/05/03	10:03	DAILY24	S_W_SC
2195570 df2	02/05/03	10:06	DAILY24	S_W_SC
icv/ccv	02/05/03	10:09	DAILY24	S_W_SC
icb/ccb	02/05/03	10:13	DAILY24	S_W_SC
219558 df2	02/05/03	10:15	DAILY24	S_W_SC
219559 df2	02/05/03	10:18	DAILY24	S_W_SC
219560 df2	02/05/03	10:21	DAILY24	S_W_SC
2195600 df2	02/05/03	10:23	DAILY24	S_W_SC
219561 df2	02/05/03	10:26	DAILY24	S_W_SC
219562 df2	02/05/03	10:28	DAILY24	S_W_SC
icv/ccv	02/05/03	10:32	DAILY24	S_W_SC
icb/ccb	02/05/03	10:36	DAILY24	S_W_SC
218743 df10	02/05/03	13:17	DAILY24	DAILY1
218752 df10	02/05/03	13:21	DAILY24	DAILY1
218756 df10	02/05/03	13:26	DAILY24	DAILY1
218762 df10	02/05/03	13:30	DAILY24	DAILY1
218763 df10	02/05/03	13:35	DAILY24	DAILY1
218764 df10	02/05/03	13:40	DAILY24	DAILY1
218765 df10	02/05/03	13:44	DAILY24	DAILY1
icv/ccv	02/05/03	13:52	DAILY24	DAILY1
icb/ccb	02/05/03	13:59	DAILY24	DAILY1
218766 df10	02/05/03	14:04	DAILY24	DAILY1
218767 df10	02/05/03	14:09	DAILY24	DAILY1
218768 df10	02/05/03	14:14	DAILY24	DAILY1
218769 df10	02/05/03	14:19	DAILY24	DAILY1
218770 df10	02/05/03	14:23	DAILY24	DAILY1
icv/ccv	02/05/03	14:31	DAILY24	DAILY1
icb/ccb	02/05/03	14:38	DAILY24	DAILY1
pbw-pg52-084	02/05/03	14:42	DAILY24	DAILY1
lcsw-pg52-084	02/05/03	14:47	DAILY24	DAILY1
218741 df5	02/05/03	14:52	DAILY24	DAILY1
218742 df5	02/05/03	14:56	DAILY24	DAILY1
218743 df5	02/05/03	15:01	DAILY24	DAILY1
218743d df5	02/05/03	15:05	DAILY24	DAILY1
218743s df5	02/05/03	15:10	DAILY24	DAILY1
218744 df5	02/05/03	15:14	DAILY24	DAILY1
218745 df5	02/05/03	15:19	DAILY24	DAILY1
218746 df5	02/05/03	15:24	DAILY24	DAILY1
icv/ccv	02/05/03	15:33	DAILY24	DAILY1
icb/ccb	02/05/03	15:39	DAILY24	DAILY1
218747 df5	02/05/03	15:44	DAILY24	DAILY1
218748 df5	02/05/03	15:49	DAILY24	DAILY1
218749 df5	02/05/03	15:53	DAILY24	DAILY1
218750 df5	02/05/03	15:58	DAILY24	DAILY1
218751 df5	02/05/03	16:02	DAILY24	DAILY1
218752 df5	02/05/03	16:07	DAILY24	DAILY1
218753 df5	02/05/03	16:12	DAILY24	DAILY1
218754 df5	02/05/03	16:16	DAILY24	DAILY1
218755 df5	02/05/03	16:21	DAILY24	DAILY1
icv/ccv	02/05/03	16:30	DAILY24	DAILY1
icb/ccb	02/05/03	16:37	DAILY24	DAILY1
pbw-pg52-085	02/05/03	16:42	DAILY24	DAILY1
lcsw-pg52-085	02/05/03	16:46	DAILY24	DAILY1
218756 df5	02/05/03	16:51	DAILY24	DAILY1
218756d df5	02/05/03	16:56	DAILY24	DAILY1
218756s df5	02/05/03	17:01	DAILY24	DAILY1
218757 df5	02/05/03	17:06	DAILY24	DAILY1
218758 df5	02/05/03	17:11	DAILY24	DAILY1
218759 df5	02/05/03	17:16	DAILY24	DAILY1
218760 df5	02/05/03	17:21	DAILY24	DAILY1

ANALYST: DV

DATE: 2-5-03

010408

blk	02/05/03	12:16	DAILY24	DAILY1
blk	02/05/03	12:20	DAILY24	DAILY1
clp_std4	02/05/03	12:25	DAILY24	DAILY1
clp_std1	02/05/03	12:29	DAILY24	DAILY1
clp_std5	02/05/03	12:33	DAILY24	DAILY1
clp_std2	02/05/03	12:36	DAILY24	DAILY1
clp_std3	02/05/03	12:39	DAILY24	DAILY1
clp_std6	02/05/03	12:43	DAILY24	DAILY1
icv/ccv	02/05/03	12:51	DAILY24	DAILY1
icb/ccb	02/05/03	12:58	DAILY24	DAILY1
pbw-pg52-088	02/05/03	13:03	DAILY24	DAILY1
lcsw-pg52-088	02/05/03	13:07	DAILY24	DAILY1
218741 df10	02/05/03	13:12	DAILY24	DAILY1
218743 df10	02/05/03	13:17	DAILY24	DAILY1
218752 df10	02/05/03	13:21	DAILY24	DAILY1
218756 df10	02/05/03	13:26	DAILY24	DAILY1
218762 df10	02/05/03	13:30	DAILY24	DAILY1
218763 df10	02/05/03	13:35	DAILY24	DAILY1
218764 df10	02/05/03	13:40	DAILY24	DAILY1
218765 df10	02/05/03	13:44	DAILY24	DAILY1
icv/ccv	02/05/03	13:52	DAILY24	DAILY1
icb/ccb	02/05/03	13:59	DAILY24	DAILY1
218766 df10	02/05/03	14:04	DAILY24	DAILY1
218767 df10	02/05/03	14:09	DAILY24	DAILY1
218768 df10	02/05/03	14:14	DAILY24	DAILY1
218769 df10	02/05/03	14:19	DAILY24	DAILY1
218770 df10	02/05/03	14:23	DAILY24	DAILY1
icv/ccv	02/05/03	14:31	DAILY24	DAILY1
icb/ccb	02/05/03	14:38	DAILY24	DAILY1
pbw-pg52-084	02/05/03	14:42	DAILY24	DAILY1
lcsw-pg52-084	02/05/03	14:47	DAILY24	DAILY1
218741 df5	02/05/03	14:52	DAILY24	DAILY1
218742 df5	02/05/03	14:56	DAILY24	DAILY1
218743 df5	02/05/03	15:01	DAILY24	DAILY1
218743d df5	02/05/03	15:05	DAILY24	DAILY1
218743s df5	02/05/03	15:10	DAILY24	DAILY1
218744 df5	02/05/03	15:14	DAILY24	DAILY1
218745 df5	02/05/03	15:19	DAILY24	DAILY1
218746 df5	02/05/03	15:24	DAILY24	DAILY1
icv/ccv	02/05/03	15:33	DAILY24	DAILY1
icb/ccb	02/05/03	15:39	DAILY24	DAILY1
218747 df5	02/05/03	15:44	DAILY24	DAILY1
218748 df5	02/05/03	15:49	DAILY24	DAILY1
218749 df5	02/05/03	15:53	DAILY24	DAILY1
218750 df5	02/05/03	15:58	DAILY24	DAILY1
218751 df5	02/05/03	16:02	DAILY24	DAILY1
218752 df5	02/05/03	16:07	DAILY24	DAILY1
218753 df5	02/05/03	16:12	DAILY24	DAILY1
218754 df5	02/05/03	16:16	DAILY24	DAILY1
218755 df5	02/05/03	16:21	DAILY24	DAILY1
icv/ccv	02/05/03	16:30	DAILY24	DAILY1
icb/ccb	02/05/03	16:37	DAILY24	DAILY1
pbw-pg52-085	02/05/03	16:42	DAILY24	DAILY1
lcsw-pg52-085	02/05/03	16:46	DAILY24	DAILY1
218756 df5	02/05/03	16:51	DAILY24	DAILY1
218756d df5	02/05/03	16:56	DAILY24	DAILY1
218756s df5	02/05/03	17:01	DAILY24	DAILY1
218757 df5	02/05/03	17:06	DAILY24	DAILY1
218758 df5	02/05/03	17:11	DAILY24	DAILY1
218759 df5	02/05/03	17:16	DAILY24	DAILY1
218760 df5	02/05/03	17:21	DAILY24	DAILY1
218761 df5	02/05/03	17:25	DAILY24	DAILY1
218762 df5	02/05/03	17:30	DAILY24	DAILY1
icv/ccv	02/05/03	17:39	DAILY24	DAILY1

ANALYST: DL

DATE: 2-5-03

BOOK/ PAGE 13 12

SC

010409

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tja 1 Trace ICP

SMPCNAME.....	DATESTMP.	TIMESTMP	FILENAME	METANAME
icb/ccb	02/05/03	17:46	DAILY24	DAILY1
218763 df5	02/05/03	17:51	DAILY24	DAILY1
218764 df5	02/05/03	17:56	DAILY24	DAILY1
218765 df5	02/05/03	18:01	DAILY24	DAILY1
218766 df5	02/05/03	18:06	DAILY24	DAILY1
218767 df5	02/05/03	18:11	DAILY24	DAILY1
218768 df5	02/05/03	18:16	DAILY24	DAILY1
218769 df5	02/05/03	18:21	DAILY24	DAILY1
218770 df5	02/05/03	18:25	DAILY24	DAILY1
icv/ccv	02/05/03	18:36	DAILY24	DAILY1
icb/ccb	02/05/03	18:43	DAILY24	DAILY1

ANALYST: DL DATE: 2-5-03

ICP Calibration Blank/ICB/CCB Solution

ID: BLK- ~~02M12~~ 02M12-ICB

Date Prepared: 12/12/02 Prepared By: T. OBrien 010410

Make up as needed in 1000ml volumetric flask.

Added ✓ 10 ml HNO3 INORG #: 3778

Added ✓ 50 ml HCL INORG #: 3730

Added ✓ 1000ul of 10000ppm Sc (INORG. VENT.) EXP. Date: 10/1/03 INORG #: 3683

ICP Calibration Blank/ICB/CCB Solution

ID: BLK- 02M23

Date Prepared: 12/23/02 Prepared By: T OBrien

Make up as needed in 1000ml volumetric flask.

Added ✓ 10 ml HNO3 INORG #: 3778

Added ✓ 50 ml HCL INORG #: 3731

Added ✓ 1000ul of 10000ppm Sc (INORG. VENT.) EXP. Date: 10/1/03 INORG #: 3683

ICP Calibration Blank/ICB/CCB Solution

ID: BLK- 03A06

Date Prepared: 1-6-03 Prepared By: [signature]

Make up as needed in 1000ml volumetric flask.

Added ✓ 10 ml HNO3 INORG #: 3781

Added ✓ 50 ml HCL INORG #: 3887

Added ✓ 1000ul of 10000ppm Sc (INORG. VENT.) EXP. Date: 10-1-03 INORG #: 3683

ICP Calibration Blank/ICB/CCB Solution

ID: BLK- 03B03

Date Prepared: 2-3-03 Prepared By: [signature]

Make up as needed in 1000ml volumetric flask.

Added ✓ 10 ml HNO3 INORG #: 3914

Added ✓ 50 ml HCL INORG #: 3890

Added ✓ 1000ul of 10000ppm Sc (INORG. VENT.) EXP. Date: 10-1-03 INORG #: 3683

ICP ICV/CCV SOLUTION

CCV- 03A23

010411

Date Prepared: 1-23-03 Prepared By: DL

HNO3 INORG #: 3782 HCl INORG #: 3889

Make up as needed in 1000ml volumetric flask in 1% HNO3 AND 5% HCl.

Element	Std Conc (ppm)	Amt added	Check	Source	Inorg #	Stock Conc (ppm)	Exp Date
Sc	10	1ml	✓	INORGVENT	3683	10000	10-1-03
B	5	5ml	✓	SPEX	3611	1000	8-15-03
Li	5	5ml	✓	SPEX	3612	1000	8-15-03
Mo	5	5ml	✓	SPEX	3613	1000	8-15-03
P	5	5ml	✓	SPEX	~~3854~~ 3927 OH	1000	~~12-15-03~~ OH 1-15-04
Si	5	5ml	✓	SPEX	3858	1000	12-15-03
Ti	5	5ml	✓	SPEX	3857	1000	12-15-03
Sr	5	5ml	✓	SPEX	3609	1000	4-15-03
Sn	5	5ml	✓	SPEX	3644	1000	8-15-03
Bi	5	5ml	✓	SPEX	3643	1000	8-15-03
La	5	5ml	✓	SPEX	3645	1000	8-15-03
Y	5	5ml	✓	SPEX	3647	1000	8-15-03
Pd	1	1ml	✓	SPEX	~~3856~~ 3928 OH	1000	1-15-04
S	1	1ml	✓	SPEX	3562	1000	7-15-03
Th	1	1ml	✓	SPEX	3684	1000	9-15-03
U	1	1ml	✓	SPEX	3533	1000	6-30-03
W	1	1ml	✓	SPEX	3646	1000	8-15-03
Zr	5	5ml	✓	SPEX	3608	1000	7-30-03
Na	10	1ml	✓	SPEX	3355	10000	2-28-03
ICV-2A	vary	10ml	✓	SPEX	3773	mix	11-30-03
ICV-2B	vary	1ml	✓	SPEX	3774	mix	11-30-03
ICV-2C	vary	10ml	✓	SPEX	3775	mix	11-30-03

Expiration Date: 2-28-03

ICP ICV/CCV SOLUTION

010412

CCV- 03A09

Date Prepared: 1-9-03 Prepared By: [signature] 03A09

HNO3 INORG #: 3781 HCl INORG #: 3887

Make up as needed in 1000ml volumetric flask in 1% HNO3 AND 5% HCl.

Element	Std Conc (ppm)	Amt added	Check	Source	Inorg #	Stock Conc (ppm)	Exp Date
Sc	10	1ml	✓	INORGVENT	3683	10000	10-1-03
B	5	5ml	✓	SPEX	3611	1000	8-15-03
Li	5	5ml	✓	SPEX	3612	1000	8-15-03
Mo	5	5ml	✓	SPEX	3613	1000	8-15-03
P	5	5ml	✓	SPEX	3428	1000	4-30-03
Si	5	5ml	✓	SPEX	3858	1000	12-15-03
Ti	5	5ml	✓	SPEX	3457	1000	12-15-03
Sr	5	5ml	✓	SPEX	3409	1000	4-15-03
Sn	5	5ml	✓	SPEX	3644	1000	8-15-03
Bi	5	5ml	✓	SPEX	3648 3011	1000	8-15-03
La	5	5ml	✓	SPEX	3645	1000	8-15-03
Y	5	5ml	✓	SPEX	3647	1000	8-15-03
Pd	1	1ml	✓	SPEX	~~3256~~ 3928	1000	~~1-30-03~~ 1-15-04
S	1	1ml	✓	SPEX	3562	1000	7-15-03
Th	1	1ml	✓	SPEX	3684	1000	9-15-03
U	1	1ml	✓	SPEX	3533	1000	6-30-03
W	1	1ml	✓	SPEX	3646	1000	8-15-03
Zr	5	5ml	✓	SPEX	3608	1000	7-30-03
Na	10	1ml	✓	SPEX	3355	10000	2-28-03
ICV-2A	vary	10ml	✓	SPEX	3773	mix	11-30-03
ICV-2B	vary	1ml	✓	SPEX	3774	mix	11-30-03
ICV-2C	vary	10ml	✓	SPEX	3775	mix	11-30-03

Expiration Date: ~~1-30-03~~ 2-28-03

ICP Calibration Standards

Date Prepared: 11-20-02 Prepared By: [signature] 010413

HNO3 INORG #: 3724 HCl INORG #: 3729

Make up as needed in 500 ml volumetric flasks in 1% HNO3 and 5% HCl.

Prepared	Standard Name	Element	Std Conc (ppm)	Added ml	Check	Source	INORG #	Stock Conc (ppm)	Exp Date
	STD1-	Al	50	2.50	✓	INORVENT	3649	10000	9-1-03
		Ca	50	2.50	✓	INORVENT	3284	10000	3-1-03
		Fe	50	2.50	✓	INORVENT	3286	10000	3-1-03
		K	50	2.50	✓	INORVENT	3289	10000	3-1-03
		Mg	25	1.25	✓	INORVENT	3564	10000	8-1-03
		Na	50	2.50	✓	INORVENT	3565	10000	8-1-03
		Li	10	5.00	✓	INORVENT	3736	1000	11-1-03
		Sc	10	0.500	✓	INORVENT	3683	10000	10-1-03
	STD2-	Ba	10	5.00		INORVENT		1000	
		Be	5	2.50		INORVENT		1000	
		Cr	10	5.00		INORVENT		1000	
		Cu	10	5.00		INORVENT		1000	
		Ni	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD3-	Cd	10	5.00		INORVENT		1000	
		Co	10	5.00		INORVENT		1000	
		Mn	10	5.00		INORVENT		1000	
		V	10	5.00		INORVENT		1000	
		Zn	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD4-	Ag	2	1.00		INORVENT		1000	
		As	10	5.00		INORVENT		1000	
		Pb	10	5.00		INORVENT		1000	
		Sb	10	5.00		INORVENT		1000	
		Se	10	5.00		INORVENT		1000	
		TL	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD5-	B	10	5.00	✓	INORVENT	3549	1000	7-1-03
		Mo	10	5.00	✓	INORVENT	3551	1000	7-1-03
		P	10	5.00	✓	INORVENT	3436	1000	6-1-03
		Si	10	5.00	✓	INORVENT	3399	1000	4-1-03
		Ti	10	5.00	✓	INORVENT	3762	1000	12-1-03
		Sr	10	5.00	✓	INORVENT	3566	1000	8-1-03
		Sn	10	5.00	✓	INORVENT	3552	1000	7-1-03
		Bi	5	2.50	✓	INORVENT	3606	1000	8-1-03
		Sc	10	0.500	✓	INORVENT	3683	10000	10-1-03
	STD6-	La	10	5.00		INORVENT		1000	
		Na	1	0.05		INORVENT		10000	
		Pd	10	5.00		INORVENT		1000	
		S	10	5.00		INORVENT		1000	
		Th	10	5.00		INORVENT		1000	
		U	10	5.00		INORVENT		1000	
		W	5	2.50		INORVENT		1000	
		Y	10	5.00		INORVENT		1000	
		Zr	10	5.00		INORVENT		1000	
		SC	10	0.500		INORVENT		10000	

Expiration Dates: pH 11-20-02

STD1: ~~OCC~~ 3-1-03 STD4:

STD2: STD5: 4-1-03

STD3: STD6:

ICP Calibration Standards

010414

Date Prepared: 12/27/02 Prepared By: T. Shin

HNO3 INORG #: 3779 HCl INORG #: 3986

Make up as needed in 500 ml volumetric flasks in 1% HNO3 and 5% HCl.

Prepared	Standard Name	Element	Std Conc (ppm)	Added ml	Check	Source	INORG #	Stock Conc (ppm)	Exp Date
	STD1-	Al	50	2.50		INORVENT		10000	
		Ca	50	2.50		INORVENT		10000	
		Fe	50	2.50		INORVENT		10000	
		K	50	2.50		INORVENT		10000	
		Mg	25	1.25		INORVENT		10000	
		Na	50	2.50		INORVENT		10000	
		Li	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD2-	Ba	10	5.00	✓	INORVENT	3393	1000	4-1-03
02M27		Be	5	2.50	3489	INORVENT	3499	1000	7/1/03
		Cr	10	5.00	✓	INORVENT	3732	1000	11-1-03
		Cu	10	5.00	✓	INORVENT	3295	1000	3-1-03
		Ni	10	5.00	✓	INORVENT	3400	1000	4-1-03
		Sc	10	0.500		INORVENT	3683	10000	10-1-03
	STD3-	Cd	10	5.00		INORVENT		1000	
		Co	10	5.00		INORVENT		1000	
		Mn	10	5.00		INORVENT		1000	
		V	10	5.00		INORVENT		1000	
		Zn	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD4-	Ag	2	1.00	✓	INORVENT	3653	1000	9-1-03
		As	10	5.00	✓	INORVENT	3394	1000	4-1-03
02M27		Pb	10	5.00	✓	INORVENT	3739	1000	11-1-03
		Sb	10	5.00	✓	INORVENT	3563	1000	8-1-03
		Se	10	5.00	✓	INORVENT	3652	1000	9-1-03
		TL	10	5.00		INORVENT	3396	1000	4-1-03
		Sc	10	0.500	✓	INORVENT	3683	10000	10-1-03
	STD5-	B	10	5.00		INORVENT		1000	
		Mo	10	5.00		INORVENT		1000	
		P	10	5.00		INORVENT		1000	
		Si	10	5.00		INORVENT		1000	
		Ti	10	5.00		INORVENT		1000	
		Sr	10	5.00		INORVENT		1000	
		Sn	10	5.00		INORVENT		1000	
		Bi	5	2.50		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD6-	La	10	5.00		INORVENT		1000	
		Na	1	0.05		INORVENT		10000	
		Pd	10	5.00		INORVENT		1000	
		S	10	5.00		INORVENT		1000	
		Th	10	5.00		INORVENT		1000	
		U	10	5.00		INORVENT		1000	
		W	5	2.50		INORVENT		1000	
		Y	10	5.00		INORVENT		1000	
		Zr	10	5.00		INORVENT		1000	
		SC	10	0.500		INORVENT		10000	

Expiration Dates:

STD1:

STD2: 3-1-03

STD3:

STD4: 4-1-07

STD5:

STD6:

ICP Calibration Standards

Date Prepared: 1-9-03 Prepared By: DL 010415

HNO3 INORG #: 3781 HCl INORG #: 3887

Make up as needed in 500 ml volumetric flasks in 1% HNO3 and 5% HCl.

Prepared	Standard Name	Element	Std Conc (ppm)	Added ml	Check	Source	INORG #	Stock Conc (ppm)	Exp Date
	STD1-	Al	50	2.50		INORVENT		10000	
		Ca	50	2.50		INORVENT		10000	
		Fe	50	2.50		INORVENT		10000	
		K	50	2.50		INORVENT		10000	
		Mg	25	1.25		INORVENT		10000	
		Na	50	2.50		INORVENT		10000	
		Li	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD2-	Ba	10	5.00		INORVENT		1000	
		Be	5	2.50		INORVENT		1000	
		Cr	10	5.00		INORVENT		1000	
		Cu	10	5.00		INORVENT		1000	
		Ni	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
DL 03A09	STD3-	Cd	10	5.00	✓	INORVENT	3395	1000	4-1-03
		Co	10	5.00	✓	INORVENT	3401	1000	4-1-03
		Mn	10	5.00	✓	INORVENT	3402	1000	4-1-03
		V	10	5.00	✓	INORVENT	3740	1000	~~4-1-03~~ DL 11-1-03
		Zn	10	5.00	✓	INORVENT	3741	1000	11-1-03
		Sc	10	0.500	✓	INORVENT	3693	10000	10-1-03
	STD4-	Ag	2	1.00		INORVENT		1000	
		As	10	5.00		INORVENT		1000	
		Pb	10	5.00		INORVENT		1000	
		Sb	10	5.00		INORVENT		1000	
		Se	10	5.00		INORVENT		1000	
		TL	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD5-	B	10	5.00		INORVENT		1000	
		Mo	10	5.00		INORVENT		1000	
		P	10	5.00		INORVENT		1000	
		Si	10	5.00		INORVENT		1000	
		Ti	10	5.00		INORVENT		1000	
		Sr	10	5.00		INORVENT		1000	
		Sn	10	5.00		INORVENT		1000	
		Bi	5	2.50		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD6-	La	10	5.00		INORVENT		1000	
		Na	1	0.05		INORVENT		10000	
		Pd	10	5.00		INORVENT		1000	
		S	10	5.00		INORVENT		1000	
		Th	10	5.00		INORVENT		1000	
		U	10	5.00		INORVENT		1000	
		W	5	2.50		INORVENT		1000	
		Y	10	5.00		INORVENT		1000	
		Zr	10	5.00		INORVENT		1000	
		SC	10	0.500		INORVENT		10000	

Expiration Dates:

STD1: **STD4:**

STD2: **STD5:**

STD3: 4-1-03 **STD6:**

ICP Calibration Standards

Date Prepared: 1-15-03 Prepared By: [signature] 010416

HNO3 INORG #: 3780 HCl INORG #: 3488

Make up as needed in 500 ml volumetric flasks in 1% HNO3 and 5% HCl.

Prepared	Standard Name	Element	Std Conc (ppm)	Added ml	Check	Source	INORG #	Stock Conc (ppm)	Exp Date
	STD1-	Al	50	2.50		INORVENT		10000	
		Ca	50	2.50		INORVENT		10000	
		Fe	50	2.50		INORVENT		10000	
		K	50	2.50		INORVENT		10000	
		Mg	25	1.25		INORVENT		10000	
		Na	50	2.50		INORVENT		10000	
		Li	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD2-	Ba	10	5.00		INORVENT		1000	
		Be	5	2.50		INORVENT		1000	
		Cr	10	5.00		INORVENT		1000	
		Cu	10	5.00		INORVENT		1000	
		Ni	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD3-	Cd	10	5.00		INORVENT		1000	
		Co	10	5.00		INORVENT		1000	
		Mn	10	5.00		INORVENT		1000	
		V	10	5.00		INORVENT		1000	
		Zn	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD4-	Ag	2	1.00		INORVENT		1000	
		As	10	5.00		INORVENT		1000	
		Pb	10	5.00		INORVENT		1000	
		Sb	10	5.00		INORVENT		1000	
		Se	10	5.00		INORVENT		1000	
		TL	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD5-	B	10	5.00		INORVENT		1000	
		Mo	10	5.00		INORVENT		1000	
		P	10	5.00		INORVENT		1000	
		Si	10	5.00		INORVENT		1000	
		Ti	10	5.00		INORVENT		1000	
		Sr	10	5.00		INORVENT		1000	
		Sn	10	5.00		INORVENT		1000	
		Bi	5	2.50		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
1-15-03	STD6- 03AI5	La	10	5.00	✓	INORVENT	3650	1000	9-1-03
		Na	1	0.05	✓	INORVENT	3565	10000	8-1-03
		Pd	10	5.00	✓	INORVENT	3292	1000	3-1-03
		S	10	5.00	✓	INORVENT	3739	1000	11-1-03
		Th	10	5.00	✓	INORVENT	3681	1000	10-1-03
		U	10	5.00	✓	INORVENT	3397	1000	4-1-03
		W	5	2.50	✓	INORVENT	3568	1000	8-1-03
		Y	10	5.00	✓	INORVENT	3654	1000	9-1-03
		Zr	10	5.00	✓	INORVENT	3398	1000	4-1-03
		SC	10	0.500	✓	INORVENT	3693	10000	10-1-03

Expiration Dates:

STD1: **STD4:**

STD2: **STD5:**

STD3: **STD6:** 3-1-03

ICP Calibration Standards

Date Prepared: 1-22-03 Prepared By: DK 010417

HNO3 INORG #: 3782 HCl INORG #: 3889

Make up as needed in 500 ml volumetric flasks in 1% HNO3 and 5% HCl.

Prepared	Standard Name	Element	Std Conc (ppm)	Added ml	Check	Source	INORG #	Stock Conc (ppm)	Exp Date
1-22-03	STD1- 03A22	Al	50	2.50	✓	INORVENT	3649	10000	9-1-03
		Ca	50	2.50	✓	INORVENT	3284	10000	3-1-03
		Fe	50	2.50	✓	INORVENT	3286	10000	3-1-03
		K	50	2.50	✓	INORVENT	3738	10000	11-1-03
		Mg	25	1.25	✓	INORVENT	3564	10000	8-1-03
		Na	50	2.50	✓	INORVENT	3565	10000	8-1-03
		Li	10	5.00	✓	INORVENT	3736	1000	11-1-03
		Sc	10	0.500	✓	INORVENT	3683	10000	10-1-03
	STD2-	Ba	10	5.00		INORVENT		1000	
		Be	5	2.50		INORVENT		1000	
		Cr	10	5.00		INORVENT		1000	
		Cu	10	5.00		INORVENT		1000	
		Ni	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD3-	Cd	10	5.00		INORVENT		1000	
		Co	10	5.00		INORVENT		1000	
		Mn	10	5.00		INORVENT		1000	
		V	10	5.00		INORVENT		1000	
		Zn	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD4-	Ag	2	1.00		INORVENT		1000	
		As	10	5.00		INORVENT		1000	
		Pb	10	5.00		INORVENT		1000	
		Sb	10	5.00		INORVENT		1000	
		Se	10	5.00		INORVENT		1000	
		TL	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
1-22-03	STD5- 03A22	B	10	5.00	✓	INORVENT	3549	1000	7-1-03
		Mo	10	5.00	✓	INORVENT	3551	1000	7-1-03
		P	10	5.00	✓	INORVENT	3901	1000	2-1-04
		Si	10	5.00	✓	INORVENT	3395	1000	4-1-03
		Ti	10	5.00	✓	INORVENT	3762	1000	12-1-03
		Sr	10	5.00	✓	INORVENT	3566	1000	8-1-03
		Sn	10	5.00	✓	INORVENT	3552	1000	7-1-03
		Bi	5	2.50	✓	INORVENT	3606	1000	8-1-03
		Sc	10	0.500	✓	INORVENT	3683	10000	10-1-03
	STD6-	La	10	5.00		INORVENT		1000	
		Na	1	0.05		INORVENT		10000	
		Pd	10	5.00		INORVENT		1000	
		S	10	5.00		INORVENT		1000	
		Th	10	5.00		INORVENT		1000	
		U	10	5.00		INORVENT		1000	
		W	5	2.50		INORVENT		1000	
		Y	10	5.00		INORVENT		1000	
		Zr	10	5.00		INORVENT		1000	
		SC	10	0.500		INORVENT		10000	

Expiration Dates:

STD1: 3-1-03 **STD4:**

STD2: **STD5:** 4-1-03

STD3: **STD6:**

ICP Calibration Standards

010418

Date Prepared: 2-3-03 Prepared By: JD

HNO3 INORG #: 3914 HCl INORG #: 3890

Make up as needed in 500 ml volumetric flasks in 1% HNO3 and 5% HCl.

Prepared	Standard Name	Element	Std Conc (ppm)	Added ml	Check	Source	INORG #	Stock Conc (ppm)	Exp Date
	STD1-	Al	50	2.50		INORVENT		10000	
		Ca	50	2.50		INORVENT		10000	
		Fe	50	2.50		INORVENT		10000	
		K	50	2.50		INORVENT		10000	
		Mg	25	1.25		INORVENT		10000	
		Na	50	2.50		INORVENT		10000	
		Li	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD2-	Ba	10	5.00		INORVENT		1000	
		Be	5	2.50		INORVENT		1000	
		Cr	10	5.00		INORVENT		1000	
		Cu	10	5.00		INORVENT		1000	
		Ni	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD3-	Cd	10	5.00		INORVENT		1000	
		Co	10	5.00		INORVENT		1000	
		Mn	10	5.00		INORVENT		1000	
		V	10	5.00		INORVENT		1000	
		Zn	10	5.00		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
2-3-03 MI	STD4- 03603	Ag	2	1.00	✓	INORVENT	3653	1000	9-1-03
		As	10	5.00	✓	INORVENT	3899	1000	2-1-04
		Pb	10	5.00	✓	INORVENT	3735	1000	11-1-03
		Sb	10	5.00	✓	INORVENT	3563	1000	8-1-03
		Se	10	5.00	✓	INORVENT	3652	1000	9-1-03
		TL	10	5.00	✓	INORVENT	3922	1000	2-1-04
		Sc	10	0.500	✓	INORVENT	3683	10000	10-1-03
	STD5-	B	10	5.00		INORVENT		1000	
		Mo	10	5.00		INORVENT		1000	
		P	10	5.00		INORVENT		1000	
		Si	10	5.00		INORVENT		1000	
		Ti	10	5.00		INORVENT		1000	
		Sr	10	5.00		INORVENT		1000	
		Sn	10	5.00		INORVENT		1000	
		Bi	5	2.50		INORVENT		1000	
		Sc	10	0.500		INORVENT		10000	
	STD6-	La	10	5.00		INORVENT		1000	
		Na	1	0.05		INORVENT		10000	
		Pd	10	5.00		INORVENT		1000	
		S	10	5.00		INORVENT		1000	
		Th	10	5.00		INORVENT		1000	
		U	10	5.00		INORVENT		1000	
		W	5	2.50		INORVENT		1000	
		Y	10	5.00		INORVENT		1000	
		Zr	10	5.00		INORVENT		1000	
		SC	10	0.500		INORVENT		10000	

Expiration Dates:

STD1:

STD2:

STD3:

STD4: 9-1-03

STD5:

STD6:

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

Certificates of Analysis

Certificate of Analysis

010420

CUSTOM-GRADE SOLUTION 1000 µg/mL Scandium IN 5% HNO_3 (abs)

Catalog Number: CGSC1-1and CGSC1-5

Lot Number: **T-SC02050**

Starting Material:	Sc_2O_3
Starting Material Purity:	99.99%
Starting Material Lot No:	632-5721

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 11/21/02
DATE EXPIRED: 12/1/2003
DATE OPENED: 11/21/02
INORG: 3276 PO: F52065

CERTIFIED CONCENTRATION: 1002 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1002 ± 2 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 998 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3148a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.** An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	<0.070	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	0.0028
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	i	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	0.0043	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
O	B	<0.020	M	Au	<0.00030	M	Nd	<0.00020	s	Sc		M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	0.0030	O	Ni	<0.084	O	Se	<0.67	M	W	<0.0010
O	Ca	0.016	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.034	M	U	<0.00020
M	Ce	<0.00050	M	In	<0.00010	n	Os		M	Ag	0.0050	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.16	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.16	O	P	i	M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	0.0075
M	Cu	<0.00060	M	Pb	0.00050	O	K	<5.01	M	Ta	<0.00070	M	Zr	0.032

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.038 g/mL

(over)

Inorganic Ventures, Inc.
195 Lehigh Avenue • Suite 4 • Lakewood, NJ 08701
Orders: 800-669-6799 • FAX (732) 901-1903
Technical Support: 800-569-6799

Paul R. Haines
Quality Assurance Manager

EXPIRES 1 Dec 2003

SPEXertificate™

Certificate of Reference Material

010421

3583

Catalog Number: SPIKE-1 **Lot No.:** 22-93AS
Description: **Spike Sample Standard 1**
Matrix: 5% Nitric Acid/tr Tartaric Acid - HF

This **ASSURANCE** ®certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentration.

Refer to side 2 for details of measurement uncertainties.

Instrumental Analysis by ICP Spectrometer:

Element	Labeled (mg/L)	Measured (mg/L)	NIST SRM	Element	Labeled (mg/L)	Measured (mg/L)	NIST SRM
Al	200	199.51	3101a	Pb	50	49.98	3128
As	200	199.89	3103a	Sb	50	50.02	3102a
Ba	200	199.68	3104a	V	50	49.95	3165
Se	200	200.10	3149	Zn	50	50.02	3168a
TL	200	200.07	3158	Cu	25	25.34	3114
Fe	100	99.91	3126a	Cr	20	20.04	3112a
Co	50	50.25	3113	Ag	5	5.00	3151
Mn	50	49.98	3132	Be	5	5.00	3105a
Ni	50	50.11	3136	Cd	5	4.99	3108

Spex Reference Multi: Lot #2-61BD, 17-55AS, 19-85ASREF

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% on the average of all the certified concentrations with no single component exceeding +/- 2%. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: JUL '02 Certifying Officer: N. Kocherlakota

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INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 10/31/03
DATE EXPIRED: 10/31/2003
DATE OPENED: 10/31/03
INORG: 3748 PO: F52056

010422

SPEXertificate™

Certificate of Reference Material

Catalog Number: ICAL-1 **Lot No.:** 6-104VY
Description: **Instrument Calibration Standard 1**
Matrix: 5% Nitric Acid

This **ASSURANCE** ®certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentration.

Refer to side 2 for details of measurement uncertainties.

Instrumental Analysis by ICP Spectrometer:

Element	Labeled (mg/L)	Measured (mg/L)	NIST SRM
Ca	5,000	4,984.92	3109a
K	5,000	4,990.26	3141a
Mg	5,000	4,991.82	3131a
Na	5,000	4,998.07	3152a

Spex Reference Multi: Lot #10-100AS, 12-113AS, 5-198VY, 6-28VY-REF

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% on the average of all the certified concentrations with no single element exceeding +/-2%. This includes uncertainty of measurements and other effects, such as transpiration losses. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: OCT -- '02 Certifying Officer: N. Kocherlakota

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010423

FISHER SCIENTIFIC
TRACEMETAL GRADE NITRIC ACID

CERTIFICATE OF ANALYSIS

Catalog No. A509 **Lot No: 1102100**
Date: October, 2002

Tests	Units	Value
Assay	%	70%
Color	APHA	<10
Aluminum	ppb	<0.2
Antimony	ppb	<0.1
Arsenic	ppb	<0.1
Barium	ppb	<0.1
Beryllium	ppb	<0.1
Bismuth	ppb	<0.1
Boron	ppb	1
Cadmium	ppb	<0.1
Calcium	ppb	<0.5
Chromium	ppb	<0.1
Cobalt	ppb	<0.1
Copper	ppb	<0.1
Iron	ppb	<0.5
Lead	ppb	<0.1
Lithium	ppb	<0.1
Magnesium	ppb	<0.2
Manganese	ppb	<0.1
Mercury	ppb	<0.2
Molybdenum	ppb	<0.1
Nickel	ppb	<0.1
Potassium	ppb	<0.2
Selenium	ppb	<0.1
Silver	ppb	<0.1
Sodium	ppb	<0.2
Strontium	ppb	<0.1
Thorium	ppb	<0.1
Tin	ppb	<0.1
Titanium	ppb	<0.1
Uranium	ppb	<0.1
Vanadium	ppb	<0.1
Zinc	ppb	<0.2
Zirconium	ppb	<0.1

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 11/21/02
DATE EXPIRED: 11/21/2012 DR
DATE OPENED: 11/21/02
INORG: 73778-73782 PO: F52065

Element concentrations are at the point of bottling. Concentrations of some elements in particular, Ca, Si, K, Na, B, Al, Mg & Mn will increase due to storage in glass bottles.

B McKelvey
Dr. B. McKelvey
QA/QC Manager

Fisher Scientific Chemical Division
Pittsburgh, PA., 15275 Phone (412) 490-8300

Fisher Chemical
A Fisher Scientific Company

010424

FISHER SCIENTIFIC
TRACEMETAL GRADE NITRIC ACID

CERTIFICATE OF ANALYSIS

Catalog No. A509 **Lot No: 1102100**
Date: October, 2002

Tests	Units	Value
Assay	%	70%
Color	APHA	<10
Aluminum	ppb	<0.2
Antimony	ppb	<0.1
Arsenic	ppb	<0.1
Barium	ppb	<0.1
Beryllium	ppb	<0.1
Bismuth	ppb	<0.1
Boron	ppb	1
Cadmium	ppb	<0.1
Calcium	ppb	<0.5
Chromium	ppb	<0.1
Cobalt	ppb	<0.1
Copper	ppb	<0.1
Iron	ppb	<0.5
Lead	ppb	<0.1
Lithium	ppb	<0.1
Magnesium	ppb	<0.2
Manganese	ppb	<0.1
Mercury	ppb	<0.2
Molybdenum	ppb	<0.1
Nickel	ppb	<0.1
Potassium	ppb	<0.2
Selenium	ppb	<0.1
Silver	ppb	<0.1
Sodium	ppb	<0.2
Strontium	ppb	<0.1
Thorium	ppb	<0.1
Tin	ppb	<0.1
Titanium	ppb	<0.1
Uranium	ppb	<0.1
Vanadium	ppb	<0.1
Zinc	ppb	<0.2
Zirconium	ppb	<0.1

Element concentrations are at the point of bottling. Concentrations of some elements in particular, Ca, Si, K, Na, B, Al, Mg & Mn will increase due to storage in glass bottles.

B McKelvey

Dr. B. McKelvey
QA/QC Manager

Fisher Scientific Chemical Division
Pittsburgh, PA., 15275 Phone (412) 490-8300

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010425

FISHER SCIENTIFIC
TRACEMETAL GRADE HYDROCHLORIC ACID

CERTIFICATE OF ANALYSIS

Catalog No. A508 **Lot No: 4102050**
Date: June, 2002

Tests	Units	Value
Assay	%	35%
Color	APHA	<10
Aluminum	ppb	<0.5
Antimony	ppb	<0.1
Arsenic	ppb	<0.1
Barium	ppb	<0.1
Beryllium	ppb	<0.1
Bismuth	ppb	<0.1
Boron	ppb	<1
Cadmium	ppb	<0.1
Calcium	ppb	<0.5
Chromium	ppb	<0.1
Cobalt	ppb	<0.1
Copper	ppb	<0.1
Iron	ppb	<0.5
Lead	ppb	<0.1
Lithium	ppb	<0.1
Magnesium	ppb	<0.5
Manganese	ppb	<0.1
Mercury	ppb	<0.2
Molybdenum	ppb	<0.1
Nickel	ppb	<0.1
Potassium	ppb	<0.1
Selenium	ppb	<0.1
Silver	ppb	<0.1
Sodium	ppb	<0.5
Strontium	ppb	<0.1
Thorium	ppb	<0.1
Tin	ppb	<0.1
Titanium	ppb	<0.1
Uranium	ppb	<0.1
Vanadium	ppb	<0.1
Zinc	ppb	<0.5
Zirconium	ppb	<0.1

Element concentrations are at the point of bottling. Concentrations of some elements in particular, Ca, Si, K, Na, B, Al, Mg & Mn will increase due to storage in glass bottles.

B McKelvey

Dr. B. McKelvey
QA/QC Manager

Fisher Scientific Chemical Division
Pittsburgh, PA., 15275 Phone (412) 490-8300

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Certificate of Analysis

010426

CUSTOM-GRADE SOLUTION 10,000 µg/mL Scandium IN 5% HNO_3 (abs)

Catalog Number: CGSC10-1and CGSC10-5

Lot Number: **T-QSC01104**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 9/4/02
DATE EXPIRED: 10/1/2003 DR
DATE OPENED: 9/4/02
INORG: 3683 PO: F52048

Starting Material:	Sc_2O_3
Starting Material Purity:	99.999%
Starting Material Lot No:	632-5721

CERTIFIED VALUE: 10,056 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 10,040 µg/mL

Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 10,071 µg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3148a

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	<0.07	M	Dy	<0.006	M	Li	<0.01	M	Pr	<0.0003	M	Te	<0.03
M	Sb	<0.0005	M	Er	<0.005	M	Lu	<0.0004	M	Re	<0.001	M	Tb	<0.0003
M	As	<0.01	M	Eu	<0.003	M	Mg	<0.03	M	Rh	<0.001	M	Tl	<0.001
M	Ba	<0.01	M	Gd	<0.001	M	Mn	<0.004	M	Rb	<0.001	M	Th	0.028
M	Be	<0.0005	M	Ga	<0.001	O	Hg	i	M	Ru	<0.002	M	Tm	<0.0004
M	Bi	0.043	M	Ge	<0.006	M	Mo	<0.002	M	Sm	<0.001	M	Sn	<0.005
O	B	<0.034	M	Au	<0.003	M	Nd	<0.002	s	Sc		n	Ti	
M	Cd	<0.003	M	Hf	0.03	O	Ni	<0.084	O	Se	<0.67	M	W	<0.01
O	Ca	0.17	M	Ho	<0.0005	M	Nb	<0.0005	O	Si	<0.034	M	U	<0.002
M	Ce	<0.005	M	In	<0.001	n	Os		M	Ag	0.005	M	V	<0.002
M	Cs	<0.0003	M	Ir	<0.005	M	Pd	<0.005	O	Na	<0.16	M	Yb	<0.001
M	Cr	<0.005	O	Fe	<0.16	O	P	i	M	Sr	<0.0005	M	Y	<0.04
M	Co	<0.003	M	La	<0.0005	M	Pt	<0.002	n	S		M	Zn	0.075
M	Cu	<0.006	M	Pb	0.005	O	K	<5.01	M	Ta	<0.007	M	Zr	0.32

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.062 g/mL

QA:KL Rev.050302DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1°2003

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Certificate of Reference Material

Catalog Number: PLB9-2X/2Y/2T **Lot No.** 8-138B

Description: 1000 mg/L Boron

Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 998 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3107

The CRM is prepared gravimetrically using high purity Ammonium Tetraborate Lot# 08001E. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 998 mg/L

Method: Titration with Sodium Hydroxide using Phenolphthalein as indicator. Sodium Hydroxide standardized against Potassium Biphthalate NIST SRM # 84j

Instrumentation Analysis By ICP spectrometer: 998 mg/L

Uncertified Properties:

Density: 1.008 @ 26.7 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.07	Cu	<0.001	Pb	<0.002
As	<0.001	Fe	0.002	Re	<0.001
Ag	<0.001	Ga	<0.001	Rb	<0.001
Ba	<0.001	In	<0.001	Sr	<0.001
Be	<0.01	K	0.002	Sb	<0.001
Bi	<0.001	Li	<0.001	Sn	<0.001
Cd	<0.001	Mn	<0.001	Ti	<0.001
Co	<0.001	Mo	<0.001	Tl	<0.001
Ca	0.008	Mg	<0.001	V	<0.001
Cr	<0.004	Na	0.01	Zr	<0.001
		Ni	<0.001	Zn	<0.02

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: AUG [illegible] '02 Certifying Officer: N. Kocherlakota

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DATE OPENED: 8/9/03
INORG: 3612 PO: F52035

Catalog Number: PLLI2-2X/2Y **Lot No.** 8-159LI
Description: 1000 mg/L Lithium
Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1001 mg/L
Uncertainty Associated with Measurement: +/- 3 mg/L
Certified Value is Traceable to: NIST SRM 3129a

The CRM is prepared gravimetrically using high purity Lithium Carbonate Lot# 11001A. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1002 mg/L

Method: Evaporate to dryness. Fume with Sulfuric Acid. Ignite and weigh as Li2SO4

Instrumentation Analysis By ICP spectrometer: 1000 mg/L

Uncertified Properties:

Density: 1.014 @ 24.3 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.01	Cu	<0.006	Pb	<0.009
As	<0.001	Fe	0.01	Re	0.01
Ag	<0.001	Ga	<0.001	Rb	<0.001
B	<0.02	In	<0.001	Sr	<0.001
Ba	0.006	K	0.03	Sb	<0.001
Be	<0.001	Mn	<0.001	Sn	<0.001
Bi	<0.001	Mo	<0.001	Ti	<0.001
Ca	0.05	Mg	0.009	Tl	<0.001
Cr	<0.004	Na	0.02	V	<0.001
Cd	<0.001	Ni	<0.001	Zr	<0.001
Co	<0.001			Zn	0.80

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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Catalog Number: PLMO9-2X/2Y/2T **Lot No.** 9-49MO
Description: 1000 mg/L Molybdenum
Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1000 mg/L
Uncertainty Associated with Measurement: +/- 3 mg/L
Certified Value is Traceable to: NIST SRM 3134

The CRM is prepared gravimetrically using high purity Ammonium Molybdate Lot# 03011C. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 mg/L

Method: Precipitation using 8-Hydroxyquinoline. Filter, dry, and weigh as $MoO_2(C_9H_6NO)_2$

Instrumentation Analysis By ICP spectrometer: 1001 mg/L

Uncertified Properties:

Density: 0.9987 @ 24.6 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.001	Cu	0.004	Pb	0.001
As	0.04	Fe	<0.01	Re	0.03
Ag	<0.001	Ga	<0.001	Rb	<0.001
B	<0.003	In	<0.001	Sr	<0.001
Ba	<0.001	K	0.02	Sb	<0.001
Be	<0.001	Li	<0.001	Sn	<0.001
Bi	<0.001	Mg	0.007	Ti	0.004
Ca	0.006	Mn	<0.001	Tl	<0.001
Cr	<0.005	Na	0.009	V	0.004
Cd	<0.05	Ni	<0.001	Zr	<0.001
Co	<0.001			Zn	<0.001

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: AUG '02 Certifying Officer: N. Kocherlakota

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010430

Catalog Number: PLP9-2X/2Y/2T **Lot No.** 9-29P

Description: 1000 mg/L Phosphorus

Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1003.5 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3139a

The CRM is prepared gravimetrically using high purity (NH4)H2(PO4) Lot# A158. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1004 mg/L

Method: Precipitation using Magnesia mixture. Filter, ignite, and weigh as Mg2O2.

Instrumentation Analysis By ICP spectrometer: 1003 mg/L

Uncertified Properties:

Density: 0.9997 @ 22.9 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.05	Cu	<0.001	Pb	<0.001
As	<0.001	Fe	0.019	Rb	<0.001
Ag	<0.001	Ga	<0.001	Re	<0.001
B	<0.005	In	<0.001	Sn	0.006
Ba	<0.001	K	0.17	Sr	0.004
Be	<0.001	Li	0.004	Sb	0.01
Bi	<0.001	Mg	0.3	Ti	0.016
Ca	0.65	Mn	<0.001	Tl	<0.001
Cr	<0.001	Mo	<0.001	V	<0.001
Cd	<0.001	Na	0.5	Zr	<0.001
Co	<0.001	Ni	<0.001	Zn	6.7

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: APR - '02 Certifying Officer: N. Kocherlakota

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010431

Catalog Number: PLSI9-2X/2Y/2T **Lot No.** 9-66SI
Description: 1000 mg/L Silicon
Matrix: H2O / Tr HF

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1001.5 mg/L
Uncertainty Associated with Measurement: +/- 3 mg/L
Certified Value is Traceable to: NIST SRM 3150

The CRM is prepared gravimetrically using high purity Ammonium HexafluorosiliLot# 02021D. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1003 mg/L

Method: Precipitation using Ammonium Molybdate and 8-Hydroxy Quinoline. Filter, dry, and weigh as (C9H7ON)4(H4)[Si(Mo12O40)]

Instrumentation Analysis By ICP spectrometer: 1000 mg/L

Uncertified Properties:

Density: 1.001 @ 24.5 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.002	Cu	0.01	Pb	<0.001
As	<0.001	Fe	0.006	Rb	<0.001
Ag	0.009	Ga	<0.001	Re	<0.001
B	<0.05	In	<0.001	Sn	<0.001
Ba	<0.001	K	0.014	Sr	<0.001
Be	<0.001	Li	<0.001	Sb	<0.001
Bi	<0.001	Mg	<0.001	Ti	<0.002
Ca	0.004	Mn	<0.001	Tl	<0.001
Cr	<0.002	Mo	<0.001	V	<0.001
Cd	<0.001	Na	0.006	Zr	0.008
Co	<0.001	Ni	<0.001	Zn	0.02

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: DEC -- 02 Certifying Officer: N. Kocherlakota

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010432

Catalog Number: PLTI9-2X/2Y/2T **Lot No.** 9-52TI

Description: 1000 mg/L Titanium

Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 995.5 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3162a

The CRM is prepared gravimetrically using high purity (NH4)2TiF6 Lot# 02021E. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 996 mg/L

Method: Precipitation using Ammonium Hydroxide. Filter, ignite, and weigh as TiO2.

Instrumentation Analysis By ICP spectrometer: 995 mg/ L

Uncertified Properties:

Density: 1.000 @ 23.9 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.01	Cu	0.35	Pb	0.002
As	<0.001	Fe	0.01	Rb	<0.001
Ag	<0.001	Ga	<0.001	Re	<0.001
B	<0.005	In	<0.001	Sn	<0.001
Ba	<0.001	K	<0.05	Sr	<0.001
Be	<0.002	Li	<0.001	Sb	0.005
Bi	0.008	Mg	0.008	Tl	<0.001
Ca	0.095	Mn	0.001	V	<0.001
Cr	<0.001	Mo	<0.001	Zr	0.20
Cd	<0.001	Na	0.009	Zn	0.030
Co	<0.001	Ni	0.001		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: DEC - - '02 Certifying Officer: N. Kocherlakota

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010433

Catalog Number: PLSR2-2X/2Y/2T **Lot No.** 8-134SR

Description: 1000 mg/L Strontium in 2% HNO3

Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1004.5 mg/L +/- 3 mg/L

Traceable to: NIST SRM 3153a

The CRM is prepared gravimetrically using high purity Strontium Carbonate Lot# 02001B. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1005 mg/L

Method: EDTA titration using Methyl Thymol Blue as indicator.EDTA standardized against Pb(NO3)2 NIST SRM #928.

Instrumentation Analysis By ICP spectrometer: 1004 mg/L

Uncertified Properties:

Density: 1.010 @ 24.2 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.02	Cu	<0.001	Pb	<0.01
As	<0.001	Fe	0.003	Rb	0.002
Ag	<0.003	Ga	<0.001	Re	<0.001
B	<0.006	In	0.001	Sn	<0.001
Ba	0.01	K	<0.03	Sb	<0.001
Be	<0.001	Li	<0.003	Ti	<0.001
Bi	<0.001	Mg	0.001	Tl	<0.001
Ca	0.02	Mn	<0.001	V	<0.001
Cr	<0.003	Mo	<0.001	Zr	<0.001
Cd	<0.001	Na	0.02	Zn	0.2
Co	<0.001	Ni	<0.001		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: APR - - '02 Certifying Officer: N. Kocherlakota

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DATE OPENED: 8/29/02
INORG: 3644 PO: F52039

SPEXertificate™ 010434

Certificate of Reference Material

Catalog Number: PLSN5-2X/2Y/2T **Lot No.** 9-81SN

Description: 1000 mg/L Tin

Matrix: 20% HCL

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1002.5 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3161

The CRM is prepared gravimetrically using high purity Tin Powder Lot# 10831R. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1006 mg/L

Method: Precipitation using ammonium hydroxide,filter,ignite and weigh as Sn02.

Instrumentation Analysis By ICP spectrometer: 999 mg/L

Uncertified Properties:

Density: 1.037 @ 25.0 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.008	Cu	<0.002	Pb	0.01
As	0.02	Fe	0.06	Rb	<0.001
Ag	0.02	Ga	<0.001	Re	<0.001
B	<0.02	In	0.10	Sr	<0.001
Ba	<0.001	K	<0.3	Sb	0.008
Be	<0.001	Li	<0.001	Ti	<0.003
Bi	<0.001	Mg	<0.001	Tl	<0.001
Ca	0.015	Mn	<0.001	V	0.3
Cr	<0.002	Mo	<0.001	Zr	<0.001
Cd	<0.001	Na	0.05	Zn	4
Co	0.009	Ni	0.06		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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Catalog Number: PLBI4-2X/2Y **Lot No.** 9-36BI

Description: 1000 mg/L Bismuth

Matrix: 10% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1001 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3106

The CRM is prepared gravimetrically using high purity Bismuth Metal Lot# 04941B. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1001 mg/L

Method: EDTA titration using Xylenol Orange as indicator. EDTA standardized against Pb(NO3)2 NIST SRM #928.

Instrumentation Analysis By ICP spectrometer: 1001 mg/L

Uncertified Properties:

Density: 1.052 @ 23.1 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.002	Cu	0.034	Pb	0.006
As	<0.001	Fe	0.001	Re	<0.001
Ag	0.002	Ga	<0.001	Rb	<0.001
B	<0.04	In	<0.001	Sr	<0.001
Ba	<0.001	K	0.001	Sb	<0.001
Be	<0.001	Li	<0.001	Sn	<0.001
Cd	<0.001	Mn	<0.001	Ti	<0.001
Co	<0.001	Mo	<0.001	Tl	<0.001
Ca	0.006	Mg	<0.001	V	<0.002
Cr	<0.005	Na	0.005	Zr	<0.001
		Ni	<0.001	Zn	0.02

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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010436

Catalog Number: PLLA2-2X/2Y **Lot No.** 9-17LA

Description: 1000 mg/L Lanthanum

Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 996.5 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3127a

The CRM is prepared gravimetrically using high purity Lanthanum Oxide Lot# 06981D. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 998 mg/L

Method: EDTA titration using Methyl Thymol Blue as indicator. EDTA standardized against Pb(NO3)2 NIST SRM #928.

Instrumentation Analysis By ICP spectrometer: 995 mg/L

Uncertified Properties:

Density: 1.010 @ 23.8 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Ce	0.009	Lu	<0.001	Tm	<0.001
Ca	0.05	Mn	<0.001	Ti	<0.001
Dy	<0.001	Mo	<0.001	Tb	<0.001
Er	<0.001	Nd	<0.001	Ta	<0.001
Eu	<0.001	Ni	<0.001	Tl	<0.001
Fe	0.006	Na	0.006	V	<0.001
Gd	<0.2	Pr	<0.001	W	<0.001
Ga	<0.001	Rb	<0.001	Y	<0.001
Hf	<0.001	Sc	<0.003	Yb	<0.001
Ho	<0.001	Sm	<0.001	Zr	<0.001
In	<0.001	Th	<0.001		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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Catalog Number: PLY2-2X/2Y/2T **Lot No.** 8-170Y

Description: 1,000 mg/L Yttrium

Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1000 mg/L

Uncertainty Associated with Measurement: +/- 3 mg/L

Certified Value is Traceable to: NIST SRM 3167a

The CRM is prepared gravimetrically using high purity Yttrium Oxide Lot# 06011A. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1002 mg/L

Method: EDTA titration using Methyl Thymol Blue as indicator.EDTA standardized against Pb(NO3)2 NIST SRM #928.

Instrumentation Analysis By ICP spectrometer: 998 mg/L

Uncertified Properties:

Density: 1.012 @ 22.8 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Ce	<0.001	La	<0.001	Tb	<0.001
Ca	0.006	Lu	<0.001	Tm	<0.001
Dy	<0.001	Mn	<0.001	Tl	<0.001
Er	<0.001	Mo	<0.001	Th	<0.001
Eu	<0.001	Nd	<0.001	Ta	<0.001
Fe	0.005	Ni	<0.005	Ti	<0.001
Gd	<0.001	Na	0.03	V	<0.001
Ga	<0.001	Pr	<0.001	W	<0.001
Hf	<0.001	Rb	<0.001	Yb	<0.001
Ho	<0.001	Sc	0.001	Zr	<0.001
In	<0.001	Sm	<0.001		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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Catalog Number: PLPD3-2X/2Y **Lot No.** 9-74PD
Description: 1000 mg/L Palladium
Matrix: 10% HCl

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 995 mg/L
Uncertainty Associated with Measurement: +/- 3 mg/L
Certified Value is Traceable to: NIST SRM 3138

The CRM is prepared gravimetrically using high purity Palladium Powder Lot# 07991E. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 990 mg/L

Method: Precipitation using dimethyl glyoxime,filter,dry and weigh as Pd(C4H702N2)2.

Instrumentation Analysis By ICP spectrometer: 1000 mg/L

Uncertified Properties:

Density: 1.025 @ 26.3 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	<0.004	Cr	<0.009	Pt	<0.004
Au	0.03	Fe	0.02	Re	<0.001
Ag	0.007	Ga	<0.001	Rh	0.002
B	<0.05	Ir	<0.001	Rb	<0.001
Be	<0.002	In	<0.001	Ru	<0.001
Bi	<0.001	Mg	<0.005	Sn	0.08
Ca	0.02	Mn	<0.001	Te	<0.001
Cd	<0.001	Na	<0.03	Ti	<0.001
Co	<0.001	Ni	0.004	W	<0.001
Cu	<0.006	Pb	<0.04	Zr	<0.001
				Zn	0.16

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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3562

Catalog Number: PLS9-2X/2Y/2T **Lot No.** 9-64S

Description: 1000 mg/L Sulfur

Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1000.5 +/- 3 mg/L

Uncertainty Associated with Measurement:

Certified Value is Traceable to: NIST SRM 3154

The CRM is prepared gravimetrically using high purity AMMONIUM SULFATE Lot# 0891NK. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1001 mg/L

Method: PRECIPITATION USING BARIUM CHLORIDE,FILTER,IGNITE AND WEIGH AS BaS04.

Instrumentation Analysis By ICP spectrometer: 1000 mg/L

Uncertified Properties:

Density: 1.007 @ 23.6 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Ag	<0.001	Cu	<0.01	Pb	<0.1
Al	0.002	Fe	0.012	Rb	<0.001
As	<0.001	Ga	<0.001	Re	<0.001
Ba	<0.001	In	<0.001	Sn	<0.001
Be	<0.001	K	<0.08	Sr	<0.001
B	<0.006	Li	<0.001	Sb	<0.001
Bi	<0.001	Mg	0.02	Ti	<0.001
Cr	0.002	Mn	<0.001	Tl	<0.001
Co	<0.001	Mo	<0.001	V	<0.001
Cd	<0.001	Na	0.02	Zr	<0.001
Ca	0.015	Ni	<0.001	Zn	0.38

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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Catalog Number: PLTH2-2X/2Y **Lot No.** 9-95TH

Description: 1000 mg/Lthorium

Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1000 mg/L +/- 3 mg/L

Uncertainty Associated with Measurement:

Certified Value is Traceable to: NIST SRM 3159

The CRM is prepared gravimetrically using high purity Th(NO3)4-4H2O Lot# 01851R. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1001 mg/L

Method: EDTA titration using Xylenol Orange as indicator. EDTA standardized against Pb(NO3)2 NIST SRM #928.

Instrumentation Analysis By ICP spectrometer: 999 mg/L

Uncertified Properties:

Density: 1.043 @ 25.2 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Ce	0.008	La	0.002	Tb	<0.001
Ca	0.01	Lu	<0.001	Tm	<0.001
Dy	<0.001	Mn	<0.001	Ti	<0.002
Er	<0.001	Mo	<0.001	Ta	<0.001
Eu	<0.001	Nd	0.002	Tl	<0.001
Fe	<0.01	Ni	<0.001	V	<0.001
Gd	<0.001	Na	0.03	W	<0.001
Ga	<0.001	Pr	<0.001	Y	0.001
Hf	<0.001	Rb	<0.001	Yb	<0.001
Ho	<0.001	Sc	0.002	Zr	0.002
In	<0.001	Sm	<0.001		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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3533

Catalog Number: PLU2-2X/2Y **Lot No.** 8-123U

Description: 1000 mg/L Uranium

Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1000.5 mg/L +/- 3 mg/L

Traceable to: NIST SRM 3164

The CRM is prepared gravimetrically using high purity Uranium Oxide Lot# 04001D. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1001 mg/L

Method: Evaporate to dryness,ignite and weigh as U3 O8.

Instrumentation Analysis By ICP spectrometer: 1000 mg/L

Uncertified Properties:

Density: 1.018 @ 23.5 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.05	Cu	0.02	Pb	<0.007
As	0.05	Fe	0.10	Rb	<0.001
Ag	<0.005	Ga	<0.001	Re	<0.001
B	<0.004	In	<0.001	Sn	<0.001
Ba	0.003	K	0.06	Sr	0.004
Be	<0.001	Li	<0.001	Sb	0.003
Bi	0.002	Mg	0.003	Ti	<0.001
Ca	.12	Mn	0.003	Tl	<0.001
Cr	<0.003	Mo	0.005	V	0.005
Cd	<0.001	Na	0.1	Zr	<0.001
Co	<0.001	Ni	<0.002	Zn	0.02

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

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Certificate of Reference Material

Catalog Number: PLW9-2X/2Y **Lot No.** 8-135W

Description: 1000 mg/L Tungsten

Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 999.5 mg/L +/- 3 mg/L

Traceable to: NIST SRM 3163

The CRM is prepared gravimetrically using high purity Ammonium Tungstate Lot# 02001H. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 997 mg/L

Method: Fume with Sulfuric Acid to dryness, ignite and weigh as WO3.

Instrumentation Analysis By ICP spectrometer: 1002 mg/L

Uncertified Properties:

Density: 1.006 @ 25.2 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.005	Cu	<0.001	Pb	<0.008
As	0.006	Fe	0.003	Rb	<0.001
Ag	<0.004	Ga	<0.001	Re	0.009
B	<0.004	In	<0.001	Sn	0.001
Ba	<0.001	K	0.07	Sr	<0.001
Be	<0.001	Li	0.04	Sb	0.002
Bi	<0.001	Mg	0.006	Ti	<0.002
Ca	0.008	Mn	<0.001	Tl	<0.001
Cr	<0.005	Mo	0.005	V	<0.001
Cd	<0.001	Na	0.03	Zr	<0.001
Co	<0.001	Ni	<0.001	Zn	<0.2

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: AUG -- '02 Certifying Officer: N. Kocherlakota

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Certificate of Reference Material

Catalog Number: PLZR2-2X/2Y/2T **Lot No.** 9-07ZR
Description: 1000 mg/L Zirconium
Matrix: 2% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 997 mg/L
Uncertainty Associated with Measurement: +/- 3 mg/L
Certified Value is Traceable to: NIST SRM 3169

The CRM is prepared gravimetrically using high purity Zirconyl Nitrate Lot# 11011C. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 996 mg/L

Method: Fume with Sulfuric Acid to dryness,ignite and weigh as ZrO2.

Instrumentation Analysis By ICP spectrometer: 998 mg/L

Uncertified Properties:

Density: 1.009 @ 25.0 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.02	Cu	<0.001	Pb	<0.001
As	<0.002	Fe	0.039	Rb	<0.001
Ag	0.2	Ga	<0.001	Re	<0.001
B	<0.05	In	<0.001	Sn	<0.001
Ba	<0.001	K	<0.08	Sr	<0.001
Be	<0.001	Li	<0.005	Sb	<0.001
Bi	<0.001	Mg	<0.002	Ti	<0.002
Ca	0.04	Mn	<0.001	Tl	<0.001
Cr	<0.005	Mo	<0.001	V	<0.001
Cd	0.004	Na	<0.03	Zn	0.005
Co	<0.001	Ni	<0.001		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: JL -- '02 Certifying Officer: N. Kocherlakota

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Catalog Number: PLNA2-3X/3Y **Lot No.** S7-175NA

Description: 10,000 mg/L Sodium

Matrix: 5% HNO3

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 10,016 mg/L

Uncertainty Associated with Measurement: +/- 30 mg/L

Certified Value is Traceable to: NIST SRM 3152a

The CRM is prepared gravimetrically using high purity Sodium Carbonate Lot# 08830. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 10, 013 mg/L

Method: Evaporate to dryness,fume with Sulfuric Acid,ignite and weigh as Na2 SO4.

Instrumentation Analysis By ICP spectrometer: 10,019 mg/L

Uncertified Properties:

Density: 1.045 @ 22.8 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.03	Cu	<0.007	Re	<0.001
As	<0.003	Fe	0.29	Rb	<0.001
Ag	<0.02	Ga	<0.002	Sr	0.01
B	<0.09	In	<0.001	Sb	<0.001
Ba	0.03	K	1.00	Sn	0.02
Be	<0.007	Li	<0.007	Ti	<0.02
Bi	0.001	Mg	0.06	Tl	<0.001
Ca	0.33	Mn	<0.002	V	<0.003
Cr	<0.01	Mo	0.004	Zr	<0.001
Cd	<0.001	Ni	<0.03	Zn	1.00
Co	<0.003	Pb	<0.008		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: FEB -- '02 Certifying Officer: N. Kocherlakota

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010445

Catalog Number: ICV-2A **Lot No.:** 22-12AS
Description: **Initial Calibration Verification Standard II**
Matrix: 5% Nitric Acid

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentration.

Refer to side 2 for details of measurement uncertainties.

Instrumental Analysis by ICP Spectrometer:

Element	Labeled (mg/L)	Measured (mg/L)	NIST SRM	Element	Labeled (mg/L)	Measured (mg/L)	NIST SRM
Ca	2,000	2,005.40	3109a	Ni	500	500.58	3136
K	2,000	1,997.89	3141a	V	500	504.23	3165
Mg	2,000	1,992.26	3131a	Cr	200	203.21	3112a
Na	2,000	1,992.99	3152a	Cu	200	199.75	3114
Al	1,000	1,005.90	3101a	Ag	100	100.46	3151
Ba	1,000	1,001.51	3104a	Be	100	100.04	3105a
Fe	1,000	1,003.17	3126a	Mn	100	100.64	3132
Co	500	505.10	3113	Zn	100	100.52	3168a

Spex Reference Multi: Lot #4-63BD, 14-125AS

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% on the average of all the certified concentrations with no single component exceeding +/- 2%. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: NOV -- '02 Certifying Officer: N. Kocherlakota

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INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 11/19/02
DATE EXPIRED: 11/30/03 DC
DATE OPENED: 11/19/02
INORG: 3224 PO: F52064

SPECertificate™ 010446

Certificate of Reference Material

Catalog Number: PLSB7-2X/2Y/2T **Lot No.:** 8-175SB-X/Y/T
Description: 1000 mg/L Antimony
Matrix: Water/0.6% Tartaric Acid/tr HNO_3

This **ASSURANCE** ®certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: Antimony(Sb): 999 mg/L ± 3 mg/L
Traceable to: NIST SRM 3102a

The CRM is prepared gravimetrically using high purity Antimony Metal (Sb) Lot#R1198A. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis.
Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 998 mg/L
Method: Gravimetric analysis by evaporating to dryness, fuming with Nitric Acid, igniting and weighing as Sb_2O_4.
Instrumental Analysis by ICP spectrometer: 1000 mg/L
Uncertified Properties:
Density: 1.007 at 24.0°C

Trace Metallic Impurities in the Actual Solution via ICP Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Ag	<0.001	Cu	<0.001	Pb	<0.001
Al	0.030	Fe	0.013	Rb	<0.001
As	0.001	Ga	<0.001	Re	<0.001
B	<0.001	In	<0.001	Sn	<0.001
Ba	<0.001	K	0.030	Sr	<0.001
Be	<0.001	Li	<0.001	Ti	0.001
Bi	<0.001	Mg	0.003	Tl	<0.001
Ca	0.012	Mn	<0.001	V	<0.001
Cd	<0.001	Mo	<0.001	Zn	<0.010
Co	<0.001	Na	0.005	Zr	<0.001
Cr	<0.001	Ni	<0.001		

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable to +/- 0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: NOV -- '02 Certifying Officer: N. Kocherlakota

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INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 11/16/02
DATE EXPIRED: 11/30/03 DK
DATE OPENED: 11/19/02
INORG: 3275 PO: F52164

010447

SPECertificate™

Certificate of Reference Material

Catalog Number: ICV-2C **Lot No.:** 22-13AS
Description: **Initial Calibration Verification Standard II**
Matrix: 5% Nitric Acid

This **ASSURANCE** ®certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentration.

Refer to side 2 for details of measurement uncertainties.

Instrumental Analysis by ICP Spectrometer:

Element	Labeled (mg/L)	Measured (mg/L)	NIST SRM
As	500	497.85	3103a
Pb	500	495.41	3128
Se	500	501.98	3149
TL	500	501.89	3158
Cd	100	99.77	3108

Spex Reference Multi: Lot #4-51BDREF, 15-39AS, 11-173AS

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% on the average of all the certified concentrations with no single element exceeding +/- 2%. This includes uncertainty of measurements and other effects, such as transpiration losses. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: NOV -- '02 Certifying Officer: N. Kocherlakota

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010448

Certificate of Reference Material

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 01/16/03
DATE EXPIRED: 01/15/2004
DATE OPENED: 01/23/03
INORG: 39.27 PO: F52073

Catalog Number: PLP9-2X/2Y/2T **Lot No.** 9-29P
Description: 1000 mg/L Phosphorus
Matrix: H2O

This **ASSURANCE** ® certified reference material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICPOES, DCP, AA, ICPMS, and XRF. It can be employed in USEPA, ASTM and other methods relevent to the certified properties listed below.

Certified Value: 1003.5 mg/L
Uncertainty Associated with Measurement: +/- 3 mg/L
Certified Value is Traceable to: NIST SRM 3139a

The CRM is prepared gravimetrically using high purity (NH4)H2(PO4) Lot# A158. The certified value listed is the average of values obtained by classical wet assay and ICP spectrometer analysis

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1004 mg/L

Method: Precipitation using Magnesia mixture. Filter, ignite, and weigh as Mg2O2.

Instrumentation Analysis By ICP spectrometer: 1003 mg/L

Uncertified Properties:

Density: 0.9997 @ 22.9 Degrees Celsius

Trace Metallic Impurities in the Actual Solution via ICP / ICPMS Analysis:

Element	mg/L	Element	mg/L	Element	mg/L
Al	0.05	Cu	<0.001	Pb	<0.001
As	<0.001	Fe	0.019	Rb	<0.001
Ag	<0.001	Ga	<0.001	Re	<0.001
B	<0.005	In	<0.001	Sn	0.006
Ba	<0.001	K	0.17	Sr	0.004
Be	<0.001	Li	0.004	Sb	0.01
Bi	<0.001	Mg	0.3	Ti	0.016
Ca	0.65	Mn	<0.001	Tl	<0.001
Cr	<0.001	Mo	<0.001	V	<0.001
Cd	<0.001	Na	0.5	Zr	<0.001
Co	<0.001	Ni	<0.001	Zn	6.7

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32857 and others. This CRM is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses, for a period of one year from the date of certification. This guarantee is valid only when the material is kept tightly capped and transported and stored under laboratory conditions.

Date of Certification: JAN-03 Certifying Officer: N. Kocherlakota

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Certificate of Analysis

010449

CUSTOM-GRADE SOLUTION 10,000 µg/mL Aluminum in 5% HNO_3 (abs)

Catalog Number: CGAL10-1and CGAL10-5

Lot Number: **S-AL03136 (Revised 06/10/02)**

Starting Material:	Aluminum Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	607116

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 08/03/02
DATE EXPIRED: 09/01/2003
DATE OPENED: 08/06/02
INORG: 3649 PO: F52042

CERTIFIED CONCENTRATION: 10,041 ± 25 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 10,041 ± 25 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 10,017 ± 102 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3101a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

s	Al		M	Dy	<0.028	M	Li	<0.047	M	Pr	<0.0014	M	Te	<0.14
M	Sb	<0.0024	M	Er	<0.024	M	Lu	<0.0019	M	Re	<0.0047	M	Tb	<0.0014
M	As	<0.047	M	Eu	<0.014	O	Mg	0.0050	M	Rh	<0.0047	M	Tl	<0.0047
M	Ba	<0.047	M	Gd	<0.0047	M	Mn	<0.019	M	Rb	<0.0047	M	Th	<0.0047
O	Be	<0.00017	M	Ga	<0.0047	O	Hg	<0.0070	M	Ru	<0.0094	M	Tm	<0.0019
M	Bi	<0.0019	M	Ge	<0.028	M	Mo	<0.0094	M	Sm	<0.0047	M	Sn	<0.024
O	B	0.012	M	Au	<0.014	M	Nd	<0.0094	M	Sc	<0.047	M	Ti	<0.24
M	Cd	<0.014	M	Hf	<0.0094	O	Ni	<0.0060	M	Se	<0.036	M	W	<0.047
O	Ca	0.0084	M	Ho	<0.0024	M	Nb	<0.0024	O	Si	0.052	M	U	<0.0094
M	Ce	<0.024	O	In	<0.030	n	Os		M	Ag	<0.0094	M	V	<0.0094
M	Cs	<0.0014	M	Ir	<0.024	M	Pd	<0.024	O	Na	<0.10	M	Yb	<0.0047
O	Cr	0.0026	O	Fe	0.018	O	P	<0.030	M	Sr	<0.0024	M	Y	<0.19
M	Co	<0.014	M	La	<0.0024	M	Pt	<0.0094	O	S	0.086	M	Zn	<0.094
M	Cu	<0.028	M	Pb	<0.014	O	K	<0.0060	M	Ta	<0.033	M	Zr	<0.024

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.061 g/mL

QA:KL Rev.061002DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES
1 Sep 2003

Certificate of Analysis

010450

CUSTOM-GRADE SOLUTION

10,000 µg/mL Calcium in 1.4% HNO_3 (abs)

Catalog Number: CGCA10-1and CGCA10-5

Lot Number: **S-CA02138**

Starting Material:	Calcium Oxide
Starting-Material Purity:	99.997%
Starting Material Lot No:	C27L01

DATE RECEIVED: 2/5/02
DATE EXPIRED: 3/1/2003 DR#1
DATE OPENED: 2/5/02
INOUR: 3284 PIN: F51840

CERTIFIED CONCENTRATION: 10,008 ± 20 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 10,008 ± 20 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 9993 ± 48 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3109a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	0.00035	M	Dy	<0.028	O	Li	<0.000024	M	Pr	<0.0014	M	Te	<0.14
M	Sb	<0.0023	M	Er	<0.023	M	Lu	<0.0019	M	Re	<0.0046	M	Tb	<0.0014
M	As	<0.046	M	Eu	<0.014	O	Mg	0.053	M	Rh	<0.0046	M	Tl	<0.0046
O	Ba	0.00063	M	Gd	<0.0046	O	Mn	0.0027	M	Rb	<0.0046	M	Th	<0.0046
O	Be	<0.000085	M	Ga	<0.0046	O	Hg	<0.011	M	Ru	<0.0092	M	Tm	<0.0019
M	Bi	<0.0019	M	Ge	<0.028	M	Mo	<0.0092	M	Sm	<0.0046	M	Sn	<0.023
O	B	<0.00054	M	Au	<0.014	M	Nd	<0.0092	O	Sc	<0.000020	M	Ti	<0.23
O	Cd	<0.0045	M	Hf	<0.0092	O	Ni	<0.0023	O	Se	<0.0062	M	W	<0.046
s	Ca		M	Ho	<0.0023	M	Nb	<0.0023	O	Si	0.0012	M	U	<0.0092
M	Ce	0.0070	O	In	<0.0020	n	Os		O	Ag	<0.040	O	V	<0.00090
M	Cs	<0.0014	M	Ir	<0.023	M	Pd	<0.023	O	Na	0.0024	M	Yb	<0.0046
O	Cr	0.0021	O	Fe	<0.0011	O	P	<0.0048	O	Sr	0.12	M	Y	<0.19
O	Co	<0.0012	M	La	<0.0023	M	Pt	<0.0092	O	S	0.042	O	Zn	0.074
O	Cu	0.0050	M	Pb	<0.014	O	K	<0.0017	M	Ta	<0.033	M	Zr	<0.023

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.037 g/mL

(over)

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Paul R. Gaines
Quality Assurance Manager

Expires: EXPIRES 1 MAR 2003

Certificate of Analysis

010451

CUSTOM-GRADE SOLUTION 10,000 μg/mL Iron in 5% HNO_3 (abs)

Catalog Number: CGFE10-1and CGFE10-5

Lot Number: **S-FE03017**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 2/5/02
DATE EXPIRED: 3/1/2003 DR#1
DATE OPENED: 2/5/02
INORG: 3286 TO: FS1846

Starting Material:	Iron Metal
Starting Material Purity:	99.99952%
Starting Material Lot No:	22597

CERTIFIED CONCENTRATION: 10,062 ± 26 μg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{(n)^{1/2}} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 10,062 ± 26 μg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Instrument Analysis: 10,084 ± 48 μg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3126a.

Independent-samples t-test shows agreement between above assay methods at the 95% confidence interval.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN μg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm .

O	Al	0.0055	M	Dy	<0.025	O	Li	<0.000030	M	Pr	<0.0013	M	Te	<0.13
M	Sb	<0.0021	M	Er	<0.021	M	Lu	<0.0017	M	Re	<0.0041	M	Tb	<0.0013
M	As	<0.041	M	Eu	<0.013	O	Mg	0.0060	M	Rh	<0.0041	M	Tl	<0.0041
M	Ba	<0.041	M	Gd	<0.0041	O	Mn	<0.050	M	Rb	<0.0041	M	Th	<0.0041
O	Be	<0.000050	M	Ga	<0.0041	O	Hg	<0.011	M	Ru	<0.0081	M	Tm	<0.0017
M	Bi	<0.0017	M	Ge	<0.025	M	Mo	<0.0081	M	Sm	<0.0041	M	Sn	<0.021
O	B	i	M	Au	<0.013	M	Nd	<0.0081	M	Sc	<0.041	M	Ti	<0.21
M	Cd	<0.013	M	Hf	<0.0081	O	Ni	<0.0023	M	Se	<0.033	M	W	<0.041
O	Ca	0.015	M	Ho	<0.0021	M	Nb	<0.0021	O	Si	i	M	U	<0.0081
M	Ce	<0.021	M	In	<0.041	n	Os		M	Ag	<0.0081	M	V	<0.0081
M	Cs	<0.0013	M	Ir	<0.021	M	Pd	<0.021	O	Na	0.0087	M	Yb	<0.0041
M	Cr	<0.021	s	Fe		O	P	i	M	Sr	<0.0021	M	Y	<0.17
O	Co	0.0062	M	La	<0.0021	M	Pt	<0.0081	O	S	<0.072	M	Zn	0.030
M	Cu	<0.025	M	Pb	<0.013	O	K	0.00057	M	Ta	<0.029	M	Zr	<0.021

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.049 g/mL

QA:KL Rev.081401DN

(over)

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Paul R. Gaines
Quality Assurance Manager

EXPIRES 1 MAR 2003

Certificate of Analysis

010452

CUSTOM-GRADE SOLUTION

10,000 μg/mL Potassium in 1.4% HNO_3 (abs)

Catalog Number: CGK10-1and CGK10-5

Lot Number: **S-K02099**

Starting Material:	Potassium Nitrate
Starting Material Purity:	99.996%
Starting Material Lot No:	K18J19

2/5/02
3/1/2003 DR#1
2/5/02
3289 F51840

CERTIFIED VALUE: 9942 μg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 9929 μg/mL

Method: Gravimetric as the Sulfate vs NIST Weights

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 9955 μg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3141a

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN μg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm .

O	Al	<0.00090	M	Dy	<0.0060	O	Li	<0.000030	M	Pr	<0.00030	M	Te	<0.030
M	Sb	<0.00050	M	Er	<0.0050	M	Lu	<0.00040	M	Re	<0.0010	M	Tb	<0.00030
M	As	<0.010	M	Eu	<0.0030	O	Mg	0.00015	M	Rh	<0.0010	M	Tl	<0.0010
M	Ba	<0.010	M	Gd	<0.0010	O	Mn	<0.000030	M	Rb	0.50	M	Th	<0.0010
O	Be	<0.00020	M	Ga	<0.0010	O	Hg	<0.015	M	Ru	<0.0020	M	Tm	<0.00040
M	Bi	<0.00040	O	Ge	<0.0015	M	Mo	<0.0020	M	Sm	<0.0010	M	Sn	<0.0050
O	B	<0.00060	O	Au	<0.0030	M	Nd	<0.0020	O	Sc	<0.000020	O	Ti	<0.00070
M	Cd	<0.0030	M	Hf	<0.0020	O	Ni	<0.0023	O	Se	<0.05	M	W	<0.0010
O	Ca	0.0016	M	Ho	<0.00050	M	Nb	<0.00050	O	Si	0.0025	M	U	<0.0020
M	Ce	<0.0050	M	In	<0.010	n	Os		M	Ag	<0.0020	O	V	<0.00090
M	Cs	<0.00030	M	Ir	<0.0050	M	Pd	<0.0050	O	Na	0.61	M	Yb	<0.0010
M	Cr	<0.0050	O	Fe	0.0024	O	P	<0.0025	M	Sr	<0.00050	M	Y	<0.040
M	Co	<0.0030	M	La	<0.00050	M	Pt	<0.0020	O	S	0.021	O	Zn	0.0021
M	Cu	<0.0060	M	Pb	<0.0030	s	K		M	Ta	<0.0070	M	Zr	<0.0050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.023 g/mL

QA:KL Rev.061801DN

(over)

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Paul R. Gaines
Quality Assurance Manager

EXPIRES 1 MAR 2003

Certificate of Analysis

010453

CUSTOM-GRADE SOLUTION

10,000 µg/mL Magnesium in 1.4% HNO_3 (abs)

Catalog Number: CGMG10-1and CGMG10-5

Lot Number: **T-MG02151**

Starting Material:	Magnesium Metal	7/12/02
Starting Material Purity:	99.999%	8/01/2003
Starting Material Lot No:	91191	7/15/02
		3564 F51959

CERTIFIED CONCENTRATION: 10,016 ± 22 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 10,016 ± 22 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 10,016 ± 52 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3131a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.** An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	0.050	M	Dy	<0.025	O	Li	0.0063	M	Pr	<0.0013	M	Te	<0.13
M	Sb	0.0031	M	Er	<0.021	M	Lu	<0.0017	M	Re	<0.0041	M	Tb	<0.0013
M	As	<0.041	M	Eu	<0.013	s	Mg		M	Rh	<0.0041	M	Tl	<0.0041
M	Ba	<0.041	M	Gd	<0.0041	M	Mn	<0.017	M	Rb	<0.0041	M	Th	<0.0041
O	Be	<0.00017	M	Ga	<0.0041	O	Hg	<0.0090	M	Ru	<0.0082	M	Tm	<0.0017
M	Bi	<0.0017	M	Ge	<0.025	M	Mo	<0.0082	M	Sm	<0.0041	M	Sn	<0.021
O	B	0.013	M	Au	<0.013	M	Nd	<0.0082	M	Sc	<0.041	O	Ti	0.17
M	Cd	<0.013	M	Hf	<0.0082	O	Ni	0.015	M	Se	<0.033	M	W	<0.041
O	Ca	0.050	M	Ho	<0.0021	M	Nb	<0.0021	O	Si	0.040	M	U	<0.0082
M	Ce	<0.021	M	In	<0.041	n	Os		M	Ag	<0.0082	M	V	<0.0082
M	Cs	<0.0013	M	Ir	<0.021	M	Pd	<0.021	O	Na	0.025	M	Yb	<0.0041
O	Cr	0.027	O	Fe	0.069	O	P	<0.016	M	Sr	<0.0021	M	Y	<0.17
M	Co	<0.013	M	La	<0.0021	M	Pt	<0.0082	n	S		O	Zn	0.0065
O	Cu	0.0088	O	Pb	0.034	O	K	<0.050	M	Ta	<0.029	M	Zr	<0.021

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.050 g/mL

(over)

QA:KSL Rev.022202DN

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 2003

Certificate of Analysis

010454

CUSTOM-GRADE SOLUTION 10,000 µg/mL Sodium in 1.4% HNO_3 (abs)

Catalog Number: CGNA10-1and CGNA10-5

Lot Number: **T-NA02144**

Starting Material:	Na_2CO_3	7/12/02
Starting Material Purity:	99.999%	8/01/2003
Starting Material Lot No:	41355	7/15/02
		3565 F51959

CERTIFIED CONCENTRATION: 10,029 ± 8 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ Uncertainty $(\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 10,029 ± 8 µg/mL
Method: Gravimetric as the Sulfate vs NIST weights #822/254143-94.

Instrument Analysis: 10,035 ± 40 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3152a.

The independent samples t-test was used to determ ne if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the remova of particles down to 0.3 µm .

O	Al	<0.00090	M	Dy	<0.026	O	Li	<0.000030	M	Pr	<0.0013	M	Te	<0.13
M	Sb	<0.0022	M	Er	<0.022	M	Lu	<0.0018	M	Re	<0.0044	M	Tb	<0.0013
M	As	<0.044	M	Eu	<0.013	O	Mg	0.00019	M	Rh	<0.0044	M	Tl	<0.0044
M	Ba	<0.044	M	Gd	<0.0044	O	Mn	<0.000030	M	Rb	<0.0044	M	Th	<0.0044
O	Be	<0.00020	M	Ga	<0.0044	O	Hg	<0.015	M	Ru	<0.0087	M	Tm	<0.0018
M	Bi	<0.0018	O	Ge	<0.0015	M	Mo	<0.0087	M	Sm	<0.0044	M	Sn	<0.022
O	B	0.00040	O	Au	<0.0030	M	Nd	<0.0087	O	Sc	<0.000020	O	Ti	<0.00070
M	Cd	<0.013	M	Hf	<0.0087	O	Ni	<0.0023	O	Se	<0.050	M	W	<0.044
O	Ca	0.0026	M	Ho	<0.0022	M	Nb	<0.0022	O	Si	<0.0034	M	U	<0.0087
M	Ce	<0.022	M	In	<0.044	n	Os		M	Ag	<0.0087	O	V	<0.00090
M	Cs	0.021	M	Ir	<0.022	M	Pd	<0.022	s	Na		M	Yb	<0.0044
M	Cr	<0.022	O	Fe	<0.0011	O	P	0.0014	M	Sr	<0.0022	M	Y	<0.18
M	Co	<0.013	M	La	<0.0022	M	Pt	<0.0087	O	S	<0.072	O	Zn	<0.00020
O	Cu	<0.0014	M	Pb	<0.013	O	K	0.22	M	Ta	<0.031	M	Zr	<0.022

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.030 g/mL

(over)

QA:KL Rev.032702DN

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES
1 2003

Certificate of Analysis

010455

CUSTOM-GRADE SOLUTION 1000 µg/mL Lithium in 0.1% HNO_3 (abs)

Catalog Number: CGLI1-1, CGLI1-2 and CGLI1-5

Lot Number: **T-LI02059**

Starting Material:	Li_2CO_3
Starting Material Purity:	99.999%
Starting Material Lot No:	1053

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 10/22/02
DATE EXPIRED: 11/01/2003
DATE OPENED: 10/23/02
INORG: 3736 PO: F52057

CERTIFIED CONCENTRATION: 997 ± 1 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 997 ± 1 µg/mL
Method: Gravimetric as the Sulfate vs NIST weights #822/254143-94.

Instrument Analysis: 998 ± 2 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3129a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.010	M	Dy	<0.00060	s	Li		M	Pr	<0.000030	O	Te	<0.0090
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
O	As	<0.044	M	Eu	<0.00030	O	Mg	<0.00010	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	O	Mn	<0.00020	M	Rb	<0.00010	M	Th	<0.00010
O	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.0070	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
O	B	<0.0060	O	Au	<0.010	M	Nd	<0.00020	M	Sc	<0.0010	O	Ti	<0.00030
O	Cd	<0.0018	M	Hf	<0.00020	O	Ni	<0.0040	O	Se	<0.020	M	W	<0.0010
O	Ca	0.051	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	0.023	M	U	<0.00020
M	Ce	<0.00050	O	In	<0.030	n	Os		O	Ag	<0.0040	O	V	<0.0010
M	Cs	0.0018	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.10	M	Yb	<0.00010
O	Cr	<0.0020	O	Fe	<0.0020	O	P	<0.030	O	Sr	<0.0010	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	O	S	<0.050	O	Zn	<0.030
M	Cu	<0.00060	M	Pb	<0.00030	O	K	0.0070	M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.004 g/mL

(over)

QA:KL Rev.032702DN

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 Y 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Boron in H_2O

010456

Catalog Number: CGB1-1, CGB1-2 and CGB1-5

Lot Number: **S-B02034**

Starting Material:	H_3BO_3	7/3/02
Starting Material Purity:	99.999%	7/01/2003
Starting Material Lot No:	S-B02032	7/3/02
		3549 F51952

CERTIFIED CONCENTRATION: 988 ± 2 µg/mL

The Certified Value is the instrument analysis va ue. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Instrument Analysis: 988 ± 2 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3107.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.00090	M	Dy	<0.0060	O	Li	<0.000024	M	Pr	<0.00030	M	Te	<0.030
M	Sb	<0.00050	M	Er	<0.0050	M	Lu	<0.00040	M	Re	<0.0010	M	Tb	<0.00030
M	As	<0.010	M	Eu	<0.0030	O	Mg	<0.000060	M	Rh	<0.0010	M	Tl	<0.0010
O	Ba	<0.00010	M	Gd	<0.0010	O	Mn	<0.000023	M	Rb	<0.0010	M	Th	<0.0010
O	Be	<0.00017	O	Ga	<0.0016	O	Hg	<0.015	M	Ru	<0.0020	M	Tm	<0.00040
M	Bi	<0.00040	M	Ge	<0.0060	M	Mo	<0.0020	M	Sm	<0.0010	M	Sn	<0.0050
s	B		M	Au	<0.0030	M	Nd	<0.0020	O	Sc	<0.000023	M	Ti	<0.050
M	Cd	<0.0030	M	Hf	<0.0020	O	Ni	<0.0023	O	Se	<0.0062	M	W	<0.010
O	Ca	<0.000070	M	Ho	<0.00050	M	Nb	<0.00050	O	Si	0.00067	M	U	<0.0020
O	Ce	<0.0030	M	In	<0.010	n	Os		M	Ag	<0.0020	O	V	<0.00083
M	Cs	<0.00030	M	Ir	<0.0050	M	Pd	<0.0050	O	Na	<0.00010	M	Yb	<0.0010
M	Cr	<0.0050	O	Fe	<0.0011	O	P	<0.0025	M	Sr	<0.00050	M	Y	<0.040
O	Co	<0.0011	M	La	<0.00050	M	Pt	<0.0020	O	S	<0.10	O	Zn	<0.00019
M	Cu	<0.0060	M	Pb	<0.0030	O	K	<0.0030	M	Ta	<0.0070	M	Zr	<0.0050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.998 g/mL

QA:KL Rev.010702DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 2 2003

Certificate of Analysis

010457

7/3/02 7/1/2003 3551 F5153

CUSTOM-GRADE SOLUTION 1000 µg/mL Molybdenum in H_2O tr. NH_4OH

Catalog Number: CGMO1-1, CGMO1-2 and CGMO1-5

Lot Number: **T-MO01125**

Starting Material:	Ammonium Molybdenum Oxide
Starting Material Purity:	99.999%
Starting Material Lot No:	21410

CERTIFIED CONCENTRATION: 989 ± 4 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 999 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 989 ± 4 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3134.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	<0.0009	M	Dy	<0.0006	M	Li	<0.001	M	Pr	0.0042	M	Te	<0.09
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	0.00013	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	n	Rb		M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	i	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	0.0015	M	Ge	<0.0006	s	Mo		M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	0.0004	M	Nd	0.019	M	Sc	<0.001	M	Ti	<0.05
O	Cd	<0.01	M	Hf	<0.0002	O	Ni	i	O	Se	i	M	W	0.17
O	Ca	<0.01	M	Ho	<0.00005	n	Nb		O	Si	i	M	U	<0.0002
M	Ce	<0.0005	O	In	i	n	Os		M	Ag	<0.0002	M	V	<0.0002
M	Cs	0.00004	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	i	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	i	O	P	i	M	Sr	<0.00005	n	Y	
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	<0.002
O	Cu	<0.04	M	Pb	0.00033	n	K		n	Ta		n	Zr	

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.998 g/mL

QA:KL Rev.011802DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1-2003

Certificate of Analysis

010458

CUSTOM-GRADE SOLUTION 1000 μg/mL Phosphorus in H_2O

Catalog Number: CGP1-1, CGP1-2 and CGP1-5

Lot Number: **S-P01114**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 5/8/02
DATE EXPIRED: 6/1/2003 DR
DATE OPENED: 5/9/02
INORG: 3436 PO: FS1793

Starting Material:	Phosphoric Acid
Starting Material Purity:	99.999%
Starting Material Lot No:	J18804

CERTIFIED CONCENTRATION: 1000 ± 2 μg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1000 ± 2 μg/mL
Method: Acidimetric Titration vs NIST SRM 84k KHP.

Instrument Analysis: 1000 ± 5 μg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3139a.

Independent-samples t-test shows agreement between above assay methods at the 95% confidence interval.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN μg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm.

O	Al	<0.04	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	0.012	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	0.0007	O	Hg	<0.02	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	n	Sc		n	Ti	
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	M	In	<0.03	n	Os		M	Ag	<0.0002	M	V	<0.0002
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.05	s	P		M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	0.0035
M	Cu	0.08	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.999 g/mL

(over)

QA:KL Rev.082701DN

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Technical Support: 800-569-6799

Paul R. Gaines
Quality Assurance Manager

EXPIRES 1 2003

Certificate of Analysis

010459

CUSTOM-GRADE SOLUTION 1000 µg/mL Silicon in H_2O tr HNO_3 tr HF

Catalog Number: CGSI1-1, CGSI1-2, and CGSI1-5

This standard should not be prepared or stored in glass.

Lot Number: **T-SI02076**

Starting Material:	SiO_2	
Starting Material Purity:	99.999%	
Starting Material Lot No:	C05310C	

4/3/02
4/1/2003 DR
4/4/02
3399 F5L773

CERTIFIED CONCENTRATION: 996 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1000 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 996 ± 3 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3150.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	0.030	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	O	Mg	<0.010	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.030	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
n	B		M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0010	M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.050	i	Se		M	W	<0.0010
O	Ca	<0.010	M	Ho	<0.000050	M	Nb	<0.000050	s	Si		M	U	<0.00020
M	Ce	<0.00050	O	In	<0.070	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.090	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.050	i	P		M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	<0.0020
M	Cu	<0.00060	M	Pb	<0.00030	n	K		M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.002 g/mL

QA:KL Rev.031202JTS

(over)

Inorganic Ventures, Inc.
195 Lehigh Avenue • Suite 4 • Lakewood, NJ 08701
Orders: 800-669-6799 • FAX (732) 901-1903
Technical Support: 800-569-6799

Paul R. Haines
Quality Assurance Manager

EXPIRES
1 APR 2003

Certificate of Analysis

010460

CUSTOM-GRADE SOLUTION 1000 µg/mL Titanium in 1.4% HNO_3 (abs) tr. HF

Catalog Number: CGTI1-1, CGTI1-2 and CGTI1-5

This standard should not be prepared or stored in glass.

Lot Number: **T-TI02039**

Starting Material:	Titanium Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	F29114

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 11/12/02
DATE EXPIRED: 10/1/2003 JR
DATE OPENED: 11/13/02
INORG: 3762 PO: E52061

CERTIFIED CONCENTRATION: 1010 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1002 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 1010 ± 3 µg/mL (Average of 3 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3162a.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.010	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	O	Mg	< 0.020	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	0.0020	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.050	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
O	B	<0.050	M	Au	<0.00030	M	Nd	<0.00020	O	Sc	<0.0020	s	Ti	
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.050	O	Se	<0.40	M	W	<0.0010
O	Ca	<0.010	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.010	M	U	<0.00020
M	Ce	<0.00050	O	In	<0.020	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	0.12	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.010	i	P		M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	i	S		M	Zn	0.19
O	Cu	<0.040	M	Pb	<0.00030	n	K	0.23	M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.011 g/mL

QA:KL Rev.060502DN

(over)

Paul R. Haines

Quality Assurance Manager

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EXPIRES 1 DEC 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Strontium in 0.1% HNO_3 (abs) 010461

Catalog Number: CGSR1-1, CGSR1-2 and CGSR1-5

Lot Number: **S-SR01118**

7/12/02
8/01/2003
7/15/02

Starting Material:	$SrCO_3$		
Starting Material Purity:	99.998%	3566	F51959
Starting Material Lot No:	22593		

CERTIFIED VALUE: 997 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 997 µg/mL

Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 996 µg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3153a

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	<0.0009	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	0.0006	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	i	M	Tl	0.0001
M	Ba	0.05	M	Gd	<0.0001	M	Mn	<0.0004	n	Rb		M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	<0.02	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	0.00038	M	Ge	<0.0006	O	Mo	<0.03	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	i	O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	n	Nb		O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	O	In	<0.03	n	Os		M	Ag	0.0004	M	V	<0.0002
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	i	O	Na	<0.09	M	Yb	<0.0001
M	Cr	0.0015	O	Fe	<0.05	O	P	i	s	Sr		n	Y	
M	Co	<0.0003	M	La	0.00005	M	Pt	<0.0002	n	S		M	Zn	0.013
O	Cu	<0.04	M	Pb	<0.0003	n	K		n	Ta		n	Zr	

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.000 g/mL

QA:JF Rev.062101KSL

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1/2/2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Tin in H_2O tr. HF tr. HNO_3

010462

Catalog Number: CGSN1-1, CGSN1-2, and CGSN1-5

This standard should not be prepared or stored in glass.

Lot Number: **T-SN01105**

Starting Material:	Tin Metal	7/3/02
Starting Material Purity:	99.999%	7/1/2003
Starting Material Lot No:	H12H17	7/3/02
		3552 F51952

CERTIFIED CONCENTRATION: 1008 ± 5 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1000 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 1008 ± 5 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3161.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.00090	M	Dy	<0.00060	O	Li	<0.000020	M	Pr	<0.000030	O	Te	<0.030
O	Sb	<0.0080	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	O	Rh	<0.050	M	Tl	<0.00010
O	Ba	<0.000080	M	Gd	<0.00010	O	Mn	<0.00020	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.060	M	Ru	<0.00020	M	Tm	<0.000040
O	Bi	<0.050	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	s	Sn	
O	B	<0.0020	O	Au	<0.0020	M	Nd	<0.00020	O	Sc	<0.00020	M	Ti	<0.0050
O	Cd	<0.0020	M	Hf	<0.00020	O	Ni	<0.0090	O	Se	<0.50	M	W	<0.0010
O	Ca	<0.00080	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.020	M	U	<0.00020
O	Ce	<0.0030	O	In	<0.020	n	Os		O	Ag	<0.050	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	0.0011	M	Yb	<0.00010
O	Cr	<0.0020	O	Fe	<0.050	O	P	<0.030	M	Sr	<0.000050	M	Y	<0.0040
O	Co	<0.0040	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	<0.0020
M	Cu	<0.00060	M	Pb	<0.00030	O	K	<0.0060	M	Ta	<0.00070	O	Zr	<0.0020

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.999 g/mL

QA:KSL Rev.022102DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 2 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION

1000 µg/mL Bismuth in 3.5% HNO_3 (abs)

010463

Catalog Number: CGBI1-1 and CGBI1-5

Lot Number: **T-BI01087**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 8/1/02
DATE EXPIRED: 8/1/2003
DATE OPENED: 8/1/02
INORG: 3606 PO: F52013

Starting Material:	Bismuth Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	L13D09

CERTIFIED CONCENTRATION: 996 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1001 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 996 ± 3 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3106.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.020	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.15	M	Ru	<0.00020	M	Tm	<0.000040
s	Bi		M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
O	B	<0.020	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0010	M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.010	O	Se	<0.20	M	W	<0.0010
O	Ca	<0.010	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.020	M	U	<0.00020
M	Ce	<0.00050	O	In	<0.030	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	0.0020	O	Na	<0.050	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.020	O	P	<0.050	M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	<0.0020
M	Cu	<0.00060	M	Pb	0.020	n	K		M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.027 g/mL

QA:KL Rev.031402DN

(over)

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES

Certificate of Analysis

CUSTOM-GRADE SOLUTION — 10,000 µg/mL Potassium in 1.4% HNO_3 (abs)

Catalog Number: CGK10-1and CGK10-5

Lot Number: **T-K02102**

Starting Material:	Potassium Nitrate
Starting Material Purity:	99.996%
Starting Material Lot No:	K18J19

INORGANIC LABS/RADCHE 010461
DATE RECEIVED: 10/22/02
DATE EXPIRED: 11/01/2003
DATE OPENED: 10/23/02
INORG: 3738 PO: F52057

CERTIFIED CONCENTRATION: 9999 ± 7 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ Uncertainty $(\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 9999 ± 7 µg/mL
Method: Gravimetric as the Sulfate vs NIST weights #822/254143-94.

Instrument Analysis: 10,002 ± 27 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3141a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.** An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	<0.00090	M	Dy	<0.0060	O	Li	<0.000030	M	Pr	<0.00030	M	Te	<0.030
M	Sb	<0.00050	M	Er	<0.0050	M	Lu	<0.00040	M	Re	<0.0010	M	Tb	<0.00030
M	As	<0.010	M	Eu	<0.0030	O	Mg	0.00015	M	Rh	<0.0010	M	Tl	<0.0010
M	Ba	<0.010	M	Gd	<0.0010	O	Mn	<0.000030	M	Rb	0.50	M	Th	<0.0010
O	Be	<0.00020	M	Ga	<0.0010	O	Hg	<0.015	M	Ru	<0.0020	M	Tm	<0.00040
M	Bi	<0.00040	O	Ge	<0.0015	M	Mo	<0.0020	M	Sm	<0.0010	M	Sn	<0.0050
O	B	<0.00060	O	Au	<0.0030	M	Nd	<0.0020	O	Sc	<0.000020	O	Ti	<0.00070
M	Cd	<0.0030	M	Hf	<0.0020	O	Ni	<0.0023	O	Se	<0.05	M	W	<0.0010
O	Ca	0.0016	M	Ho	<0.00050	M	Nb	<0.00050	O	Si	0.0025	M	U	<0.0020
M	Ce	<0.0050	M	In	<0.0010	n	Os		M	Ag	<0.0020	O	V	<0.00090
M	Cs	<0.00030	M	Ir	<0.0050	M	Pd	<0.0050	O	Na	0.61	M	Yb	<0.0010
M	Cr	<0.0050	O	Fe	0.0024	O	P	<0.0025	M	Sr	<0.00050	M	Y	<0.040
M	Co	<0.0030	M	La	<0.00050	M	Pt	<0.0020	O	S	0.021	O	Zn	0.0021
M	Cu	<0.0060	M	Pb	<0.0030	s	K		M	Ta	<0.0070	M	Zr	<0.0050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.023 g/mL

(over)

QA:KL Rev.032702DN

Paul R. Haines

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Quality Assurance Manager

EXPIRES 1 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Phosphorus in H_2O

Catalog Number: CGP1-1, CGP1-2 and CGP1-5

010465

Lot Number: **T-P01118**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 01/09/03
DATE EXPIRED: 02/01/2004 DR
DATE OPENED: 01/10/03
INORG: 3901 PO: F53071

Starting Material:	Phosphoric Acid
Starting Material Purity:	99.999%
Starting Material Lot No:	J18804

CERTIFIED CONCENTRATION: 1004 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1004 ± 2 µg/mL
Method: Acidimetric Titration vs NIST SRM 84k KHP.

Instrument Analysis: 1000 ± 3 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3139a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.040	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	0.012	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	0.00070	O	Hg	<0.020	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
M	B	<0.0070	M	Au	<0.00030	M	Nd	<0.00020	n	Sc		n	Ti	
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.050	O	Se	<0.40	M	W	<0.0010
O	Ca	<0.010	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.020	M	U	<0.00020
M	Ce	<0.00050	M	In	<0.030	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.090	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.050	s	P		M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	0.0035
M	Cu	0.080	M	Pb	<0.00030	n	K		M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.999 g/mL

(over)

QA:KL Rev.122002DN

Paul R. Haines

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Technical Support: 800-569-6799

Quality Assurance Manager

EXPIRES 1 FEB 2004

Certificate of Analysis

010466

CUSTOM-GRADE SOLUTION 1000 µg/mL Barium in 0.1% HNO_3 (abs)

Catalog Number: CGBA1-1, CGBA1-2, and CGBA1-5

Lot Number: **S-BA02016**

INORGANIC VENTURES LABS
DATE RECEIVED: 4/3/02
DATE EXPIRES: 4/1/2003 OR
DATE OPENED: 4/4/02
INVOICE: 3393 PO: F51773

Starting Material:	$Ba(NO_3)_2$
Starting Material Purity:	99.999%
Starting Material Lot No:	21879

CERTIFIED VALUE: 1008 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 1009 µg/mL

Method: Gravimetric as the Sulfate vs NIST Weights

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 1007 µg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3104a

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.04	M	Dy	<0.0006	M	Li	<0.001	n	Pr		M	Te	i
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	<0.0001
s	Ba		M	Gd	0.002	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	i	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	0.001	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	0.002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	i	O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
n	Ce		O	In	i	n	Os		M	Ag	<0.0002	M	V	<0.0002
n	Cs		M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.05	O	P	<0.05	M	Sr	0.004	M	Y	<0.004
M	Co	<0.0003	n	La		M	Pt	<0.0002	n	S		O	Zn	<0.03
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.000 g/mL

QA:KL Rev.070901DN

(over)

Inorganic Ventures, Inc.
195 Lehigh Avenue • Suite 4 • Lakewood, NJ 08701
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Technical Support: 800-569-6799

Paul R. Haines
Quality Assurance Manager

EXPIRES 1 APR 2003

Certificate of Analysis

010467

CUSTOM-GRADE SOLUTION 1000 µg/mL Beryllium in 2% HNO_3 (abs)

Catalog Number: CGBE1-1, CGBE1-2 and CGBE1-5

Lot Number: **S-QBE01080**

6/19/02
7/01/2003
6/19/02
3499 F51941

Starting Material:	Beryllium Acetate
Starting Material Purity:	99.999%
Starting Material Lot No:	9504-2

CERTIFIED VALUE: 1000 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Calculated Value: 1003 µg/mL
Method: Calculated, based on starting material

Instrument Analysis: 997 µg/mL
Method : Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3105a
Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.04	M	Dy	<0.0006	O	Li	<0.02	M	Pr	<0.00003	M	Te	<0.003
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	O	Mg	<0.01	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
s	Be		M	Ga	<0.0001	O	Hg	i	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	M	Ni	<0.03	O	Se	i	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	O	In	<0.03	n	Os		M	Ag	<0.0002	M	V	<0.0002
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	i	O	P	i	M	Sr	<0.00005	M	Y	0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	0.005
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.023 g/mL

QA:KL Rev.011002DN

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Paul R. Haines
Quality Assurance Manager

EXPIRES 12 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Chromium^{+3} in 1.4% HNO_3 (abs)

Catalog Number: CGCR(3)1-1, CGCR(3)1-2 and CGCR(3)1-5

010468

Lot Number: **T-CR02125**

Starting Material:	Chromium Metal
Starting Material Purity:	99.995%
Starting Material Lot No:	F16I22

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 10/22/02
DATE EXPIRED: 11/01/2003
DATE OPENED: 10/23/02
INORG: 3738 PO: F52057

CERTIFIED CONCENTRATION: 995 ± 3 µg/mL

The Certified Value is the instrument analysis value. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Instrument Analysis: 995 ± 3 µg/mL (Avg of 3 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3112a.

Calculated Value: 1002 µg/mL
Method: Calculated, based on starting material.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	0.0028	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	O	Mg	<0.010	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	O	Mn	<0.050	M	Rb	0.0066	M	Th	<0.00010
M	Be	<0.000050	M	Ga	0.00070	O	Hg	<0.10	M	Ru	0.017	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
M	B	<0.0070	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0010	M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.10	i	Se		M	W	<0.0010
O	Ca	0.0011	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.10	M	U	<0.00020
M	Ce	<0.00050	O	In	<0.10	r	Os		M	Ag	0.00070	i	V	
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	0.016	M	Yb	<0.00010
s	Cr		O	Fe	<0.10	i	P		M	Sr	<0.000050	M	Y	<0.0040
O	Co	<0.10	M	La	<0.000050	M	Pt	<0.00020	n	S		O	Zn	<0.10
M	Cu	<0.00060	M	Pb	0.00039	n	K		M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.010 g/mL

(over)

QA:KSL Rev.092502DN

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES 1/2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Copper in 2% HNO_3 (abs)

010469

Catalog Number: CGCU1-1, CGCU1-2 and CGCU1-5

Lot Number: **S-CU02058**

INORGANIC ABS/EASTERN LABS
DATE RECEIVED: 2/5/02
DATE EXPIRED: 3/1/2003 DM#1
DATE OPENED: 2/5/02
ENTRY: 3285 PO: F51840

Starting Material:	Copper Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	K09C13

CERTIFIED CONCENTRATION: 996 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 996 ± 2 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 991 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3114.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.010	M	Dy	<0.00060	O	Li	<0.0050	M	Pr	<0.000030	O	Te	<0.031
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.00004	M	Re	<0.00010	M	Tb	<0.000030
O	As	<0.044	M	Eu	<0.00030	O	Mg	0.00080	M	Rh	0.0010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	O	Mn	<0.00020	M	Rb	<0.00010	M	Th	<0.00010
O	Be	<0.00020	O	Ga	<0.0070	O	Hg	<0.0070	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	0.000090	O	Ge	<0.010	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	0.0013
O	B	<0.0060	O	Au	<0.010	M	Nd	<0.00020	M	Sc	<0.0010	O	Ti	<0.00030
O	Cd	<0.0018	M	Hf	<0.00020	O	Ni	<0.0060	O	Se	<0.020	M	W	<0.0010
O	Ca	0.00058	M	Ho	<0.000050	M	Nb	<0.00005	O	Si	<0.0033	M	U	<0.00020
M	Ce	<0.00050	O	In	<0.030	n	Os		O	Ag	<0.0040	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	0.0024	O	Na	<0.10	M	Yb	<0.00010
O	Cr	<0.0020	O	Fe	<0.0020	O	P	<0.030	M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	O	S	<0.050	O	Zn	i
s	Cu		M	Pb	0.0029	O	K	<0.0060	M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.015 g/mL

(over)

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 MAR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Nickel in 1.4% HNO_3 (abs)

010470

Catalog Number: CGNI1-1, CGNI1-2 and CGNI1-5

Lot Number: **S-NI02022**

Starting Material:	Nickel Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	B20G26

INORGANIC VENTURES LAB
DATE RECEIVED: 4/3/02
DATE EXPIRED: 4/1/2003 DR
DATE PEELED: 4/4/02
ENGR: 3402 PO: F51493

CERTIFIED CONCENTRATION: 1003 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1003 ± 3 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 1004 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3136.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	<0.0009	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	O	Mn	<0.01	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	i	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	s	Ni		O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.3	M	U	<0.0002
M	Ce	<0.0005	O	In	i	n	Os		M	Ag	<0.0002	O	V	<0.01
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.05	O	P	<0.05	M	Sr	<0.00005	M	Y	<0.004
O	Co	i	M	La	0.00005	M	Pt	<0.0002	n	S		M	Zn	<0.002
M	Cu	<0.006	M	Pb	0.00009	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.010 g/mL

(over)

QA-KSL

Inorganic Ventures, Inc.
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Technical Support: 800-569-6799

Paul R. Haines
Quality Assurance Manager

EXPIRES 1 APR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Silver in 3.5% HNO_3 (abs)

010471

Catalog Number: CGAG1-1, CGAG1-2 and CGAG1-5

Lot Number: **T-AG02013**

Starting Material:	Silver Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	F15I02

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 08/23/02
DATE EXPIRED: 09/01/2003
DATE OPENED: 08/26/02
INORG: 3653 PO: F52042

CERTIFIED CONCENTRATION: 996 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 998 ± 3 µg/mL
Method: Volhard Titration vs NIST SRM 999a Potassium Chloride

Instrument Analysis: 996 ± 3 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3151.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	<0.0009	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	0.0006	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	n	Rh		M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	<0.02	n	Ru		M	Tm	<0.00004
M	Bi	0.0007	M	Ge	0.001	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
O	Cd	<0.01	M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	O	In	<0.03	n	Os		s	Ag		M	V	<0.0002
M	Cs	<0.00003	M	Ir	<0.0005	n	Pd		O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.002	O	Fe	<0.05	O	P	<0.05	M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	0.006
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.025 g/mL (over)

QA:KL

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Technical Support: 800-569-6799

Paul R. Haines
Quality Assurance Manager

EXPIRES
1 5 2003

Certificate of Analysis

010472

CUSTOM-GRADE SOLUTION 1000 µg/mL Arsenic in 1.4% HNO_3 (abs)

Catalog Number: CGAS1-1, CGAS1-2 and CGAS1-5

Lot Number: **T-AS02016**

Starting Material:	Arsenic Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	G21F16

DATE PREPARED: 4/3/02
DATE REVIEWED: 4/17/02 OR
DATE REVISED: 4/4/02
INDEX: 3394 PO: F51773

CERTIFIED CONCENTRATION: 1002 ± 5 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1002 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 1002 ± 5 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3103a.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	0.0075	M	Dy	<0.00060	O	Li	<0.000020	M	Pr	<0.000030	M	Te	<0.0031
M	Sb	0.00096	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
s	As		M	Eu	<0.00030	O	Mg	<0.000030	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	<0.0011	M	Gd	<0.00010	O	Mn	<0.000030	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.012	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	O	Sn	<0.0040
O	B	<0.012	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0011	M	Ti	<0.0051
M	Cd	<0.00030	M	Hf	<0.00020	M	Ni	<0.031	M	Se	<0.00081	M	W	<0.0011
O	Ca	0.0035	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	0.0054	M	U	<0.00020
M	Ce	<0.00050	M	In	<0.0011	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	0.016	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.0011	O	P	0.0035	M	Sr	<0.000050	M	Y	<0.0041
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	O	S	<0.025	O	Zn	0.0060
M	Cu	<0.00060	M	Pb	<0.00030	O	K	<0.0020	M	Ta	<0.00071	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.012 g/mL

QA:KSL Rev.022002DN

(over)

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 APR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Lead in 0.35% HNO_3 (abs)

Catalog Number: CGPB1-1, CGPB1-2 and CGPB1-5

010473

Lot Number: **T-PB02110**

Starting Material:	Lead Nitrate
Starting Material Purity:	99.995%
Starting Material Lot No:	22150

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 10/22/02
DATE EXPIRED: 11/01/2003
DATE OPENED: 10/23/02
INORG: 3735 PO: F52057

CERTIFIED CONCENTRATION: 1004 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ Uncertainty $(\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1004 ± 2 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 995 ± 8 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3128.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.040	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	M	Rh	<0.020	M	Tl	<0.0050
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.090	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.0010	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
O	B	<0.020	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0010	M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.050	O	Se	<0.40	M	W	<0.0010
O	Ca	<0.010	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.020	M	U	<0.00020
M	Ce	<0.00050	O	In	<0.030	n	Os		i	Na		M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	M	Sr	0.00034	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.050	O	P	<0.050	n	S		M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	M	Ta	<0.00070	M	Zn	<0.0020
M	Cu	<0.00060	s	Pb		n	K					M	Zr	0.00120

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.002 g/mL

(over)

QA:KSL Rev.061702JTB

Paul R. Haines

Quality Assurance Manager

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EXPIRES
1 Y 2003

Certificate of Analysis

010474

CUSTOM-GRADE SOLUTION 1000 µg/mL Antimony in 0.7% HNO_3 (abs) / 3% Tartaric Acid

Catalog Number: CGSB1-1, CGSB1-2 and CGSB1-5

Lot Number: **T-SB02072**

Starting Material:	Antimony Metal	7/12/02
Starting Material Purity:	99.995%	8/01/03
Starting Material Lot No:	E14H25	7/15/02
		3563 F51959

CERTIFIED CONCENTRATION: 993 ± 2 µg/mL

The Certified Value is the instrument analysis value. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1001 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 993 ± 2 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3102a.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	<0.0050	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	n	Te	
s	Sb		M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	M	Rh	<0.00010	M	Tl	0.00030
O	Ba	<0.020	M	Gd	<0.00010	M	Mn	0.0080	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	<0.030	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	0.00070	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	n	Sn	
M	B	<0.0070	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0010	M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	<0.00020	O	Ni	<0.050	O	Se	<0.40	M	W	<0.0010
O	Ca	<0.020	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.020	M	U	<0.00020
M	Ce	0.0018	O	In	<0.030	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.090	M	Yb	<0.00010
M	Cr	0.031	O	Fe	<0.050	O	P	<0.050	M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.040	M	Pt	<0.00020	n	S		M	Zn	<0.0020
M	Cu	0.0016	M	Pb	0.0011	n	K		M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.021 g/mL

(over)

QA:KL Rev.031302DN

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Paul R. Haines
Quality Assurance Manager

Expires: EXPIRES 1 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Selenium in 1.4% HNO_3 (abs)

Catalog Number: CGSE1-1, CGSE1-2 and CGSE1-5

010475

Lot Number: **T-SE01098**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 08/23/02
DATE EXPIRED: 09/01/2003
DATE OPENED: 08/26/02
INORG: 3652 PO: F52042

Starting Material:	Selenium Metal
Starting Material Purity:	99.998%
Starting Material Lot No:	A09C08

CERTIFIED CONCENTRATION: 996 ± 4 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1005 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 996 ± 4 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3149.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.04	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	0.004	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	0.0008	M	Rb	0.0002	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	<0.02	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	0.0024	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	<0.05	s	Se		M	W	0.0042
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.03	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	M	In	<0.0001	n	Os		M	Ag	<0.0002	M	V	0.0012
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.05	O	P	<0.05	M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	0.0032
M	Cu	0.0035	M	Pb	<0.0003	M	K	<0.02	M	Ta	<0.0007	M	Zr	<0.004

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.009 g/mL

QA:KSL Rev.032502DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 §2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Thallium in 0.5% HNO_3 (abs)

010476

Catalog Number: CGTL1-1, CGTL1-5 and CGTL1-2

Lot Number: **S-TL01074**

INORGANIC LABS/ALDRICH LABS
DATE RECEIVED: 4/3/02
DATE ENTERED: 4/1/2003 DR
DATE REVIEWED: 4/4/02
ENTRY: 3396 FS1773

Starting Material:	Thallium Nitrate
Starting Material Purity:	99.999%
Starting Material Lot No:	D09C05

CERTIFIED VALUE: 995 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Calculated Value: 999 µg/mL
Method: Calculated, based on starting material

Instrument Analysis: 990 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3158
Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	<0.009	M	Dy	<0.0006	O	Li	<0.00004	M	Pr	<0.00003	M	Te	<0.003
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.0001	M	Eu	<0.0003	O	Mg	0.00008	M	Rh	<0.0001	s	Tl	
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
O	Be	<0.00004	M	Ga	<0.0001	O	Hg	<0.007	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
O	B	0.0033	O	Au	<0.001	M	Nd	<0.0002	O	Sc	<0.0001	O	Ti	<0.0002
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	<0.001	O	Se	<0.02	M	W	<0.001
O	Ca	0.0006	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	0.0107	M	U	<0.0002
M	Ce	<0.0005	M	In	<0.0001	n	Os		M	Ag	<0.0002	O	V	<0.001
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	0.0068	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.0015	O	P	0.0009	M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	O	S	<0.003	M	Zn	0.0033
M	Cu	0.0012	M	Pb	<0.0003	O	K	<0.0017	M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.002 g/mL

QA:KL Rev.081501JF

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 APR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Arsenic in 1.4% HNO_3 (abs)

Catalog Number: CGAS1-1, CGAS1-2 and CGAS1-5

010477

Lot Number: **T-AS02019**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 01/09/03
DATE EXPIRED: 02/04/2004 DR
DATE OPENED: 01/10/03
INORG: 3899 PO: F52071

Starting Material:	Arsenic Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	23014

CERTIFIED CONCENTRATION: 1006 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1003 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 1006 ± 3 µg/mL (Average of 3 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3103a.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	0.00030	M	Dy	<0.012	O	Li	<0.000020	M	Pr	<0.00060	M	Te	<0.060
O	Sb	<0.010	M	Er	<0.010	M	Lu	<0.00080	O	Re	<0.010	M	Tb	<0.00060
s	As		M	Eu	<0.0060	O	Mg	<0.000030	M	Rh	<0.0020	M	Tl	<0.0020
M	Ba	<0.020	M	Gd	<0.0020	O	Mn	<0.000030	M	Rb	<0.0020	M	Th	<0.0020
M	Be	<0.0010	M	Ga	<0.0020	O	Hg	<0.012	M	Ru	<0.0040	M	Tm	<0.00080
M	Bi	<0.00080	M	Ge	<0.012	M	Mo	<0.0040	M	Sm	<0.0020	O	Sn	0.00053
O	B	<0.012	M	Au	<0.0060	M	Nd	<0.0040	M	Sc	<0.020	M	Ti	<0.10
M	Cd	<0.0060	M	Hf	<0.0040	M	Ni	<0.016	M	Se	<0.016	M	W	<0.020
O	Ca	<0.0015	M	Ho	<0.0010	O	Nb	<0.0020	O	Si	0.0077	M	U	<0.0040
M	Ce	<0.010	M	In	<0.020	n	Os		M	Ag	<0.0040	M	V	<0.0040
M	Cs	<0.00060	M	Ir	<0.010	M	Pd	<0.010	O	Na	0.00096	M	Yb	<0.0020
M	Cr	<0.010	O	Fe	<0.0011	O	P	<0.0026	M	Sr	<0.0010	M	Y	<0.080
M	Co	<0.0060	M	La	<0.0010	M	Pt	<0.0040	O	S	<0.025	O	Zn	0.00019
M	Cu	<0.012	M	Pb	<0.0060	O	K	0.00096	M	Ta	<0.014	M	Zr	<0.010

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.010 g/mL

QA:KSL Rev.061202DN

(over)

Paul R. Haines

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Quality Assurance Manager

EXPIRES 1 FEB 2004

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Thallium in 0.5% HNO_3 (abs)

Catalog Number: CGTL1-1, CGTL1-2 and CGTL1-5

010478

Lot Number: **T-TL01075**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 01/16/03
DATE EXPIRED: 02/01/2004
DATE OPENED: 01/16/03
INORG: 3922 PO: F52073

Starting Material:	Thallium Nitrate
Starting Material Purity:	99.999%
Starting Material Lot No:	59001

CERTIFIED CONCENTRATION: 997 ± 1 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1000 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 997 ± 1 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3158.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.040	M	Dy	<0.00060	M	Li	<0.0010	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	0.000080	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	M	Mg	<0.0030	M	Rh	<0.00010	s	Tl	
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	O	Hg	i	M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	0.00060
O	B	<0.020	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0010	M	Ti	<0.0050
M	Cd	0.00090	M	Hf	0.0010	O	Ni	<0.050	O	Se	<0.40	M	W	<0.0010
O	Ca	<0.010	M	Ho	<0.000050	M	Nb	<0.000050	O	Si	<0.020	M	U	<0.00020
M	Ce	<0.00050	O	In	i	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	0.00010	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.090	M	Yb	<0.00010
M	Cr	<0.00050	O	Fe	<0.050	O	P	i	M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	0.015
M	Cu	<0.00060	M	Pb	<0.00030	n	K		M	Ta	<0.00070	M	Zr	<0.00050

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.002 g/mL

QA:KL Rev.031402DN

(over)

Paul R. Haines

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Technical Support: 800-569-6799

Quality Assurance Manager

EXPIRES 1 FEB 2004

Certificate of Analysis

010479

CUSTOM-GRADE SOLUTION 1000 µg/mL Cadmium in 2% HNO_3 (abs)

Catalog Number: CGCD1-1, CGCD1-2 and CGCD1-5

Lot Number: **T-CD01123**

Starting Material:	Cadmium Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	F25B03

THOMPSON LABORATORY LABS
DATE RECEIVED: 4/3/02
DATE EXPIRES: 4/1/2003
DATE OPENED: 4/4/02
INITIAL: 3345 PO#: F51773

CERTIFIED CONCENTRATION: 1001 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1001 ± 3 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 994 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3108.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.04	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.008
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0006	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	i	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
s	Cd		M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	<0.001
O	Ca	<0.02	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	M	In	0.0059	n	Os		M	Ag	<0.002	M	V	<0.0002
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.05	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.05	O	P	<0.05	M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	0.0022
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.014 g/mL

QA:KL Rev.011602DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES
1 APR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Cobalt in 2% HNO_3 (abs)

010480

Catalog Number: CGCO1-1, CGCO1-2 and CGCO1-5

Lot Number: **S-CO01113**

Starting Material:	Cobalt Metal	INORGANIC LABORATORY USE DATE RECEIVED: 4/3/03
Starting Material Purity:	99.997%	DATE ENTERED: 4/4/2003 DR
Starting Material Lot No:	22738	DATE OPENED: 4/4/03 INORG: 3401 SO#: F51973

CERTIFIED VALUE: 993 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 997 µg/mL

Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 988 µg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3113

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.0002	M	Dy	<0.0006	O	Li	<0.000002	M	Pr	<0.00003	M	Te	<0.003
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.8	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	O	Tl	<0.02
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	O	Ga	<0.001	O	Hg	<0.04	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	O	Ti	<0.001
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	0.0007	O	Se	<0.04	M	W	<0.001
O	Ca	0.03	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	0.0009	M	U	<0.0002
M	Ce	<0.0005	O	In	<0.001	n	Os		M	Ag	<0.0002	M	V	<0.0002
O	Cs	<0.002	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.002	M	Yb	<0.0001
O	Cr	0.0003	O	Fe	<0.002	O	P	<0.03	M	Sr	<0.00005	M	Y	<0.004
s	Co		M	La	<0.00005	M	Pt	<0.0002	O	S	0.009	O	Zn	0.0003
M	Cu	<0.0006	M	Pb	<0.0003	O	K	0.004	M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.015 g/mL

QA:KL Rev.051001ROR

(over)

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Paul R. Gaines
Quality Assurance Manager

Expires: EXPIRES 1 APR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Manganese in 2% HNO_3 (abs) 010481

Catalog Number: CGMN1-1, CGMN1-2, and CGMN1-5

Lot Number: **T-MN02031**

Starting Material:	Manganese Metal
Starting Material Purity:	99.998%
Starting Material Lot No:	21563

INORGANIC LABS/RITCHEM LABS
DATE RECEIVED: 4/3/02
DATE ENTERED: 4/12/02 DR
DATE OPENED: 4/4/02
INORG: 3462 ED: ES1773

CERTIFIED CONCENTRATION: 1000 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1000 ± 2 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 997 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3132.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.** An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

M	Al	<0.0009	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	<0.00005	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	0.004	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	s	Mn		M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	O	Ga	i	O	Hg	<0.03	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	0.00024	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	O	In	i	n	Os		M	Ag	<0.0002	O	V	i
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	i	O	P	i	M	Sr	<0.00005	M	Y	<0.004
O	Co	<0.05	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	<0.002
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.014 g/mL

(over)

QA:KL Rev.022802DN

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Paul R. Haines
Quality Assurance Manager

EXPIRES
1 APR 2003

Certificate of Analysis

010482

CUSTOM-GRADE SOLUTION 1000 µg/mL Vanadium in 1.4% HNO_3 (abs)

Catalog Number: CGV1-1, CGV1-2 and CGV1-5

Lot Number: **S-QV01080**

Starting Material:	Vanadium Pentoxide	INORGANIC LABS/RADCHEM LABS
Starting Material Purity:	99.999%	DATE RECEIVED: 10/22/03
Starting Material Lot No:	46	DATE EXPIRED: 11/01/2003
		DATE OPENED: 10/23/03
		INORG: 3740 PO: F52057

CERTIFIED VALUE: 995 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 999 µg/mL

Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 991 µg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3165

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room**.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	0.0095	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	0.042	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	0.0089	M	Rh	<0.0001	M	Tl	<0.0001
M	Ba	<0.001	M	Gd	<0.0001	O	Mn	i	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	i	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	0.016	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	<0.0003	M	Nd	<0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	0.00055
O	Ca	<0.01	M	Ho	<0.00005	M	Nb	0.00024	O	Si	<0.03	M	U	0.0011
M	Ce	<0.0005	O	In	<0.07	n	Os		M	Ag	0.00044	s	V	
M	Cs	<0.00003	M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
O	Cr	<0.02	O	Fe	<0.05	O	P	i	M	Sr	<0.00005	M	Y	<0.004
O	Co	<0.05	M	La	<0.00005	M	Pt	<0.0002	n	S		M	Zn	0.0041
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.013 g/mL

QA:KL Rev.011002DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES
1/2005

Certificate of Analysis

010483

CUSTOM-GRADE SOLUTION 1000 µg/mL Zinc in 1.4% HNO_3 (abs)

Catalog Number: CGZN1-1, CGZN1-2, and CGZN1-5

Lot Number: **T-ZN02015**

Starting Material:	Zinc Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	J17L26

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 10/22/02
DATE EXPIRED: 11/01/2003
DATE OPENED: 10/23/02
INORG: 3741 PO: F52057

CERTIFIED CONCENTRATION: 1007 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncerta nty:

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ Uncertainty $(\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1007 ± 2 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Instrument Analysis: 1006 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3168a

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	<0.0020	M	Dy	<0.025	O	Li	0.0000050	M	Pr	<0.0013	M	Te	<0.13
M	Sb	<0.0021	M	Er	<0.021	M	Lu	<0.0017	M	Re	<0.0041	M	Tb	<0.0013
M	As	<0.041	M	Eu	<0.013	O	Mg	0.00011	M	Rh	<0.0041	M	Tl	<0.0041
M	Ba	<0.041	M	Gd	<0.0041	M	Mn	<0.017	M	Rb	<0.0041	M	Th	<0.0041
M	Be	<0.0021	M	Ga	<0.0041	O	Hg	<0.010	M	Ru	<0.0082	M	Tm	<0.0017
M	Bi	<0.0017	M	Ge	<0.025	M	Mo	<0.0082	M	Sm	<0.0041	M	Sn	<0.021
O	B	0.00015	M	Au	<0.013	M	Nd	<0.0082	M	Sc	<0.041	M	Ti	<0.21
M	Cd	<0.013	M	Hf	<0.0082	O	Ni	0.000085	M	Se	<0.033	M	W	<0.041
O	Ca	0.00022	M	Ho	<0.0021	M	Nb	<0.0021	O	Si	<0.0040	M	U	<0.0082
M	Ce	<0.021	M	In	<0.041	n	Os		M	Ag	<0.0082	M	V	<0.0082
M	Cs	<0.0013	M	Ir	<0.021	M	Pd	<0.021	O	Na	0.00055	M	Yb	<0.0041
O	Cr	<0.0010	O	Fe	0.000045	O	P	<0.0030	M	Sr	<0.0021	M	Y	<0.17
M	Co	<0.013	M	La	<0.0021	M	Pt	<0.0082	O	S	<0.020	s	Zn	
O	Cu	<0.00050	M	Pb	<0.013	O	K	0.00018	M	Ta	<0.029	M	Zr	<0.021

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 21°C): 1.011 g/mL

QA:KL Rev.061702DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES
1/2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION

1000 µg/mL Lanthanum in 1.4% HNO_3 (abs) 010484

Catalog Number: CGLA1-1 and CGLA1-5

Lot Number: **S-QLA01054**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 08/23/03
DATE EXPIRED: 09/01/2003
DATE OPENED: 08/26/03
INORG: 3650 PO: F52043

Starting Material:	Lanthanum Oxide
Starting Material Purity:	99.999%
Starting Material Lot No:	LA-O-5-017

CERTIFIED VALUE: 1001 µg/mL

The certified value is the average of the classical wet assay and instrument analysis unless otherwise specified. All standards are accurate to a relative precision of ± 0.5% at the 95% confidence level for a period of 1 year. (See expiration date below)

Classical Wet Assay: 1002 µg/mL

Method: EDTA Titration vs NIST SRM 928 Lead Nitrate

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.3% at the 95% confidence level.

Instrument Analysis: 999 µg/mL

Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3127a

Sufficient number of sample measurements were made to give a minimum relative precision of ± 0.5% at the 95% confidence level.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.04	M	Dy	<0.0006	M	Li	<0.001	O	Pr	<0.02	M	Te	<0.003
M	Sb	<0.00005	M	Er	0.001	M	Lu	0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.001	M	Eu	<0.0003	M	Mg	<0.003	M	Rh	<0.0001	M	Tl	<0.0001
O	Ba	<0.02	M	Gd	0.039	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	<0.0001	O	Hg	<0.03	M	Ru	<0.0002	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	<0.0006	M	Mo	<0.0002	M	Sm	0.0004	M	Sn	<0.0005
O	B	<0.02	M	Au	<0.0003	M	Nd	0.0002	M	Sc	<0.001	M	Ti	<0.005
M	Cd	<0.0003	M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	<0.001
O	Ca	<0.01	M	Ho	0.0001	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
O	Ce	i	O	In	<0.03	n	Os		M	Ag	<0.0002	M	V	<0.0002
n	Cs		M	Ir	<0.0005	M	Pd	<0.0005	O	Na	<0.09	M	Yb	<0.0001
M	Cr	<0.0005	O	Fe	<0.05	O	P	<0.05	M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	s	La		M	Pt	<0.0002	n	S		M	Zn	<0.002
M	Cu	<0.0006	M	Pb	<0.0003	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.009 g/mL

QA:KSL Rev.110101DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES
1 SEP 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION

1000 µg/mL Palladium in 3.3% HCl (abs)

010485

Catalog Number: CGPD1-1 and CGPD1-5

Lot Number: **S-PD02011**

Starting Material:	Palladium Nitrate
Starting Material Purity:	99.999%
Starting Material Lot No:	00614

INORGANIC VENTURES LABS
DATE RECEIVED: 2/5/02
DATE EXPIRED: 3/1/2003
DATE OPENED: 2/5/02
INORG: 3092 PO: F51840

CERTIFIED CONCENTRATION: 998 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1004 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 998 ± 2 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3138.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Al	<0.0009	M	Dy	<0.0006	M	Li	<0.001	M	Pr	<0.00003	M	Te	<0.003
M	Sb	0.0017	M	Er	<0.0005	M	Lu	<0.00004	M	Re	<0.0001	M	Tb	<0.00003
M	As	<0.06	M	Eu	<0.0003	M	Mg	0.009	O	Rh	<0.02	M	Tl	0.0001
M	Ba	<0.001	M	Gd	<0.0001	M	Mn	<0.0004	M	Rb	<0.0001	M	Th	<0.0001
M	Be	<0.00005	M	Ga	0.00026	O	Hg	<0.03	O	Ru	<0.01	M	Tm	<0.00004
M	Bi	<0.00004	M	Ge	0.0058	M	Mo	<0.0002	M	Sm	<0.0001	M	Sn	<0.0005
M	B	<0.007	M	Au	0.0009	M	Nd	0.0009	M	Sc	<0.001	M	Ti	<0.005
O	Cd	<0.01	M	Hf	<0.0002	O	Ni	<0.05	O	Se	<0.4	M	W	<0.001
O	Ca	0.04	M	Ho	<0.00005	M	Nb	<0.00005	O	Si	<0.02	M	U	<0.0002
M	Ce	<0.0005	O	In	<0.03	n	Os		O	Ag	0.26	O	V	<0.01
M	Cs	i	M	Ir	<0.0005	s	Pd		O	Na	<0.09	M	Yb	<0.0001
O	Cr	<0.02	O	Fe	<0.05	O	P	<0.05	M	Sr	<0.00005	M	Y	<0.004
M	Co	<0.0003	M	La	<0.00005	M	Pt	0.016	n	S		M	Zn	0.003
M	Cu	0.0023	M	Pb	0.0022	n	K		M	Ta	<0.0007	M	Zr	<0.0005

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.022 g/mL

QA:KSL Rev.110901DN

(over)

Inorganic Ventures, Inc.
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Paul R. Haines
Quality Assurance Manager

EXPIRES
1 MAR 2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION 1000 µg/mL Sulfur in H_2O

Catalog Number: CGS1-1, CGS1-2, and CGS1-5

010486

Lot Number: **T-S01058**

Starting Material:	H_2SO_4
Starting Material Purity:	99.999%
Starting Material Lot No:	N38818

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 10/22/02
DATE EXPIRED: 11/01/2003
DATE OPENED: 10/23/02
INORG: 3739 PO: F52057

CERTIFIED CONCENTRATION: 1000 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1000 ± 2 µg/mL
Method: Acidimetric Titration vs NIST SRM KHP 84k.

Instrument Analysis: 1003 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3154.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.0030	M	Dy	<0.012	O	Li	<0.00016	M	Pr	<0.00060	M	Te	<0.060
M	Sb	<0.0010	M	Er	<0.010	M	Lu	<0.00080	M	Re	<0.0020	M	Tb	<0.00060
M	As	<0.020	M	Eu	<0.0060	O	Mg	<0.000040	M	Rh	<0.0020	M	Tl	<0.0020
M	Ba	<0.020	M	Gd	<0.0020	M	Mn	<0.0080	M	Rb	<0.0020	M	Th	<0.0020
O	Be	<0.0020	M	Ga	<0.0020	O	Hg	<0.011	M	Ru	<0.0040	M	Tm	<0.00080
M	Bi	<0.00080	M	Ge	<0.012	M	Mo	<0.0040	M	Sm	<0.0020	M	Sn	<0.010
O	B	<0.010	M	Au	<0.0060	M	Nd	<0.0040	M	Sc	<0.020	M	Ti	<0.10
M	Cd	<0.0060	M	Hf	<0.0040	O	Ni	<0.0023	O	Se	<0.0062	M	W	<0.020
O	Ca	<0.0037	M	Ho	<0.0010	M	Nb	<0.0010	O	Si	<0.0041	M	U	<0.0040
M	Ce	<0.010	M	In	<0.020	n	Os		M	Ag	<0.0040	M	V	<0.0040
M	Cs	<0.00060	M	Ir	<0.010	M	Pd	<0.010	O	Na	<0.00010	M	Yb	<0.0020
M	Cr	<0.010	O	Fe	<0.0011	O	P	<0.0048	M	Sr	<0.0010	M	Y	<0.080
M	Co	<0.0060	M	La	<0.0010	M	Pt	<0.0040	s	S		O	Zn	0.0019
M	Cu	<0.012	M	Pb	<0.0060	O	K	<0.0017	M	Ta	<0.014	M	Zr	<0.010

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.999 g/mL

(over)

QA/KL

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Paul R. Haines
Quality Assurance Manager

EXPIRES

Certificate of Analysis

010487

CUSTOM-GRADE SOLUTION

1000 µg/mL Thorium in 3% HNO_3 (abs)

Catalog Number: CGTH1-1 and CGTH1-5

Lot Number: **T-TH01059**

Starting Material:	Thorium Nitrate
Starting Material Purity:	99.999%
Starting Material Lot No:	C01L32

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 9/4/02
DATE EXPIRED: 10/1/2003 DR
DATE OPENED: 9/4/02
INORG: 3681 PO: F52048

CERTIFIED CONCENTRATION: 1001 ± 3 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 1001 ± 3 µg/mL
Method: EDTA Titration vs NIST SRM Lead Nitrate.

Instrument Analysis: 1002 ± 4 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3159.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	<0.00090	M	Dy	0.0062	O	Li	<0.000030	M	Pr	0.00037	O	Te	<0.031
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.00010	M	Tb	<0.000030
O	As	<0.014	M	Eu	<0.00030	O	Mg	<0.000060	M	Rh	<0.00010	M	Tl	<0.00010
M	Ba	0.0050	M	Gd	0.0054	O	Mn	<0.0000030	M	Rb	<0.00010	s	Th	
O	Be	<0.00020	M	Ga	<0.00010	i	Hg		M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	0.0095	M	Sn	<0.00050
O	B	<0.00060	M	Au	<0.00030	M	Nd	0.0026	M	Sc	<0.0010	O	Ti	<0.00092
O	Cd	<0.0045	M	Hf	<0.00020	O	Ni	<0.0023	M	Se	<0.010	M	W	<0.0010
O	Ca	<0.030	M	Ho	0.00022	M	Nb	<0.000050	O	Si	<0.0034	M	U	0.074
M	Ce	<0.00050	O	In	<0.0020	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	<0.00010	M	Yb	<0.00010
O	Cr	<0.00080	O	Fe	<0.0011	i	P		M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	O	S	<0.072	O	Zn	<0.00058
M	Cu	<0.00060	M	Pb	<0.00030	O	K	<0.0017	M	Ta	<0.00070	M	Zr	0.0085

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.022 g/mL

QA:KL Rev.050802DN

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1/2003

Certificate of Analysis

010488

CUSTOM-GRADE SOLUTION

1000 µg/mL Uranium in 1% HNO_3 (abs)

Catalog Number: CGU1-1 and CGU1-5

Lot Number: **S-U01055**

Starting Material:	Uranium Oxynitrate*
Starting Material Purity:	99.95%
Starting Material Lot No:	E14L40

INORGANIC LABS/PARSIPPANY LABS
DATE RECEIVED: 4/3/02
DATE EXPIRED: 4/1/2003 DR
DATE OPENED: 4/4/02
INSP: 3397 PO: F51773

CERTIFIED CONCENTRATION: 998 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Instrument Analysis: 998 ± 2 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3164.

Calculated Value: 1000 µg/mL (For informational purposes)
Method: Calculated, based on starting material.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	<0.20	M	Dy	<0.0060	O	Li	<0.010	M	Pr	<0.00030	M	Te	<0.030
M	Sb	0.00020	M	Er	<0.0050	M	Lu	<0.00040	M	Re	<0.0010	M	Tb	<0.00030
M	As	<0.010	M	Eu	<0.0030	O	Mg	0.012	M	Rh	<0.0010	M	Tl	<0.0010
M	Ba	0.0022	M	Gd	<0.0010	M	Mn	<0.0040	M	Rb	<0.0010	M	Th	<0.0010
O	Be	<0.10	M	Ga	<0.0010	O	Hg	i	M	Ru	<0.0020	M	Tm	<0.00040
M	Bi	0.00030	M	Ge	<0.0060	M	Mo	<0.0020	M	Sm	<0.0010	M	Sn	0.043
O	B	0.0020	M	Au	<0.0030	M	Nd	<0.0020	M	Sc	0.00080	M	Ti	0.029
M	Cd	<0.0030	M	Hf	<0.0020	O	Ni	i	M	Se	<0.0080	M	W	<0.010
O	Ca	0.11	M	Ho	<0.00050	M	Nb	<0.00050	O	Si	i	s	U	
M	Ce	<0.0050	M	In	<0.010	n	Os		M	Ag	<0.0020	M	V	0.00040
M	Cs	<0.00030	M	Ir	<0.0050	M	Pd	<0.0050	O	Na	0.19	M	Yb	<0.0010
M	Cr	0.0047	O	Fe	i	O	P	i	M	Sr	0.0011	M	Y	0.56
M	Co	0.014	M	La	0.0014	M	Pt	<0.0020	O	S	i	M	Zn	0.020
M	Cu	0.022	M	Pb	0.0025	O	K	i	M	Ta	<0.0070	M	Zr	0.00060

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

****NOTICE TO ICP-MS USERS:** The ^{235}U in this standard is depleted. The certified abundances in Atom % are as follows:

	Isotope	Natural Abundance Atom %	IV's Certified Abundance Atom %
Uranium	^{238}U	99.3	99.8 ± 0.1
	^{235}U	0.70	0.195 ± 0.005

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.007 g/mL

(over)

QA:KSL Rev.111601DN

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 APR 2003

Certificate of Analysis

010489

CUSTOM-GRADE SOLUTION 1000 µg/mL Tungsten in 0.1% HNO_3 (abs)/1% HF (abs)

Catalog Number: CGW1-1, CGW1-2, and CGW1-5

This standard should **not** be prepared or stored in glass.

Lot Number: **T-W01078**

Starting Material:	Tungsten Metal		7/12/02
Starting Material Purity:	99.999%		8/01/2003
Starting Material Lot No:	E03K06	3568	7/15/02 F51959

CERTIFIED CONCENTRATION: 1003 ± 4 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Calculated Value: 1000 µg/mL
Method: Calculated, based on starting material.

Instrument Analysis: 1003 ± 4 µg/mL (Average of 2 runs)
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3163.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.** An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	0.030	M	Dy	<0.00060	O	Li	<0.000030	M	Pr	<0.000030	M	Te	<0.0030
M	Sb	<0.000050	M	Er	<0.00050	M	Lu	<0.000040	M	Re	<0.020	M	Tb	<0.000030
M	As	<0.0010	M	Eu	<0.00030	O	Mg	0.0010	M	Rh	<0.0010	M	Tl	<0.00010
M	Ba	<0.0010	M	Gd	<0.00010	M	Mn	<0.00040	M	Rb	<0.00010	M	Th	<0.00010
M	Be	<0.000050	M	Ga	<0.00010	i	Hg		M	Ru	<0.00020	M	Tm	<0.000040
M	Bi	<0.000040	M	Ge	<0.00060	M	Mo	<0.00020	M	Sm	<0.00010	M	Sn	<0.00050
M	B	<0.0070	M	Au	<0.00030	M	Nd	<0.00020	M	Sc	<0.0040	M	Ti	<0.0050
M	Cd	<0.00030	M	Hf	0.00037	O	Ni	<0.10	M	Se	<0.010	s	W	
O	Ca	0.00086	M	Ho	<0.000050	M	Nb	≤0.00080	n	Si		M	U	<0.00020
M	Ce	<0.00050	M	In	<0.0010	n	Os		M	Ag	<0.00020	M	V	<0.00020
M	Cs	<0.000030	M	Ir	<0.00050	M	Pd	<0.00050	O	Na	0.047	M	Yb	<0.00010
M	Cr	<0.00050	i	Fe		i	P		M	Sr	<0.000050	M	Y	<0.0040
M	Co	<0.00030	M	La	<0.000050	M	Pt	<0.00020	n	S		M	Zn	0.031
M	Cu	<0.00060	M	Pb	<0.00030	O	K	0.028	M	Ta	<0.010	M	Zr	0.0026

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.006 g/mL

(over)

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1 Oct 2003

Certificate of Analysis

010490

CUSTOM-GRADE SOLUTION

1000 µg/mL **Yttrium** in 1.4% HNO_3 (abs)

Catalog Number: CGY1-1 and CGY1-5

Lot Number: **T-Y01085**

INORGANIC LABS/RADCHEM LABS
DATE RECEIVED: 08/23/02
DATE EXPIRED: 09/01/2003
DATE OPENED: 08/26/02
INORG: 3654 PO: F52042

Starting Material:	Y_2O_3
Starting Material Purity:	99.999%
Starting Material Lot No:	Y-O-5-9503201

CERTIFIED CONCENTRATION: 999 ± 2 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Classical Wet Assay: 999 ± 2 µg/mL
Method: EDTA Titration vs NIST SRM 928 Lead Nitrate.

Instrument Analysis: 996 ± 3 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3167a.

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by **ICP-MS** were analyzed in an **ULPA-Filtered Clean Room.**
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm .

O	Al	0.00021	M	Dy	<0.0060	M	Li	<0.010	M	Pr	<0.00030	M	Te	<0.030
M	Sb	<0.00050	M	Er	<0.0050	O	Lu	<0.000020	M	Re	<0.0010	M	Tb	<0.00030
M	As	<0.010	M	Eu	<0.0030	O	Mg	<0.000030	M	Rh	<0.0010	M	Tl	<0.0010
M	Ba	<0.010	M	Gd	<0.0010	O	Mn	<0.000020	M	Rb	<0.0010	M	Th	<0.0010
M	Be	<0.00050	M	Ga	<0.0010	O	Hg	<0.020	M	Ru	<0.0020	M	Tm	<0.00040
M	Bi	<0.00040	M	Ge	<0.0060	M	Mo	<0.0020	M	Sm	<0.0010	M	Sn	<0.0050
O	B	<0.00014	M	Au	<0.0030	M	Nd	<0.0020	O	Sc	0.00024	M	Ti	<0.050
M	Cd	<0.0030	M	Hf	<0.0020	M	Ni	<0.080	M	Se	<0.0080	M	W	<0.010
O	Ca	0.00014	M	Ho	<0.00050	M	Nb	<0.00050	O	Si	0.000077	M	U	<0.0020
M	Ce	<0.0050	M	In	<0.010	n	Os		M	Ag	<0.0020	O	V	<0.00080
M	Cs	<0.00030	M	Ir	<0.0050	O	Pd	<0.10	O	Na	<0.050	M	Yb	<0.0010
M	Cr	<0.0050	O	Fe	0.0015	O	P	<0.070	M	Sr	<0.00050	s	Y	
M	Co	<0.0030	M	La	<0.00050	M	Pt	<0.0020	O	S	<0.043	M	Zn	<0.020
M	Cu	<0.0060	M	Pb	<0.0030	O	K	<0.10	M	Ta	<0.0070	O	Zr	<0.00070

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.010 g/mL **(over)**

QA:JF Rev.041502DN

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Paul R. Haines
Quality Assurance Manager

EXPIRES 1/2003

Certificate of Analysis

CUSTOM-GRADE SOLUTION

1000 µg/mL Zirconium in H_2O tr. HF tr. HNO_3 010491

Catalog Number: CGZR1-1 and CGZR1-5
This standard should **not** be prepared or stored in glass.

Lot Number: **S-ZR01051**

INORGANIC LABS/RAD PROD LABS
DATE RECEIVED: 4/3/02
DATE ENTERED: 4/4/2003 OR
DATE OPENED: 4/4/02
INCPS: 3398 PO#: F51773

Starting Material:	Zirconium Metal
Starting Material Purity:	99.999%
Starting Material Lot No:	SP4811A

CERTIFIED CONCENTRATION: 995 ± 6 µg/mL

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{(n)^{1/2}} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Instrument Analysis: 995 ± 6 µg/mL
Method: Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3169

Calculated Value: 1000 µg/mL (For informational purposes)
Method: Calculated based on starting material.

TRACE METALLIC IMPURITIES DETERMINED BY ICP-MS AND ICP-OES IN µg/mL:

Custom-Grade solutions tested for trace metallic impurities by ICP-MS were analyzed in an ULPA-Filtered Clean Room.
An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Al	0.055	M	Dy	<0.012	O	Li	<0.000030	M	Pr	<0.00059	M	Te	<0.059
M	Sb	0.00017	M	Er	<0.0098	M	Lu	<0.00079	M	Re	<0.0020	M	Tb	<0.00059
M	As	<0.020	M	Eu	<0.0059	O	Mg	<0.000030	M	Rh	<0.0020	M	Tl	<0.0020
M	Ba	0.013	M	Gd	<0.0020	O	Mn	0.0020	M	Rb	<0.0020	M	Th	<0.0020
O	Be	<0.10	M	Ga	<0.0020	O	Hg	<0.011	M	Ru	<0.0040	M	Tm	<0.00079
M	Bi	<0.00079	M	Ge	<0.012	O	Mo	<0.10	M	Sm	<0.0020	M	Sn	0.0011
O	B	i	M	Au	<0.0059	M	Nd	<0.0040	O	Sc	<0.00016	O	Ti	0.0031
O	Cd	<0.0053	M	Hf	0.087	O	Ni	0.014	M	Se	<0.016	M	W	0.0016
O	Ca	0.0020	M	Ho	<0.00098	O	Nb	i	O	Si	i	M	U	0.00040
M	Ce	<0.0098	M	In	<0.020	n	Os		O	Ag	i	M	V	0.0016
M	Cs	<0.00059	M	Ir	<0.0098	O	Pd	i	O	Na	0.041	M	Yb	<0.0020
O	Cr	0.034	O	Fe	0.45	O	P	<0.0048	M	Sr	<0.00098	O	Y	<0.0010
M	Co	<0.0059	M	La	<0.00098	M	Pt	<0.0040	O	S	i	O	Zn	0.0057
M	Cu	0.013	M	Pb	<0.0059	O	K	0.013	M	Ta	0.0011	s	Zr	

M - checked by ICP-MS O - checked by ICP-OES i - spectral interference n - not checked for s - solution standard element

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 1.000 g/mL

QA:KL Rev.081701DN

(over)

Inorganic Ventures, Inc.
195 Lehigh Avenue • Suite 4 • Lakewood, NJ 08701
Orders: 800-669-6799 • FAX (732) 901-1903
Technical Support: 800-569-6799

Paul R. Haines
Quality Assurance Manager

EXPIRES 1 APR 2003

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

010492

Pipette Calibrations

Book/Page: 01 025

SwRI – Div. 01, Inorganic Labs' Fixed Volume Pipette Verification Log

(Space provide for Inorganic Laboratories' Fixed Volume Pipette Verification Spreadsheet)

12-31-02

010493

SwRI - Div. 01, Inorganic Labs' Fixed Volume Pipette Spreadsheet

Eppendorf #	True Value (uL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
ICA1	1000	0.9994	0.9920	0.9993	0.9969	99.69
ICF1	500	0.5018	0.5001	0.5000	0.5006	100.13
ICN1	100	0.1017	0.1006	0.1001	0.1008	100.80
ICN2	100	OUT	OF	SERVICE		
ICT1	50	OUT	OF	SERVICE		
ICZ1	10	OUT	OF	SERVICE		
TMA1	1000	1.0185	1.0160	1.0192	1.0179	101.79
TMA2	1000	0.9971	0.9972	0.9998	0.9980	99.80
TMA3	1000	1.0084	1.0083	1.0064	1.0077	100.77
TMA4	1000	NOT	FOUND			
TMA5	1000	OUT	OF	SERVICE		
TMA6	1000	1.0254	1.0191	1.0034	1.0160	101.60
TMB1	900	0.9019	0.9008	0.9001	0.9009	100.10
TMC1	800	0.8092	0.8088	0.8063	0.8081	101.01
TMDD1	750	0.7524	0.7501	0.7501	0.7509	100.12
TMD1	700	0.7042	0.7011	0.7012	0.7022	100.31
TMD2	700	0.7080	0.7001	0.7000	0.7027	100.39
TME1	600	0.6063	0.6018	0.6011	0.5988	99.80
TMF1	500	OUT	OF	SERVICE		
TMF2	500	0.5035	0.5018	0.5025	0.5026	100.53
TMF3	500	NOT	FOUND			
TMF4	500	OUT	OF	SERVICE		
TMF5	500	0.5003	0.5001	0.5001	0.5002	100.03
TMG3	400	0.3986	0.4036	0.4011	0.4011	100.28
TMH1	300	0.3031	0.3051	0.3060	0.3047	101.58
TMH2	300	0.2979	0.2984	0.2996	0.2986	99.54
TMJ1	250	0.2448	0.2501	0.2502	0.2484	99.35
TMJ2	250	0.2518	0.2521	0.2527	0.2522	100.88
TMJ3	250	0.2528	0.2542	0.2536	0.2535	101.41
TMK1	200	OUT	OF	SERVICE		
TMK2	200	0.1995	0.2001	0.1996	0.1997	99.87
TML1	150	0.1485	0.1482	0.1479	0.1482	98.80
TMM1	120	0.1222	0.1224	0.1208	0.1218	101.50
TMN1	100	OUT	OF	SERVICE		
TMN3	100	0.0999	0.1001	0.1000	0.1000	100.00
TMP1	90	OUT	OF	SERVICE		
TMQ1	80	0.0802	0.0801	0.0800	0.0801	100.13
TMR1	70	0.0711	0.0704	0.0696	0.0704	100.52
TMS1	60	NOT	FOUND			
TMT2	50	NOT	FOUND			
TMU1	40	0.0400	0.0399	0.0400	0.0400	99.92
TMU2	40	0.0397	0.0398	0.0400	0.0398	99.58
TMV1	30	0.0300	0.0301	0.0300	0.0300	100.11
TMW1	25	0.0249	0.0250	0.0250	0.0250	99.87
TMX1	20	OUT	OF	SERVICE		
TMY1	15	0.0148	0.0149	0.0150	0.0149	99.33
L30-1000	1000	1.0044	1.0069	1.0036	1.0050	100.50
L30-500	500	0.5021	0.5018	0.5001	0.5013	100.27
L30-100	100	OUT	OF	SERVICE		
LAB-30A	50	0.0498	0.0499	0.0496	0.0498	99.53
L30-20	20	0.0201	0.0200	0.0200	0.0200	100.17
L30-10	10	OUT	OF	SERVICE		

Book/Page 01 026

SwRI – Div. 01, Inorganic Labs' Fixed Volume Pipette Verification Log

Balance #: 34 Thermometer #: G-011 diH20 Temperature (°C): 21 010494

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
ICA1 ✓	1000	.9994	.9920	.9993
ICF1 ✓	500	.5018	.5001	.5000
ICN1 ✓	100	.1017	.1006	.1001
ICN2 ✓	100	OUT	OF	SERVICE
ICT1 ✓	50	OUT	OF	SERVICE
ICZ1	10	OUT	OF	SERVICE
TMA1	1000	1.0185	1.0160	1.0192
TMA2	1000	0.9971	0.9972	0.9998
TMA3	1000	1.0084	1.0083	1.0064
TMA4	1000	NOT	FOUND	
TMA5	1000	OUT	OF	SERVICE
TMA6	1000	1.0254	1.0191	1.0034
TMB1	900	.9019	.9008	.9001
TMC1	800	.8092	.8088	.8063
TMDD1	750	.7524	.7501	.7501
TMD1	700	.7043	.7011	.7012
TMD2	700	.7080	.7001	.7000
TME1	600	.6068	.6018	.6011
TMF1	500	OUT	OF	SERVICE
TMF2	500	.5036	.5018	.5025
TMF3	500	NOT	FOUND	
TMF4	500	OUT	OF	SERVICE
TMF5	500	.5003	.5001	.5001
TMG3	400	.3986	.4036	.4011
TMH1	300	.3031	.3051	.3060
TMH2	300	.2979	.2984	.2996
TMJ1	250	.2448	.2501	.2502
TMJ2	250	.2578	.2521	.2527
TMJ3	250	.2528	.2542	.2536
TMK1	200	OUT	OF	SERVICE
TMK2	200	0.1995	0.2001	0.1996
TML1	150	0.1485	0.1477	0.1479
TMM1	120	.1222	.1224	.1208
TMN1	100	OUT	OF	SERVICE
TMN3 ✓	100	0.0999	0.1001	0.1000
TMP1	90	OUT	OF	SERVICE
TMQ1	80	.0802	.0801	.0800
TMR1	70	.0711	.0704	.0696
TMS1	60	NOT	FOUND	
TMT2	50	NOT	FOUND	
TMU1 ✓	40	0.0400	0.0399	0.0400
TMU2 ✓	40	.0397	.0398	.0400
TMV1 ✓	30	0.0300	0.0301	0.0300
TMW1 ✓	25	.0249	.0250	.0250
TMX1 ✓	20	OUT	OF	SERVICE
TMY1 ✓	15	.0148	.0149	.0150
L30-1000	1000	1.0044	1.0069	1.0036
L30-500 ✓	500	0.5021	0.5008	0.5001
L30-100 ✓	100	OUT	OF	SERVICE
LAB30A 28	50	0.0498	0.0499	0.0496
L30-20 ✓	20	.0201	.0200	.0200
L30-10 ✓	10	OUT	OF	SERVICE

Analyst: John Willis / Laura Navarro
Date: 12/31/02

Reviewed by: J. Rangel
Date: 1/21/03

Book/Page: 100 03

010495

SwRI – Div. 01, Inorganic Labs' Fixed Volume Pipette Verification Log

(Space provide for Inorganic Laboratories' Fixed Volume Pipette Verification Spreadsheet)

SwRI - Div. 01, Inorganic Labs' Fixed Volume Pipette Spreadsheet

Eppendorf #	True Value (uL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
Lab30	1000	1.0164	1.0041	1.0037	1.01	100.81
TMA1	1000	1.0111	1.0054	1.0018	1.01	100.61
TMA2	1000	1.0089	1.0092	1.0078	1.01	100.86
TMA3	1000	1.0098	1.0028	1.0051	1.01	100.59
TMA6	1000	0.9986	1.0068	1.0072	1.00	100.42
TMB1	900	0.9009	0.9007	0.9008	0.90	100.09
TMC1	800	0.8032	0.7989	0.7991	0.80	100.05
TMDD1	750	0.7510	0.7514	0.7499	0.75	100.10
TMD1	700	0.7033	0.6986	0.6981	0.70	100.00
TMD2	700	0.7045	0.7017	0.6986	0.70	100.23
TME1	600	0.6021	0.6029	0.6018	0.60	100.38
TMF2	500	0.5018	0.5007	0.5008	0.50	100.22
TMF5	500	0.5042	0.5038	0.5041	0.50	100.81
ICF1	500	0.4985	0.4968	0.4940	0.50	99.29
L30-500	500	0.5028	0.5178	0.5115	0.51	102.14
TMG3	400	0.4007	0.4004	0.3998	0.40	100.08
TMH1	300	0.3019	0.3026	0.3019	0.30	100.71
TMH2	300	0.3001	0.3008	0.3008	0.30	100.19
TMJ1	250	0.2508	0.2606	0.2516	0.25	101.73
TMJ2	250	0.2517	0.2486	0.2500	0.25	100.04
TMJ3	250	0.2540	0.2510	0.2491	0.25	100.55
TMK2	200	0.1998	0.1999	0.1987	0.20	99.73
TML1	150	0.1528	0.1515	0.1517	0.15	101.33
TMM1	120	0.1204	0.1213	0.1204	0.12	100.58
TMN3	100	NOT	FOUND			
ICN1	100	0.1013	0.0998	0.1006	0.10	100.57
TMQ1	80	0.0802	0.0796	0.0800	0.08	99.92
TMR1	70	0.0704	0.0707	0.0704	0.07	100.71
TMS1	60	OUT	OF	SERVICE		
LAB-30A	50	0.0499	0.0500	0.0500	0.05	99.93
TMU1	40	0.0403	0.0400	0.0400	0.04	100.25
TMU2	40	0.0409	0.0401	0.0405	0.04	101.25
TMV1	30	0.0298	0.0300	0.0298	0.03	99.56
L30-20	20	0.0202	0.0200	0.0201	0.02	100.50
TMW1	25	0.0251	0.0249	0.0250	0.03	100.00
TMY1	15	0.0148	0.0149	0.0149	0.01	99.11

January '03

Book/Page 03 002

SwRI - Div. 01, Inorganic Labs' Fixed Volume Pipette Verification Log 010496

Balance #: 16 Thermometer #: G011 diH20 Temperature (°C): 21

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
Lab30	1000	1.0164	1.0041	1.0037
TMA1	1000	1.0111	1.0054	1.0018
TMA2	1000	1.0089	1.0092	1.0078
TMA3	1000	1.0098	1.0028	1.0051
TMA6	1000	.9986	1.0068	1.0072
TMB1	900	.9009	.9007	.9008
TMC1	800	.8032	.7989	.7991
TMDD1	750	.7510	.7514	.7499
TMD1	700	.7033	.6986	.6981
TMD2	700	.7045	.7017	.6986
TME1	600	.6021	.6029	.6018
TMF2	500	.5018	.5007	.5008
TMF5	500	.5042	.5038	.5041
ICF1	500	.4985	.4968	.4940
L30-500	500	.5028	.5178	.5115
TMG3	400	.4007	.4004	.3998
TMH1	300	.3019	.3026	.3019
TMH2	300	.3001	.3008	.3008
TMJ1	250	.2508	.2606	.2576
TMJ2	250	.2517	.2486	.2500
TMJ3	250	.2540	.2510	.2491
TMK2	200	.1998	.1999	.1987
TML1	150	.1528	.1515	.1577
TMM1	120	.1204	.1213	.1204
TMN3	100	NOT	FOUND	
ICN1	100	.1013	.0998	.1006
TMQ1	80	.0802	.0796	.0800
TMR1	70	.0704	.0707	.0704
TMS1	60	OUT	OF	SERVICE
LAB-30A	50	.0499	.0500	.0500
TMU1	40	.0403	.0400	.0400
TMU2	40	.0409	.0401	.0405
TMV1	30	.0298	.0300	.0298
L30-20	20	.0202	.0200	.0201
TMW1	25	.0251	.0249	.0250
TMY1	15	.0148	.0149	.0149

Pipette cal. performed 1-31-03 JW

Analyst: John Wells Date: 3-4-03 is date entered

Reviewed by: Laura Wright Date: 3/5/03

Book/page: 02 029

010497

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	20	0.0196	0.0196	0.0200	0.020	98.67
ADJ200-A	100	0.0980	0.0981	0.0985	0.098	98.20
	200	0.2020	0.2004	0.2001	0.201	100.42
	20					
ADJ200-B	100	Out of Service				
	200					
	20	0.0200	0.0200	0.0200	0.020	100.00
ADJ200-C	100	0.0980	0.0981	0.0982	0.098	98.10
	200	0.1961	0.1974	0.1960	0.197	98.25
	20	0.0201	0.0198	0.0199	0.020	99.67
ADJ200-D	100	0.0986	0.0984	0.0984	0.098	98.47
	200	0.1970	0.1973	0.1973	0.197	98.60
	20	0.0200	0.0201	0.0202	0.020	100.50
ADJ200-E	100	0.0980	0.0981	0.0984	0.098	98.17
	200	0.1964	0.1960	0.1967	0.196	98.18
	20					
ADJ200-G	100				Out of Tolerance	
	200					
	20					
ADJ200	100					
	200					
	20					
ADJ200	100					
	200					
	20					
ADJ200	100					
	200					

FRM-247a (Rev 1/Sept 02)

USD 26

Book/page: 02 030

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010498

Balance #: 34 Thermometer #: G011 diH20 Temperature (C) 21

20 µL – 200 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	20	0.0196	0.0196	0.0200
ADJ200-A	100	0.0980	0.0981	0.0985
29	200	0.2020	0.2004	0.2001
	20			
ADJ200-B	100	out of service		
	200			
	20	0.0200	0.0200	0.0200
ADJ200-C	100	0.0980	0.0981	0.0982
34	200	0.1961	0.1974	0.1960
	20	0.0201	0.0198	0.0199
ADJ200-D	100	0.0986	0.0984	0.0984
30	200	0.1970	0.1973	0.1973
	20	0.0200	0.0201	0.0202
ADJ200-E	100	0.0980	0.0981	0.0984
28	200	0.1964	0.1960	0.1967
	20			
ADJ200-G	100	out of tolerance, taken		
	200	out of service until		
	20	adjusted. in 1/10/03		
ADJ200	100			
	200			
	20			
ADJ200	100		1/10/03	
	200			
	20			
ADJ20	100			
	200			

Analyst: Laura Navarro Date: 1/7/03

Reviewed by: John Wilks Date: 1-17-03

Book/page: 02 031

010499

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

1-17-03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	20					
ADJ200-A	100	Out of Service				
	200					
	20					
ADJ200-B	100	Out of Service				
	200					
	20	0.0198	0.0200	0.0198	0.020	99.33
ADJ200-C	100	0.0996	0.0992	0.0994	0.099	99.40
	200	0.1983	0.1985	0.1966	0.198	98.90
	20	0.0202	0.0200	0.0200	0.020	100.33
ADJ200-D	100	0.0980	0.0981	0.0980	0.098	98.03
	200	0.1963	0.1964	0.1967	0.196	98.23
	20	0.0200	0.0201	0.0201	0.020	100.33
ADJ200-E	100	0.1001	0.0998	0.0998	0.100	99.90
	200	0.1998	0.1998	0.2003	0.200	99.98
	20					
ADJ200-G	100	Out of Service				
	200					
	20					
ADJ200	100					
	200					
	20					
ADJ200	100					
	200					
	20					
ADJ200	100					
	200					

FRM-247a (Rev 1/Sept 02)

Book/page: 02 032

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010500

Balance #: 34 Thermometer #: GD11 . diH20 Temperature (C) 21

20 µL – 200 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
adjusted +	20	0.0199	0.0198	0.0199
ADJ200-A	100	1/16/03 0.09758	0.0980	0.0981
29/30	200	—Out of Tolerance *		
	20			
ADJ200-B	100	Out of Service 1/13/03		
	200			
	20	0.0198	0.0200	0.0198
ADJ200-C	100	0.0996	0.0992	0.0994
34	200	0.1983	0.1985	0.1966
	20	0.0202	0.0200	0.0200
ADJ200-D	100	0.0980	0.0981	0.0980
29	200	0.1963	0.1964	0.1967
	20	0.0200	0.0201	0.0201
ADJ200-E	100	0.1001	0.0998	0.0998
	200	0.1998	0.1998	0.2003
	20			
ADJ200-G	100	1/16/03 Out of Service		
	200			
	20			
ADJ200	100			
	200			
	20			
ADJ200	100		1/14/03	
	200			
	20			
ADJ20	100			
	200			

*ADJ200-A — 100 & 200 µL are too low, if adj +, 20 µL is over 102%. (Same w/ ADJ200-G)

Analyst: John Wills / Laura Navarro Date: 1-17-03

Reviewed by: [signature] Date: 1/20/03

Book/page: 02 035

010501

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

1-29-03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	20	0.0201	0.0202	0.0201	0.020	100.67
ADJ200-A	100	0.0996	0.1004	0.1008	0.100	100.27
	200	0.2005	0.2004	0.1999	0.200	100.13
	20					
ADJ200-B	100	Out of Service				
	200					
	20	0.0198	0.0199	0.0201	0.020	99.67
ADJ200-C	100	0.0990	0.0993	0.0991	0.099	99.13
	200	0.1986	0.1990	0.1989	0.199	99.42
	20	0.0202	0.0201	0.0203	0.020	101.00
ADJ200-D	100	0.1006	0.1001	0.0997	0.100	100.13
	200	0.2007	0.2008	0.2008	0.201	100.38
	20	0.0200	0.0201	0.0200	0.020	100.17
ADJ200-E	100	0.0996	0.0997	0.1000	0.100	99.77
	200	0.2000	0.2000	0.2000	0.200	100.00
	20	0.0202	0.0201	0.0202	0.020	100.83
ADJ200-G	100	0.0998	0.0991	0.0988	0.099	99.23
	200	0.1980	0.1978	0.1972	0.198	98.83
	20					
ADJ200	100					
	200					
	20					
ADJ200	100					
	200					
	20					
ADJ200	100					
	200					

FRM-247a (Rev 1/Sept 02)

Book/page: 02 036

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

Balance #: 16 Thermometer #: 6011 . diH20 Temperature (C) 21 010502

20 µL – 200 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	20	.0201	.0202	.0201
ADJ200-A	100	.0996	.1004	.1008
	200	.2005	.2004	.1999
	20			
ADJ200-B	100	OUT	OF	SERVICE
	200			
	20	.0198	.0199	.0201
ADJ200-C	100	.0990	.0993	.0991
	200	.1986	.1990	.1989
	20	.0202	.0201	.0203
ADJ200-D	100	.1006	.1001	.0997
	200	.2007	.2008	.2008
	20	.0200	.0201	.0200
ADJ200-E	100	.0996	.0997	.1000
	200	.2000	.2000	.2000
	20	.0202	.0201	.0202
ADJ200-G	100	.0998	.0991	.0988
	200	.1980	.1978	.1972
	20			
ADJ200	100			
	200			
	20			
ADJ200	100			
	200			
	20			
ADJ20	100			
	200			

1-29-03

Analyst: [signature] Date: 1-29-03

Reviewed by: [signature] Date: 2/11/03

Book/page: 80 02 081

010503

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

L. Hazard 1/7/03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	100	0.1001	0.1011	0.1008	0.101	100.67
ADJ1000-C	500	0.4902	0.4906	0.4901	0.490	98.06
	1000	1.0181	0.9870	0.9904	0.999	99.85
	100	0.0982	0.0986	0.0983	0.098	98.37
ADJ1000-D	500	0.4916	0.4901	0.4906	0.491	98.15
	1000	0.9963	0.9868	0.9819	0.988	98.83
	100	0.1015	0.1017	0.1017	0.102	101.63
ADJ1000-E	500	0.4971	0.4979	0.4950	0.497	99.33
	1000	0.9913	0.9941	0.9913	0.992	99.22
	100	0.1006	0.1015	0.1012	0.101	101.10
ADJ1000-F	500	0.4985	0.4954	0.4982	0.497	99.47
	1000	0.9901	0.9891	0.9861	0.988	98.84
	100	0.0992	0.0998	0.0997	0.100	99.57
ADJ1000-G	500	0.4990	0.4997	0.4955	0.498	99.61
	1000	0.9952	0.9917	0.9978	0.995	99.49
	100	0.0983	0.0991	0.0984	0.099	98.60
ADJ1000-H	500	0.4900	0.4903	0.4901	0.490	98.03
	1000	1.0071	0.9959	0.9920	0.998	99.83
	100					
ADJ1000	500					
	1000					
	100					
ADJ1000	500					
	1000					
	100					
ADJ1000	500					
	1000					

W 1/7/03

FRM-247b (Rev 1/Sept 02)

Book/page: 02 082

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010504

Balance #: 34 Thermometer #: G-011 diH20 Temperature (C) 31

100 µL – 1000 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	100	0.1001	0.1011	0.1008
ADJ1000-C	500	0.4902	0.4906	0.4901
28	1000	1.0181	0.9870	0.9904
hard to turn	100	0.0982	0.0986	0.0983
ADJ1000-D	500	0.4916	0.4901	0.4906
29	1000	0.9963	0.9868	0.9819
	100	0.1015	0.1017	0.1017
ADJ1000-E	500	0.4971	0.4979	0.4950
X	1000	0.9913	0.9941	0.9913
	100	0.1006	0.1015	0.1012
ADJ1000-F	500	0.4985	0.4954	0.4982
28	1000	0.9901	0.9891	0.9861
	100	0.0992	0.0998	0.0997
ADJ1000-G	500	0.4990	0.4997	0.4955
28	1000	0.9952	0.9917	0.9978
	100	0.0983	0.0991	0.0984
ADJ1000-H	500	0.4900	0.4903	0.4901
34	1000	1.0071	0.9959	0.9920
	100			
ADJ1000	500			
	1000			
	100			
ADJ1000	500		1/7/03	
	1000			
	100			
ADJ1000	500			
	1000			

Analyst: Laura Navarro Date: 1/7/03

Reviewed by: John Wills Date: 1-7-03

Book/page: 02 083

010505

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

1-17-03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	100	0.1006	0.1016	0.1010	0.101	101.07
ADJ1000-C	500	0.4922	0.4960	0.4941	0.494	98.82
	1000	1.0170	1.0068	1.0016	1.008	100.85
	100	0.0993	0.0980	0.0980	0.098	98.43
ADJ1000-D	500	0.4992	0.4972	0.4974	0.498	99.59
	1000	0.9852	0.9853	0.9854	0.985	98.53
	100	0.0996	0.0998	0.1001	0.100	99.83
ADJ1000-E	500	0.4956	0.4938	0.4958	0.495	99.01
	1000	0.9994	0.9964	0.9971	0.998	99.76
	100	0.1007	0.1004	0.1006	0.101	100.57
ADJ1000-F	500	0.4950	0.4966	0.4939	0.495	99.03
	1000	0.9943	0.9973	0.9972	0.996	99.63
	100	0.0993	0.0995	0.0999	0.100	99.57
ADJ1000-G	500	0.4980	0.4908	0.4966	0.495	99.03
	1000	1.0110	1.0027	1.0015	1.005	100.51
	100	0.1006	0.1002	0.1005	0.100	100.43
ADJ1000-H	500	0.4964	0.4975	0.4962	0.497	99.34
	1000	0.9929	0.9943	0.9945	0.994	99.39
	100				0.000	0.00
ADJ1000	500				0.000	0.00
	1000				0.000	0.00
	100				0.000	0.00
ADJ1000	500				0.000	0.00
	1000				0.000	0.00
	100				0.000	0.00
ADJ1000	500				0.000	0.00
	1000				0.000	0.00

FRM-247b (Rev 1/Sept 02)

Book/page: 02 084

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010506

Balance #: 16 Thermometer #: 2W47-03 2N 6011 diH20 Temperature (C) 21

100 µL – 1000 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	100	0.1006	0.1016	0.1010
ADJ1000-C	500	0.4922	0.4960	0.4941
28	1000	1.0170	1.0068	1.0016
	100	0.0993	0.0980	0.0980
ADJ1000-D	500	~~0.4895~~ 0.4992	~~0.4895~~ 0.4972	~~0.4902~~ 0.4974
29	1000	0.9852	0.9853	0.9854
	100	0.0996	0.0998	0.1001
ADJ1000-E	500	0.4956	0.4938	0.4958
	1000	0.9994	0.9964	0.9971
	100	0.1007	0.1004	0.1006
ADJ1000-F	500	0.4950	0.4966	0.4939
28	1000	0.9943	0.9973	0.9972
	100	0.0993	0.0995	0.0999
ADJ1000-G	500	0.4980	0.4908	0.4966
28	1000	1.0110	1.0027	1.0015
	100	0.1006	0.1002	0.1005
ADJ1000-H	500	0.4964	0.4975	0.4962
34	1000	0.9929	0.9943	0.9945
	100			
ADJ1000	500			
	1000			
	100			
ADJ1000	500			
	1000			
	100			
ADJ1000	500			
	1000			

1/13/03

Analyst: Laura Navarro John Wilks Date: 1/13/03 / 1-17-03

Reviewed by: [signature] Date: 1/20/03

Book/page: 02 087

010507

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

1-29-02

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	100	0.1018	0.1008	0.1009	0.101	101.17
ADJ1000-C	500	0.4936	0.4950	0.4943	0.494	98.86
	1000	0.9886	0.9885	0.9917	0.990	98.96
	100	0.1014	0.1019	0.1010	0.101	101.43
ADJ1000-D	500	0.4981	0.4985	0.5026	0.500	99.95
	1000	1.0135	1.0128	1.0003	1.009	100.89
	100	0.0989	0.0991	0.0994	0.099	99.13
ADJ1000-E	500	0.4947	0.4940	0.4957	0.495	98.96
	1000	1.0015	0.9988	0.9986	1.000	99.96
	100	0.1010	0.1008	0.1014	0.101	101.07
ADJ1000-F	500	0.4985	0.5005	0.4972	0.499	99.75
	1000	0.9968	0.9954	1.0055	0.999	99.92
	100	0.1014	0.1017	0.1015	0.102	101.53
ADJ1000-G	500	0.5018	0.5007	0.5020	0.502	100.30
	1000	0.9987	1.0051	1.0037	1.003	100.25
	100	0.0994	0.1011	0.1013	0.101	100.60
ADJ1000-H	500	0.5004	0.4997	0.4986	0.500	99.91
	1000	1.0038	1.0041	0.9968	1.002	100.16
	100				0.000	0.00
ADJ1000	500				0.000	0.00
	1000				0.000	0.00
	100				0.000	0.00
ADJ1000	500				0.000	0.00
	1000				0.000	0.00
	100				0.000	0.00
ADJ1000	500				0.000	0.00
	1000				0.000	0.00

FRM-247b (Rev 1/Sept 02)

Book/page: 02 088

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010508

Balance #: 16 Thermometer #: G011 diH20 Temperature (C) 21

100 µL – 1000 µL

Eppendorf #	True Value (µl.)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	100	.1018	.1008	.1009
ADJ1000-C	500	.4936	.4950	.4943
	1000	.9886	.9885	.9917
	100	.1014	.1019	.1010
ADJ1000-D	500	.4981	.4985	.5026
	1000	1.0135	1.0128	1.0003
	100	.0989	.0991	.0994
ADJ1000-E	500	.4947	.4940	.4957
	1000	1.0015	.9988	.9986
	100	.1010	.1008	.1014
ADJ1000-F	500	.4985	.5005	.4972
	1000	.9968	.9954	1.0055
	100	.1014	.1017	.1015
ADJ1000-G	500	.5018	.5007	.5020
	1000	.9987	1.0051	1.0037
	100	.0994	.1011	.1013
ADJ1000-H	500	.5004	.4997	.4986
	1000	1.0038	1.0041	.9968
	100			
ADJ1000	500			
	1000			
	100			
ADJ1000	500			
	1000			
	100			
ADJ1000	500			
	1000			

JJ 1-29-03

Analyst: John Wills Date: 1-29-03

Reviewed by: J Ranger Date: 2/11/03

Book/page: 02 133

010509

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

V. Ramirez 1/10/03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	500	0.4980	0.4972	0.5036	0.500	99.92
ADJ5000-C	2500	2.4599	2.4629	2.4623	2.462	98.47
	5000	5.0031	4.9650	4.9566	4.975	99.50
	500					
ADJ5000-E	2500	Out of Service				
	5000					
	500	0.5021	0.5063	0.5078	0.505	101.08
ADJ5000-F	2500	2.4839	2.4793	2.4603	2.475	98.98
	5000	4.9244	4.9753	4.9294	4.943	98.86
	500	0.4938	0.4989	0.4931	0.495	99.05
ADJ5000-G	2500	2.4922	2.4816	2.4811	2.485	99.40
	5000	5.0294	5.0043	4.9863	5.007	100.13
	500	0.4986	0.4974	0.4963	0.497	99.49
ADJ5000-H	2500	2.4612	2.4750	2.4616	2.466	98.64
	5000	5.0616	5.0012	4.9701	5.011	100.22
	500	0.4988	0.4961	0.5000	0.498	99.66
ADJ5000-I	2500	2.4893	2.4816	2.4807	2.484	99.35
	5000	5.0851	4.9913	4.9905	5.022	100.45
	500	0.5055	0.5044	0.5035	0.504	100.89
ADJ5000-J	2500	2.5002	2.4993	2.4918	2.497	99.88
	5000	5.0070	4.9823	4.9949	4.995	99.89
	500	0.4958	0.4962	0.4998	0.497	99.45
ADJ5000-K	2500	2.4605	2.4704	2.4636	2.465	98.59
	5000	4.9137	4.9296	4.9159	4.920	98.39
	500	0.4982	0.4911	0.5040	0.498	99.55
ADJ5000-L	2500	2.4896	2.4816	2.4729	2.481	99.25
	5000	5.0360	4.9816	5.0024	5.007	100.13
	500					
ADJ5000	2500					
	5000					
	500					
ADJ5000	2500					
	5000					

VR 1/10/03

FRM-247c (Rev 1/Sept 02)

GEL 03

Book/page: 02 134

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010510

Balance #: 34 Thermometer #: G-011 diH20 Temperature (C) 31

500 µL – 5000 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	500	0.4980	0.4972	0.5036
ADJ5000-C	2500	2.4599	2.4629	2.4623
28	5000	5.0031	4.9650	4.9566
	500			
ADJ5000-E	2500		out of service	
	5000			
	500	0.5021	0.5063	0.5078
ADJ5000-F	2500	2.4839	2.4793	2.4603
30	5000	4.9244	4.9753	4.9294
	500	0.4938	0.4989	0.4931
ADJ5000-G	2500	2.4922	2.4816	2.4811
29	5000	5.0294	5.0043	4.9863
	500	0.4986	0.4974	0.4963
ADJ5000-H	2500	2.4612	2.4750	2.4616
34	5000	5.0616	5.0012	4.9701
	500	0.4988	0.4961	0.5000
ADJ5000-I	2500	2.4893	2.4816	2.4807
28	5000	5.0851	4.9913	4.9905
	500	0.5055	0.5044	0.5035
ADJ5000-J	2500	2.5002	2.4993	2.4918
X	5000	5.0070	4.9823	4.9949
adj +	500	0.4958	0.4962	0.4998
ADJ5000-K	2500	2.4605	2.4704	2.4636
29	5000	4.9137	4.9296	4.9159
	500	0.4982	0.4911	0.5040
ADJ5000-L	2500	2.4896	2.4816	2.4729
28	5000	5.0360	4.9816	5.0024
	500			
ADJ5000	2500			
	5000		M 1/10/03	
	500			
ADJ5000	2500			
	5000			

Analyst: Laura Navarro Date: 1/7/03

Reviewed by: John Wilks Date: 1-17-03

Book/page: 02 135

010511

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

1-17-03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	500	0.5002	0.5019	0.5016	0.501	100.25
ADJ5000-C	2500	2.4930	2.4713	2.4668	2.477	99.08
	5000	4.9853	4.9766	4.9629	4.975	99.50
	500					
ADJ5000-E	2500	OUT	OF	SERVICE		
	5000					
	500	0.5030	0.5037	0.4967	0.501	100.23
ADJ5000-F	2500	2.4731	2.4700	2.4798	2.474	98.97
	5000	4.9251	4.9297	4.9034	4.919	98.39
	500	0.5001	0.4999	0.4969	0.499	99.79
ADJ5000-G	2500	2.4717	2.4756	2.4718	2.473	98.92
	5000	4.9516	4.9571	4.9572	4.955	99.11
	500	0.5002	0.5040	0.4973	0.501	100.10
ADJ5000-H	2500	2.4846	2.4930	2.4852	2.488	99.50
	5000	4.9994	4.9946	4.9777	4.991	99.81
	500	0.4970	0.4938	0.5004	0.497	99.41
ADJ5000-I	2500	2.4897	2.4770	2.4701	2.479	99.16
	5000	4.9775	4.9676	4.9637	4.970	99.39
	500	0.5041	0.5039	0.5026	0.504	100.71
ADJ5000-J	2500	2.4942	2.4936	2.4966	2.495	99.79
	5000	5.0024	5.0018	5.0009	5.002	100.03
1-20-05	500	0.5040	0.5058	0.5058	0.505	101.04
ADJ5000-K L	2500	2.4928	2.4960	2.4976	2.495	99.82
	5000	5.0350	5.0006	5.0017	5.012	100.25
1-20-05	500	0.5045	0.5016	0.5011	0.502	100.48
ADJ5000-L K	2500	2.4830	2.4852	2.4725	2.480	99.21
	5000	5.0081	4.9979	4.9972	5.001	100.02
	500					
ADJ5000	2500					
	5000					
	500					
ADJ5000	2500					
	5000					

FRM-247c (Rev 1/Sept 02)

Book/page: 02 136

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

010512

Balance #: 16 Thermometer #: G011 · diH20 Temperature (C) 21

500 µL – 5000 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	500	0.5002	0.5019	0.5016
ADJ5000-C	2500	2.4930	2.4713	2.4668
28	5000	4.9853	4.9766	4.9629
	500			
ADJ5000-E	2500	Out of Service JM 1/13/03		
	5000			
	500	0.5030	0.5037	0.4964
ADJ5000-F	2500	JM 1/16/03 2.4731	2.4700	2.4798
29 *	5000	4.9251	4.9297	4.9034
	500	0.5001	0.4999	0.4969
ADJ5000-G	2500	2.4717	2.4756	2.4718
(34)	5000	4.9516	4.9571	4.9572
	500	0.5002	0.5040	0.4973
ADJ5000-H	2500	2.4846	2.4930	2.4852
34	5000	4.9994	4.9946	4.9777
	500	0.4970	0.4983	0.5004
ADJ5000-I	2500	2.4897	2.4770	2.4701
28	5000	4.9775	4.9676	4.9637
	500	0.5041	0.5039	0.5026
ADJ5000-J	2500	2.4942	2.4936	2.4966
	5000	5.0024	5.0018	5.0009
JM 1-20-03	500	0.5040	0.5058	0.5058
ADJ5000-~~K~~L	2500	2.4928	2.4960	2.4976
	5000	5.0350	5.0006	5.0017
	500	0.5045	0.5016	0.5011
ADJ5000-~~L~~K	2500	2.4830	2.4852	2.4725
28 JM 1/15/03	5000	5.0081	4.9979	4.9972
	500			
ADJ5000	2500			
	5000			
	500		JM 1/14/03	
ADJ5000	2500			
	5000			

* tips are fitting loose. starting to drip.

Analyst: John Wilks/Laura Navarro Date: 1-17-03

Reviewed by: Sams Date: 1/20/03

Book/page: 02 139

010513

SwRI – Div. 01, Inorganic Labs' Adjustable Volume Pipette Verification Log

(Space provided for Inorganic Laboratories' Adjustable Volume Pipette Verification Spreadsheet)

12-29-03

SwRI – Div. 01, Inorganic Laboratory Adjustable Pipette Verification Spreadsheet

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)	Avg Wt (g)	% of True Value
	500	0.4997	0.5080	0.5065	0.505	100.95
ADJ5000-C	2500	2.5006	2.4956	2.4988	2.498	99.93
	5000	5.0303	5.0017	4.9835	5.005	100.10
	500				0.000	0.00
ADJ5000-E	2500	OUT	OF	SERVICE	0.000	0.00
	5000				0.000	0.00
	500	0.5084	0.5078	0.5069	0.508	101.54
ADJ5000-F	2500	2.5096	2.4971	2.4990	2.502	100.08
	5000	4.9989	4.9948	5.0118	5.002	100.04
	500	0.4992	0.5021	0.4986	0.500	99.99
ADJ5000-G	2500	2.4891	2.4921	2.4943	2.492	99.67
	5000	5.0171	5.0081	4.9987	5.008	100.16
	500	0.5002	0.5036	0.4999	0.501	100.25
ADJ5000-H	2500	2.5022	2.4963	2.4990	2.499	99.97
	5000	4.9921	5.0006	5.0043	4.999	99.98
	500	0.4933	0.4922	0.4921	0.493	98.51
ADJ5000-I	2500	2.4914	2.5038	2.4998	2.498	99.93
	5000	4.9974	4.9873	5.0065	4.997	99.94
	500	0.5056	0.5061	0.5064	0.506	101.21
ADJ5000-J	2500	2.5046	2.5124	2.5089	2.509	100.35
	5000	5.0349	5.0415	5.0441	5.040	100.80
	500	0.5068	0.5092	0.5074	0.508	101.56
ADJ5000-K	2500	2.4993	2.5087	2.5088	2.506	100.22
	5000	5.0389	5.0527	5.0349	5.042	100.84
	500	0.5081	0.5088	0.5094	0.509	101.75
ADJ5000-L	2500	2.5070	2.4994	2.4990	2.502	100.07
	5000	5.0001	5.0099	5.0112	5.007	100.14
	500					
ADJ5000	2500					
	5000					
	500					
ADJ5000	2500					
	5000					

FRM-247c (Rev 1/Sept 02)

Book/page: 02 140

SwRI Div. 01 – Inorganic Laboratory Adjustable Pipette Verification Log

Balance #: 16 Thermometer #: G-011 .diH20 Temperature (C) 21 010514

500 µL – 5000 µL

Eppendorf #	True Value (µL)	1st Reading (g)	2nd Reading (g)	3rd Reading (g)
	500	.4997	.5080	.5065
ADJ5000-C	2500	2.5006	2.4956	2.4988
	5000	5.0303	5.0017	4.9835
	500			
ADJ5000-E	2500	OUT	OF	Service
	5000			
	500	.5084	.5078	.5069
ADJ5000-F	2500	2.5096	2.4971	2.4990
	5000	4.9989	4.9948	5.0118
	500	.4992	.5021	.4986
ADJ5000-G	2500	2.4891	2.4921	2.4943
	5000	5.0171	5.0081	4.9987
	500	.5002	.5036	.4999
ADJ5000-H	2500	2.5022	2.4963	2.4990
	5000	4.9921	5.0006	5.0043
	500	.4933	.4922	.4921
ADJ5000-I	2500	2.4914	2.5038	2.4998
	5000	4.9974	4.9873	5.0065
	500	.5056	.5061	.5064
ADJ5000-J	2500	2.5046	2.5124	2.5089
	5000	5.0349	5.0415	5.0441
	500	.5068	.5092	.5074
ADJ5000-K	2500	2.4993	2.5087	2.5088
	5000	5.0389	5.0527	5.0349
	500	.5081	.5088	.5094
ADJ5000-L	2500	2.5070	2.4994	2.4990
	5000	5.0001	5.0099	5.0112
	500			
ADJ5000	2500			
	5000			
	500			
ADJ5000	2500			
	5000			

JW 1-29-03

Analyst: John Wills Date: 1-29-03

Reviewed by: J Ramey R Date: 2/11/03

010515

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

Balance Calibrations

010516

Southwest Research Institute
Division 01

BALANCE VERIFICATION LOG

BALANCE #	LAB #:	SERIAL #:	TOLERANCE:	COMMENTS:
16	28	P37987	±0.0005	
Date	Std Wt (g)	Recorded Wt (g)	Operator	
1/3/03	2.0000	2.0000	JW	SN: J50526-15
1/6/03	2.0000	2.0000	JW	"
1/7/03	2.0000	2.0000	JW	"
1-8-03	2.0000	2.0000	JW	"
1-9-03	2.0000	2.0000	JW	"
1-10-03	2.0000	2.0000	JW	"
1/13/03	2.0000	2.0000	JW	"
1-14-03	2.0000	2.0000	JW	"
1/15/03	2.0000	2.0000	JW	"
1-16-03	2.0000	2.0000	JW	"

If balance is out of limits, clean the balance and re-calibrate using Class "S" weights.
If balance is still out of limits, place a "DO NOT USE" sign on it and call (x5896) for service.

1-16-03
JW

010517

Southwest Research Institute
Division 01

BALANCE VERIFICATION LOG

BALANCE #	LAB #:	SERIAL #:	TOLERANCE:	COMMENTS:
16	28	P37987	±0.0005	
Date	Std Wt (g)	Recorded Wt (g)	Operator	
1-31-03	2.0000	2.0000	JW	SN: J50526-15
2/3/03	2.0000	2.0000	JW	"
2/4/03	2.0000	2.0000	JW	"
2/5/03	2.0000	2.0000	JW	"
2/6/03	2.0000	2.0000	JW	"
2/7/03	2.0000	2.0000	JW	"
2-10-03	2.0000	2.0000	JW	"
2-11-03	2.0000	1.9999	JW	"

If balance is out of limits, clean the balance and re-calibrate using Class "S" weights.
If balance is still out of limits, place a "DO NOT USE" sign on it and call (x5896) for service.

Page # ___14_____

FRM-112 (Rev 1/Dec 99)

2/11/03

010518

Southwest Research Institute
Division 01

BALANCE VERIFICATION LOG

BALANCE #	LAB #:	SERIAL #:	TOLERANCE:	COMMENTS:
19	28	0068597	±0.05	
Date	Std Wt (g)	Recorded Wt (g)	Operator	SN:
1/6/03	10.00	10.00	[illegible]	99J50624-5
1/7/03	10.00	10.00	[illegible]	"
1-8-03	10.00	10.00	[illegible]	"
1-9-03	10.00	10.00	[illegible]	"
1-10-03	10.00	10.00	[illegible]	"
1/13/03	10.00	10.00	[illegible]	"
1-14-03	10.00	10.00	[illegible]	"
1/15/03	10.00	10.00	[illegible]	"
1-16-03	10.00	10.00	[illegible]	"
1-17-03	10.00	10.00	[illegible]	"

If balance is out of limits, clean the balance and re-calibrate using Class "S" weights.
If balance is still out of limits, place a "DO NOT USE" sign on it and call (x5896) for service.

FRM-112 (Rev 1/Dec 99)

1-17-03

010519

Southwest Research Institute
Division 01

BALANCE VERIFICATION LOG

BALANCE #	LAB #:	SERIAL #:	TOLERANCE:	COMMENTS:
19	28	0068597	±0.05	
Date	Std Wt (g)	Recorded Wt (g)	Operator	
2/3/03	10.00	10.00	LW	SN:99J50624-6
2/4/03	10.00	10.00	LW	"
2/5/03	10.00	10.00	LW	"
2/6/03	10.00	10.00	LW	"
2/7/03	10.00	10.00	LW	"
2-10-03	10.00	10.00	[illegible]	"
2-11-03	10.00	10.00	[illegible]	"

If balance is out of limits, clean the balance and re-calibrate using Class "S" weights.
If balance is still out of limits, place a "DO NOT USE" sign on it and call (x5896) for service.

FRM-112 (Rev 1/Dec 99)

LW 2/11/03

010520

Southwest Research Institute
Division 01

BALANCE VERIFICATION LOG

BALANCE #	LAB #:	SERIAL #:	TOLERANCE:	COMMENTS:
34	28	1116031935	±0.0005	
Date	Std Wt (g)	Recorded Wt (g)	Operator	
1-14-03	2.0000	2.0000	Jew	SN:J50526-15
1/15/03	2.0000	2.0000	Jew	"
1-16-03	2.0000	2.0000	Jew	"
1-17-03	2.0000	2.0000	Jew	"
		ams 1/20/03		

If balance is out of limits, clean the balance and re-calibrate using Class "S" weights.
If balance is still out of limits, place a "DO NOT USE" sign on it and call (x5896) for service.

FRM-112 (Rev 1/Dec 99)

✓ ams 1/20/03

010521

Southwest Research Institute
Division 01

BALANCE VERIFICATION LOG

BALANCE #	LAB #:	SERIAL #:	TOLERANCE:	COMMENTS:
34	28	1116031935	±0.0005	
Date	Std Wt (g)	Recorded Wt (g)	Operator	
2/3/03	2.0000	2.0000	MW	SN:99-J50526-15
2/04/03	2.0000	2.0000	MW	"
2/05/03	2.0000	2.0000	MW	"
2/6/03	2.0000	2.0000	MW	"
2/7/03	2.0000	2.0000	MW	"
2-10-03	2.0000	2.0000	JW	"
2-11-03	2.0000	2.0000	JW	

If balance is out of limits, clean the balance and re-calibrate using Class "S" weights.
If balance is still out of limits, place a "DO NOT USE" sign on it and call (x5896) for service.

FRM-112 (Rev 1/Dec 99)

JW
2-11-03

010522

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
WORK ORDER: 23658/030115-2
SDG: 218741
VTSR: January 15, 2003
PROJECT#: 06002.01.071

DI Water Verification

D.I. WATER SYSTEM NOTEBOOK 01 022
METALS LAB
SOUTHWEST RESEARCH INSTITUTE 010523

√ Change 1/30/03

DATE	INITIALS	READING (M OHMS)	SET PT./ QC LT. Green=OK	CALL FOR Service LT. Green=OK	USAGE (GALS)	COMMENTS
01.21.03	DR	~~48933.2~~ 18.0	DR 01/03/03 ✓	✓	48933.2	6:35 p.m.
01.22.03	DR	~~48944.8~~ 18.0	✓	✓	48944.8	7:40 p.m. (Jury Duty)
01/23/03	DR	18.0	✓	✓	48958.1	7:31 p.m. (Jury Duty)
01/27/03	DR	18.0	✓	✓	48987.8	6:15 pm (Jury Duty)
01/28/03	DR	18.0	✓	✓	49009.1	9:07 pm (Jury Duty)
01/29/03	DR	18.0	✓	✓	DR ~~49008~~ 49018.1	7:35 pm (Jury Duty)
01/30/03	DR	18.0	✓	yellow	49019.6	11 A.m. need p.o.; need to call U.S. Filter
01/31/03	DR	18.0	✓	yellow	49034.1	6 p.m need P.O.
02/03/03	DR	18.0	✓	yellow	49050.3	7 p.m. need P.O.
02/4/03	DR	18.0	✓	yellow	49056.2	11 A.m. U.S. Filter called. [illegible]
02/5/03	DR	18.0	✓	✓	49083.2	tank exchange, Backcoline 7 p.m.
02/6/03	DR	18.0	✓	✓	49092.5	7:40 p.m
02/7/03	DR	18.0	✓	✓	49105.6	8:10 p.m.
02/10/03	DR	18.0	✓	✓	49122.4	8:50 p.m
02/11/03	DR	18.0	✓	✓	49134.1	8:40 p.m
2/12/03	DR	18.0	✓	✓	49145.0	9:42 p.m
2/13/03	DR	18.0	✓	✓	49162.7	7:30 p.m
2/14/03	DR	18.0	✓	✓	49170.2	7:13 p.m
2/17/03	DR	18.0	✓	✓	49176.6	7:50 p.m
2/18/03	DR	18.0	✓	✓	49192.7	11:09 p.m
2/19/03	DR	18.0	✓	✓	49196.1	7:16 p.m
2/20/03	DR	18.0	✓	✓	49203.8	8:10 p.m.
2/21/03	DR	18.0	✓	✓	49208.1	7:45 p.m
2/24/03	DR	18.0	✓	✓	49218.5	5:20 p.m.
2/25/03	DR	18.0	✓	✓	49223.1	4 p.m.
2/27/03	VDJ	18.0	✓	✓	49234.8	9:30 am
2/28/03	VDJ	18.0	✓	✓	49255.3	2:30 pm
		Reviewed 03/03/03 ams				
3/3/03	DR	18.0	✓	✓	49275.4	7 p.m
3/4/03	DR	18.0	✓	✓	49286.9	7:22 pm
3/5/03	DR	18.0	✓	✓	49298.6	6:10 p.m.
3/6/03	DR	18.0	✓	✓	49316.0	6:28 p.m
3/7/03	DR	18.0	✓	✓	49334.7	7:41 p.m
3/10/03	DR	18.0	✓	✓	49349.2	7:27 p.m.