

APCL Project: #3112

ATL #: 062913



*Advanced Technology
Laboratories*

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040



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APCL #: #3113

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Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories

Project: #3112, JPL

Lab Order: 062913

Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
062913-001A	MW-17-5	Water	4/28/2003	5/21/2003	5/29/2003
062913-002A	MW-17-4	Water	4/28/2003	5/21/2003	5/29/2003
062913-003A	MW-17-3	Water	4/28/2003	5/21/2003	5/29/2003
062913-004A	MW-17-2	Water	4/28/2003	5/21/2003	5/29/2003
062913-005A	MW-17-1	Water	4/28/2003	5/21/2003	5/29/2003
062913-006A	EB-6-4/28/03	Water	4/28/2003	5/21/2003	5/29/2003
062913-007A	MW-24-5	Water	4/29/2003	5/21/2003	5/29/2003
062913-008A	MW-24-3	Water	4/29/2003	5/21/2003	5/29/2003
062913-009A	MW-24-2	Water	4/29/2003	5/21/2003	5/29/2003
062913-010A	MW-24-1	Water	4/29/2003	5/21/2003	5/29/2003
062913-011A	EB-7-4/29/03	Water	4/29/2003	5/21/2003	5/29/2003
062913-012A	DUPE-4-2Q03	Water	4/29/2003	5/21/2003	5/29/2003
062913-013A	MW-23-5	Water	4/30/2003	5/21/2003	5/29/2003
062913-014A	MW-23-4	Water	4/30/2003	5/21/2003	5/29/2003
062913-015A	MW-23-3	Water	4/30/2003	5/21/2003	5/29/2003
062913-016A	MW-23-2	Water	4/30/2003	5/21/2003	5/29/2003
062913-017A	MW-23-1	Water	4/30/2003	5/21/2003	5/29/2003
062913-018A	EB-8-4/30/03	Water	4/30/2003	5/21/2003	5/29/2003
062913-019A	MW-3-5	Water	5/1/2003	5/21/2003	5/29/2003
062913-020A	MW-3-4	Water	5/1/2003	5/21/2003	5/29/2003
062913-021A	MW-3-3	Water	5/1/2003	5/21/2003	5/29/2003
062913-022A	MW-3-2	Water	5/1/2003	5/21/2003	5/29/2003
062913-023A	MW-3-1	Water	5/1/2003	5/21/2003	5/29/2003
062913-024A	EB-9-5/1/03	Water	5/1/2003	5/21/2003	5/29/2003
062913-025A	DUPE-52Q03	Water	5/1/2003	5/21/2003	5/29/2003
062913-026A	MW-11-5	Water	5/6/2003	5/21/2003	5/29/2003
062913-027A	MW-11-4	Water	5/6/2003	5/21/2003	5/29/2003
062913-028A	MW-11-3	Water	5/6/2003	5/21/2003	5/29/2003
062913-029A	MW-11-2	Water	5/6/2003	5/21/2003	5/29/2003

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Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

004

CLIENT: Applied P & Ch Laboratories

Project: #3112, JPL

Lab Order: 062913

Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
062913-030A	MW-11-1	Water	5/6/2003	5/21/2003	5/29/2003
062913-031A	EB-10-5/6/03	Water	5/6/2003	5/21/2003	5/29/2003
062913-032A	MW-12-5	Water	5/7/2003	5/21/2003	5/29/2003
062913-033A	MW-12-4	Water	5/7/2003	5/21/2003	5/29/2003
062913-034A	MW-12-3	Water	5/7/2003	5/21/2003	5/29/2003
062913-035A	MW-12-2	Water	5/7/2003	5/21/2003	5/29/2003
062913-036A	MW-12-1	Water	5/7/2003	5/21/2003	5/29/2003
062913-037A	EB-11-5/7/03	Water	5/7/2003	5/21/2003	5/29/2003
062913-038A	DUPE-6-2Q03	Water	5/7/2003	5/21/2003	5/29/2003
062913-039A	MW-24-4	Water	4/29/2003	5/21/2003	5/29/2003



Sample Receiving Items

006



Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen Page 1 of 3

Subcontract Lab: ATL Contact: Peter Tel #: (562) 989-4045 Fax #: (562) 989-4040
 Address: 3275 Alhambra Avenue City: Signal Hill State: CA Zip code: 90807
 APCL Client: #312 APCL Contact: Penny Chan

Project Name/Code: JPL Job #: Sub Quotation #:
 BILL TO APCL

Due Date: regular rush: days hours Sampled by: Leo Williamson

Field Sample ID No.	Sample Description	Date Collected	Sample Matrix	Preservation	# of Containers	Analysis Items	White - With report Yellow - Lab copy Pink - Originator	Remarks
MW-17-5		4/21/03 0800	W	HNO3	1	CL 2008 Pd 2008		
MW-17-4		0950			↓			
MW-17-3		1035			↓			
MW-17-2		1150			2			
MW-17-1		1230			↓			
EB-6-428/03		1050			1			
MW-24-5		4/21/03 0840			↓			Level 4 bag and EPD
MW-24-3		1040			↓			
MW-24-2		1210			↓			
MW-24-1		1400			↓			
EB-7-421/03		0955			↓			
PIPE-4-2803					↓			
MW-23-5		4/21/03 0820			↓			
MW-23-4		0900			↓			
MW-23-3		0940			↓			

QC Requirement: Regular; QA/QC Report; WIP; Raw Data; Extended Raw Data CLP; ACE AFCEE NEBSA (E, C or D); Other (Please specify)

Sample Disposal: Return Disposal by APCL Hold for days after receiving date. If not specified, samples will be discarded 45 days after samples are received.

Sample Conditions: Intact; Broken. Cooler Seal: Intact; Broken; None. Tag # Temperature: Room Cold (94. °C)

Relinquished by [Signature] Date/Time 5/21/03 10:00 Received by [Signature] Date/Time 5-21-03 10:00
 Relinquished by [Signature] Date/Time 5-21-03 11:14 Received by [Signature] Date/Time 05/21/03 11:20

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.
 APCL Form 4-101, Ver. 4.0, Jan. 17, 2003.

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710
 Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen Page 2 of 3

Subcontract Lab: ATL Contact: Pam Tel #: 562/989-4045 Fax #: 562/989-4040
 Address: 3275 Walnut Avenue City: Signal Hill State: CA Zip code: 90887
 APCL Client: #312 APCL Contact: Penny Chan

Project Name/Code: JPL Job #: _____
 BILL TO APCL Sub Quotation #: _____

Due Date: regular rush: _____ days _____ hours Sampled by: Leo Allason

Field Sample ID No.	Sample Description	Date Collected	Sample Matrix	Preservation	# of Containers	Analysis	Items	White - With report Yellow - Lab copy Pink - Originator	Remarks
MW-23-2		4/30/03	(U)	HNO3	1	X			
MW-23-1		1100			1	X			
EB-8-4/20/03		↓			1	X			
MW-3-5		5/1/03			1	X			Level 4 pkg
MW-3-4		0835			1	X			incl EUD
MW-3-3		0945			1	X			
MW-3-2		0925			1	X			
MW-3-1		1050			1	X			
EB-9-5/1/03		1130			1	X			
TIME-52203		0805			1	X			
MW-11-5		5/4/03			2	X			
MW-11-4		0840			1	X			
MW-11-3		0750			1	X			← MS/MSD
MW-11-2		1030			1	X			
MW-11-1		1105			1	X			

QC Requirement: Regular; QA/QC Report; WIP; Raw Data; Extended Raw Data CLP; ACE AFCEE NEBSA (E, C or D); Other _____ (Please specify)

Sample Disposal: Return Disposal by APCL Hold for _____ days after receiving date. If not specified, samples will be discarded 45 days after samples are received.

Sample Conditions: Intact; Broken. Cooler Seal: Intact; Broken; None. Tag # _____ Temperature: Room Cold (44.0°C)

Relinquished by [Signature] Date/Time 5/21/03 10:00 Received by [Signature] Date/Time 5-21-03 11:20 AM
 Relinquished by [Signature] Date/Time 5/21-03 11:14 Received by [Signature] Date/Time 052103 11:20 AM

APCL USE ONLY Service # _____ Note: _____

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.
 APCL Form 4-101, Ver. 4.0, Jan. 17, 2003.

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710
 Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen Page 3 of 3

Subcontract Lab: ATL Contact: Puri Tel #: (562) 989-4045 Fax #: (562) 989-4040
 Address: 3235 Walnut Avenue City: Signal Hill State: CA Zip code: 90807
 APCL Client: #312 APCL Contact: _____

Project Name/Code: JPL Job #: _____
 BILL TO APCL Sub Quotation #: _____

Due Date: regular rush: _____ days _____ hours Sampled by: Leo Williams

Field Sample ID No.	Sample Description	Date Collected	Sample Matrix	Preservation	# of Containers	Analysis Items	White - With report Yellow - Lab copy Pink - Originator	Remarks
EB-10-5/6/03		5/6/03 0855	RD	HNO3	1	Cr 2008 Pb 2008		
MW-12-5		5/7/03 0750				X		Level 4 pkg
MW-12-4		5/7/03 0830				X		and EDD
MW-12-3		0940				X		
MW-12-2		1020				X		
MW-12-1		1100				X		
EB-11 5/7/03		0850				X		
DMPE-6-28029						X		
MW-24-4		4/29/03 0935				X		

QC Requirement: Regular; QA/QC Report; WIP; Raw Data; Extended Raw Data CLP; ACE AFCEE NEBSA (E, C or D); Other _____ (Please specify)

Sample Disposal: Return Disposal by APCL Hold for _____ days after receiving date. If not specified, samples will be discarded 45 days after samples are received.

Sample Conditions: Intact; Broken. Cooler Seal: Intact; Broken; None. Tag # _____ Temperature: Room Cold (44 °C)

Relinquished by G. Burkhardt Date/Time 5/21/03 10:00 Received by G. Burkhardt Date/Time 5-21-03 / 0800
 Relinquished by G. Burkhardt Date/Time 5-21-03 11:14 Received by [Signature] Date/Time 05/11/03 / 11:20

APCL USE ONLY Service # _____ Note: _____

Client's understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.
 APCL Form 6-101, Ver. 4.0, Jan. 17, 2003.

INORGANICS COMPLETE INVENTORY SHEET

Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: #3112

Laboratory Name: Advanced Technology Laboratories
 Laboratory Address: 3275 Walnut Avenue, Signal Hill, CA 90807

ATL Number: 062913
 Date Sampled: 04/28/03
 Date Received: 05/20/03

Method 200.8 (Metals)

	Topic	Page(s)
Sample Data	Inorganic Data Result Sheet	011-023
Standards Data	Initial Calibration	024-025
	Initial Calibration Verification and Continuing Calibration Verification/External Reference Standard	026-029
	Tune File	030-033
	Internal Standard Table	034-035
Raw QC Data	Blank Report Sheet	036-037
	Spike Sample Recovery	039
	Laboratory Control Spike Report	038
	Duplicate Report Sheet	040
	Holding Times Summary Sheet	041-042
Miscellaneous Items	Preparation Log	043-044
	Analysis Run Log	045-046
	Standards Log	047-054
	List of Method Detection Limits	055
Raw Data Package	Standards Data Sample Data QC Data	056-138



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-001

Collection Date: 4/28/2003 8:00:00 AM

Client Sample ID: MW-17-5

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	1.6	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-002

Collection Date: 4/28/2003 9:50:00 AM

Client Sample ID: MW-17-4

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.2	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-003

Collection Date: 4/28/2003 10:35:00 AM

Client Sample ID: MW-17-3

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	3.0	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-004

Collection Date: 4/28/2003 11:50:00 AM

Client Sample ID: MW-17-2

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.0	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-005

Collection Date: 4/28/2003 12:30:00 PM

Client Sample ID: MW-17-1

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.9	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-006

Collection Date: 4/28/2003 10:50:00 AM

Client Sample ID: EB-6-4/28/03

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-007

Collection Date: 4/29/2003 8:40:00 AM

Client Sample ID: MW-24-5

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	4.1	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-008

Collection Date: 4/29/2003 10:40:00 AM

Client Sample ID: MW-24-3

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.2	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-009

Collection Date: 4/29/2003 12:10:00 PM

Client Sample ID: MW-24-2

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.3	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-010
Client Sample ID: MW-24-1

Collection Date: 4/29/2003 2:00:00 PM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	5.7	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-011
Client Sample ID: EB-7-4/29/03

Collection Date: 4/29/2003 9:55:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-012
Client Sample ID: DUPE-4-2Q03

Collection Date: 4/29/2003
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.0	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-013

Collection Date: 4/30/2003 8:20:00 AM

Client Sample ID: MW-23-5

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	1.7	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-014

Collection Date: 4/30/2003 9:00:00 AM

Client Sample ID: MW-23-4

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.2	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-015

Collection Date: 4/30/2003 9:40:00 AM

Client Sample ID: MW-23-3

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	3.7	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-016

Collection Date: 4/30/2003 10:25:00 AM

Client Sample ID: MW-23-2

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	2.9	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-017

Collection Date: 4/30/2003 11:00:00 AM

Client Sample ID: MW-23-1

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	4.4	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-018

Collection Date: 4/30/2003 8:35:00 AM

Client Sample ID: EB-8-4/30/03

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-019

Collection Date: 5/1/2003 7:50:00 AM

Client Sample ID: MW-3-5

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-020

Collection Date: 5/1/2003 9:45:00 AM

Client Sample ID: MW-3-4

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030523A	QC Batch: R27659	PrepDate:	Analyst: NS		
Chromium	1.7	1.0	µg/L	1	5/23/2003
Lead	ND	1.0	µg/L	1	5/23/2003

Lab ID: 062913-021

Collection Date: 5/1/2003 9:25:00 AM

Client Sample ID: MW-3-3

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified

017



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-022

Collection Date: 5/1/2003 10:50:00 AM

Client Sample ID: MW-3-2

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.6	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-023

Collection Date: 5/1/2003 11:30:00 AM

Client Sample ID: MW-3-1

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	2.1	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-024

Collection Date: 5/1/2003 8:05:00 AM

Client Sample ID: EB-9-5/1/03

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-025
Client Sample ID: DUPE-52Q03

Collection Date: 5/1/2003
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.9	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-026
Client Sample ID: MW-11-5

Collection Date: 5/6/2003 7:55:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.1	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-027
Client Sample ID: MW-11-4

Collection Date: 5/6/2003 8:40:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-028

Collection Date: 5/6/2003 9:50:00 AM

Client Sample ID: MW-11-3

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.5	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-029

Collection Date: 5/6/2003 10:30:00 AM

Client Sample ID: MW-11-2

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-030

Collection Date: 5/6/2003 11:05:00 AM

Client Sample ID: MW-11-1

Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.3	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-031
Client Sample ID: EB-10-5/6/03

Collection Date: 5/6/2003 8:55:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	2.1	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-032
Client Sample ID: MW-12-5

Collection Date: 5/7/2003 7:50:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.2	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-033
Client Sample ID: MW-12-4

Collection Date: 5/7/2003 8:30:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.3	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-034
Client Sample ID: MW-12-3

Collection Date: 5/7/2003 9:40:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.3	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-035
Client Sample ID: MW-12-2

Collection Date: 5/7/2003 10:20:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	2.9	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-036
Client Sample ID: MW-12-1

Collection Date: 5/7/2003 11:00:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	9.7	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified

022



Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Project: #3112, JPL

Lab Order: 062913

Lab ID: 062913-037
Client Sample ID: EB-11-5/7/03

Collection Date: 5/7/2003 8:50:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-038
Client Sample ID: DUPE-6-2Q03

Collection Date: 5/7/2003
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	1.3	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Lab ID: 062913-039
Client Sample ID: MW-24-4

Collection Date: 4/29/2003 9:35:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP-MS METALS

EPA 200.8

RunID: ICP4_030527A	QC Batch: R27686	PrepDate:	Analyst: NS		
Chromium	ND	1.0	µg/L	1	5/27/2003
Lead	ND	1.0	µg/L	1	5/27/2003

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level H-Sample exceeding holding time

Results are wet unless otherwise specified

023



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062913
 Date Received: 05/21/03

(EPA 200.8) - INITIAL CALIBRATION

Instrument ID: ICP4
 Date(s) Analyzed: 05/27/03

Initial Calibration:

COMPOUND	INTENSITY				r2
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	
Chromium	12536	47329	86492	164420	0.9999
Lead	1844	15013	29646	57965	0.9999

Standard Concentration:	0.5 ppb	5 ppb	10 ppb	20 ppb
Standard ID:	MST030523E	MST030523D	MST030523C	MST030523B

Calibration Acceptance Criteria: > 0.995 Correlation

024



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062913
 Date Received: 05/21/03

(EPA 200.8) - INITIAL CALIBRATION

Instrument ID: ICP4
 Date(s) Analyzed: 05/27/03

Initial Calibration:

COMPOUND	INTENSITY				r2
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	
Chromium	8543	31253	55947	107295	0.9999
Lead	1425	11576	22850	45937	0.9999

Standard Concentration:	0.5 ppb	5 ppb	10 ppb	20 ppb
Standard ID:	MST030527E	MST030527D	MST030527C	MST030527B

Calibration Acceptance Criteria: > 0.995 Correlation



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062725
 Date Received: 05/21/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERIFICATION
 (EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 05/27/2003

Initial Calibration Verification: **Source:** Leeman **Standard Code:** MST030527G

Continuing Calibration Verification: Leeman MST030527G

QC Batch Number: R27686

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found CCV1	%R(1)	Found CCV2	%R(1)	
Chromium	10.0	10.21	102	10.0	10.07	101	9.99	100	
Lead	10.0	10.08	101	10.0	10.50	105	10.5	105	

ICV Limits: 90 -110%
 CCV Limits: 85 -115%



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062725
 Date Received: 05/21/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERIFICATION
 (EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 05/27/2003

Initial Calibration Verification: **Source:** Leeman **Standard Code:** MST030527G

Continuing Calibration Verification: Leeman MST030527G

QC Batch Number: R27686

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found CCV3	%R(1)	Found CCV4	%R(1)	
Chromium	10.0	10.21	102	10.0	10.23	102		0	
Lead	10.0	10.08	101	10.0	10.48	105		0	

ICV Limits: 90 -110%
 CCV Limits: 85 -115%

027



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062725
 Date Received: 05/21/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERIFICATION
 (EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 05/27/2003

Initial Calibration Verification: **Source:** Leeman **Standard Code:** MST030523G

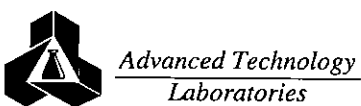
Continuing Calibration Verification: Leeman MST030523G

QC Batch Number: R27659

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found CCV1	%R(1)	Found CCV2	%R(1)	
Chromium	10.0	10.55	106	10.0	10.24	102	10.14	101	
Lead	10.0	10.23	102	10.0	10.86	109	10.7	107	

ICV Limits: 90 -110%
 CCV Limits: 85 -115%



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062725
 Date Received: 05/21/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERIFICATION
 (EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 05/27/2003

Initial Calibration Verification: Source: Leeman Standard Code: MST030523G

Continuing Calibration Verification: Leeman MST030523G

QC Batch Number: R27659

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found CCV3	%R(1)	Found CCV4	%R(1)	
Chromium	10.0	10.55	106	10.0	10.14	101		0	
Lead	10.0	10.23	102	10.0	11.03	110		0	

ICV Limits: 90 -110%
 CCV Limits: 85 -115%

Instrument Tuning Report

File Name: 030523.tun
File Path: D:\ELAN\TUNING\2003\May

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	9.027	2040	2040	0.727	
Mg	23.985	23.979	5696	2020	0.721	
Rh	102.905	102.879	24969	1955	0.758	
Ce	139.905	139.879	33968	2010	0.786	
Pb	207.977	207.978	50417	2270	0.769	
U	238.050	238.074	57650	2435	0.776	

Daily Performance Report

Sample ID: 030523-daily

Sample Date/Time: Friday, May 23, 2003 10:02:12.

Sample Description:

Method File: c:\elandata\Method\Daily.mth

Dataset File: d:\elan\daily performance\2003\may\030523-daily.020

Tuning File: c:\elandata\Tuning\default.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Mg	24.0	51284.9	51284.895	418.549	0.8
Rh	102.9	168790.0	168790.041	2295.034	1.4
In	114.9	203873.2	203873.169	2149.320	1.1
Pb	208.0	75935.4	75935.418	336.844	0.4
[> Ba	137.9	156303.2	156303.190	1300.142	0.8
[Ba++	69.0	4751.9	0.030	0.000	1.0
[> Ce	139.9	192240.2	192240.151	1470.781	0.8
[CeO	155.9	5762.3	0.030	0.001	2.4
Bkgd	220.0	4.5	4.533	0.953	21.0

Current Optimization File Data

Current Value	Description
0.84	Nebulizer Gas Flow
7.00	Lens Voltage
1100.00	ICP RF Power
-1850.00	Analog Stage Voltage
1700.00	Pulse Stage Voltage
85.00	Discriminator Threshold
-1.50	AC Rod Offset
60.00	Service DAC 1
0.00	Quadrupole Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	21	6.2	5638.8
Co	59	21	6.6	122542.0
In	115	21	7.0	284105.2

Instrument Tuning Report

File Name: 030527.tun
File Path: D:\ELAN\TUNING\2003\May

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	8.978	2058	2040	0.726	
Mg	23.985	23.979	5692	2020	0.727	
Rh	102.905	102.879	24967	1955	0.763	
Ce	139.905	139.879	33966	2010	0.786	
Pb	207.977	207.979	50417	2270	0.772	
U	238.050	238.075	57625	2435	0.786	

Daily Performance Report

Sample ID: 030527-daily

Sample Date/Time: Tuesday, May 27, 2003 10:16:50

Sample Description:

Method File: c:\elandata\Method\Daily.mth

Dataset File: d:\elan\daily performance\2003\may\030527-daily.024

Tuning File: c:\elandata\Tuning\default.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Mg	24.0	46014.9	46014.862	471.008	1.0
Rh	102.9	146524.4	146524.358	1039.502	0.7
In	114.9	178027.2	178027.220	610.236	0.3
Pb	208.0	64543.0	64543.020	655.240	1.0
[> Ba	137.9	133936.1	133936.120	478.412	0.4
[Ba++	69.0	3696.5	0.028	0.000	0.6
[> Ce	139.9	165627.0	165627.035	1177.560	0.7
[CeO	155.9	4893.4	0.030	0.000	1.4
Bkgd	220.0	2.9	2.933	0.641	21.9

Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
7.00	Lens Voltage
1100.00	ICP RF Power
-1850.00	Analog Stage Voltage
1700.00	Pulse Stage Voltage
85.00	Discriminator Threshold
-1.50	AC Rod Offset
60.00	Service DAC 1
0.00	Quadrupole Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	21	6.2	5638.8
Co	59	21	6.6	122542.0
In	115	21	7.0	284105.2

Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062913
 Date Received: 03/05/03

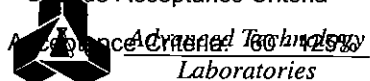
Instrument ID: ICP4 Internal Standard ID: MST030418A

Date Analyzed: 05/12/2003 Standard Concentration: 50 ug/L

QC Batch: R27659

			Scandium		Terbium	
			Area	% Rec	Area	% Rec
Calibration Blank			555845	---	1061673	---
Sample	APCL					
Lab ID	Description	Lab ID:				
MB-R27659	---	--	559600	101	1054406	99
LCS-R27659	---	--	555907	100	1046074	99
062913-001A	MW-17-5	--	669726	120	1035298	98
062913-002A	MW-17-4	--	666235	120	1065550	100
062913-003A	MW-17-3	--	673828	121	1069395	101
062913-004A	MW-17-2	--	636266	114	1072463	101
062913-004ADUP	MW-17-2	--	627234	113	1074138	101
062913-004AMS	MW-17-2	--	625674	113	1076437	101
062913-004AMSD	MW-17-2	--	612570	110	1077049	101
062913-005A	MW-17-1	--	594546	107	1065512	100
062913-006A	EB-6-4/28/03	--	519745	94	1043185	98
062913-007A	MW-24-5	--	600348	108	1060443	100
062913-008A	MW-24-3	--	620056	112	1068899	101
062913-009A	MW-24-2	--	620292	112	1061299	100
062913-010A	MW-24-1		598055	108	1062361	100
062913-011A	EB-7-4/29/03		527119	95	1045939	99
062913-012A	DUPE-4-2Q03		602113	108	1043597	98
062913-013A	MW-23-5		584440	105	1068278	101
062913-013ADUP	MW-23-5		591831	106	1080425	102
062913-014A	MW-23-4		621071	112	1086738	102
062913-015A	MW-23-3		591604	106	1037137	98
062913-016A	MW-23-2		609289	110	1029438	97
062913-017A	MW-23-1		607769	109	1021466	96
062913-018A	EB-8-4/30/03		485659	87	1016228	96
062913-019A	MW-3-5		531471	96	1036716	98
062913-020A	MW-3-4		543538	98	1035529	98

* Outside Acceptance Criteria



034

Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: JPL
 ATL Number: 062913
 Date Received: 05/21/03

Internal Standard ID: MST030418A

Standard Concentration: 50 ug/L

Instrument ID: ICP4

Date Analyzed: 05/12/2003

QC Batch: R27686

			Scandium		Indium	
			Area	% Rec	Area	% Rec
		Calibration Blank	374615	---	783172	---
Lab ID	Sample Description	APCL Lab ID:				
MB-R27686	---	--	391343	104	827276	106
LCS-R27686	---	--	395299	106	851619	109
062913-028A	MW-11-3	--	443185	118	845945	108
062913-028ADUP	MW-11-3	--	444243	119	853410	109
062913-028AMS	MW-11-3	--	441463	118	854930	109
062913-028AMSD	MW-11-3	--	438644	117	864193	110
062913-021A	MW-3-3	--	428223	114	851043	109
062913-022A	MW-3-2	--	438610	117	851695	109
062913-023A	MW-3-1	--	431063	115	856400	109
062913-024A	EB-9-5/1/03	--	388988	104	853041	109
062913-025A	DUPE-52Q03	--	444952	119	870423	111
062913-026A	MW-11-5	--	430372	115	882385	113
062913-027A	MW-11-4	--	438684	117	880224	112
062913-029A	MW-11-2	--	436334	116	883302	113
062913-030A	MW-11-1	--	443580	118	880117	112
062913-031A	EB-10-5/6/03	--	386917	103	876649	112
062913-032A	MW-12-5	--	450481	120	879219	112
062913-033A	MW-12-4	--	450812	120	884500	113
062913-034A	MW-12-3	--	440579	118	898494	115
062913-035A	MW-12-2	--	468041	125	910947	116
062913-036A	MW-12-1	--	452927	121	912075	116
062913-037A	EB-11-5/7/03	--	402988	108	897516	115

035





Advanced Technology Laboratories

Date: 29-May-03

CLIENT: Applied P & Ch Laboratories
Work Order: 062913
Project: #3112, JPL

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W

Sample ID: MB-R27659	SampType: MBLK	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: ZZZZ	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416365						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.128	1.0									J
Lead	ND	1.0									

Sample ID: MB-R27686	SampType: MBLK	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030527A						
Client ID: ZZZZ	Batch ID: R27686	TestNo: EPA 200.8		Analysis Date: 5/27/2003	SeqNo: 416849						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.138	1.0									J
Lead	ND	1.0									

Sample ID: LCS-R27659	SampType: LCS	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: ZZZZ	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416364						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.4	1.0	10	0	104	85	115	0	0		
Lead	10.2	1.0	10	0	102	85	115	0	0		

Sample ID: LCS-R27686	SampType: LCS	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030527A						
Client ID: ZZZZ	Batch ID: R27686	TestNo: EPA 200.8		Analysis Date: 5/27/2003	SeqNo: 416848						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.06	1.0	10	0	101	85	115	0	0		
Lead	9.92	1.0	10	0	99.2	85	115	0	0		

Sample ID: 062913-004AMS	SampType: MS	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: MW-17-2	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 R - RPD outside accepted recovery limits
 S - Spike Recovery outside accepted recovery limits
 B - Analyte detected in the associated Method Blank
 DO - Surrogate dilute out
 H - Sample exceeded holding time
 Calculations are based on raw values



CLIENT: Applied P & Ch Laboratories
Work Order: 062913
Project: #3112, JPL

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W

Sample ID: 062913-004AMS	SampType: MS	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: MW-17-2	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	10.59	1.0	10	2.03	85.6	80	120	0	0		
Lead	9.93	1.0	10	0.141	97.9	80	120	0	0		

Sample ID: 062913-028AMS	SampType: MS	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030527A						
Client ID: MW-11-3	Batch ID: R27686	TestNo: EPA 200.8		Analysis Date: 5/27/2003	SeqNo: 416835						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	10.21	1.0	10	1.518	87	80	120	0	0		
Lead	9.7	1.0	10	0	97	80	120	0	0		

Sample ID: 062913-004AMSD	SampType: MSD	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: MW-17-2	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	10.62	1.0	10	2.03	85.9	80	120	10.59	0.311	20	
Lead	9.871	1.0	10	0.141	97.3	80	120	9.93	0.596	20	

Sample ID: 062913-028AMSD	SampType: MSD	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030527A						
Client ID: MW-11-3	Batch ID: R27686	TestNo: EPA 200.8		Analysis Date: 5/27/2003	SeqNo: 416836						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	10.34	1.0	10	1.518	88.2	80	120	10.21	1.19	20	
Lead	9.7	1.0	10	0	97	80	120	9.7	0	20	

Sample ID: 062913-004ADUP	SampType: DUP	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: MW-17-2	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416366						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	1.962	1.0	0	0	0	0	0	2.03	3.41	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Applied P & Ch Laboratories
Work Order: 062913
Project: #3112, JPL

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W

Sample ID: 062913-004ADUP	SampType: DUP	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: MW-17-2	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416366						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.0	0	0	0	0	0	0.141	0	0	30

Sample ID: 062913-013ADUP	SampType: DUP	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030523A						
Client ID: MW-23-5	Batch ID: R27659	TestNo: EPA 200.8		Analysis Date: 5/23/2003	SeqNo: 416367						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.71	1.0	0	0	0	0	0	1.657	3.15	30	
Lead	0.546	1.0	0	0	0	0	0	0.573	0	30	J

Sample ID: 062913-028ADUP	SampType: DUP	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030527A						
Client ID: MW-11-3	Batch ID: R27686	TestNo: EPA 200.8		Analysis Date: 5/27/2003	SeqNo: 416850						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.435	1.0	0	0	0	0	0	1.518	5.62	30	
Lead	ND	1.0	0	0	0	0	0	0	0	30	

Sample ID: 062913-039ADUP	SampType: DUP	TestCode: 200.8_W	Units: µg/L	Prep Date:	Run ID: ICP4_030527A						
Client ID: MW-24-4	Batch ID: R27686	TestNo: EPA 200.8		Analysis Date: 5/27/2003	SeqNo: 416851						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.398	1.0	0	0	0	0	0	0.339	0	30	J
Lead	ND	1.0	0	0	0	0	0	0	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

040

Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: #3112
 ATL Number: 062913
 Date Received: 05/21/03

HOLDING TIME SUMMARY _ EPA 200.8

	Lab Sample ID	Client Sample ID	Sample Description	Date Sampled	Date Digested	Contract Holding Time
1	062913-001A	MW-17-5		04/28/2003	N/A	6 Months
2	062913-002A	MW-17-4		04/28/2003	N/A	6 Months
3	062913-003A	MW-17-3		04/28/2003	N/A	6 Months
4	062913-004A	MW-17-2		04/28/2003	N/A	6 Months
5	062913-005A	MW-17-1		04/28/2003	N/A	6 Months
6	062913-006A	EB-6-4/28/03		04/28/2003	N/A	6 Months
7	062913-007A	MW-24-5		04/29/2003	N/A	6 Months
8	062913-008A	MW-24-3		04/29/2003	N/A	6 Months
9	062913-009A	MW-24-2		04/29/2003	N/A	6 Months
10	062913-010A	MW-24-1		04/29/2003	N/A	6 Months
11	062913-011A	EB-7-4/29/03		04/29/2003	N/A	6 Months
12	062913-012A	DUPE-4-2Q03		04/29/2003	N/A	6 Months
13	062913-013A	MW-23-5		04/30/2003	N/A	6 Months
14	062913-014A	MW-23-4		04/30/2003	N/A	6 Months
15	062913-015A	MW-23-3		04/30/2003	N/A	6 Months
16	062913-016A	MW-23-2		04/30/2003	N/A	6 Months
17	062913-017A	MW-23-1		04/30/2003	N/A	6 Months
18	062913-018A	EB-8-4/30/03		04/30/2003	N/A	6 Months
19	062913-019A	MW-3-5		05/01/2003	N/A	6 Months
20	062913-020A	MW-3-4		05/01/2003	N/A	6 Months
21						

___ 0 ___ of ___ 20 ___ sample(s) were outside of holding time.



Client: Applied P & Ch Laboratory
 Attn: Kenny Chan
 Client's Project: #3112
 ATL Number: 062913
 Date Received: 05/21/03

HOLDING TIME SUMMARY _ EPA 200.8

	Lab Sample ID	Client Sample ID	Sample Description	Date Sampled	Date Digested	Contract Holding Time
1	062913-021A	MW-3-3		05/01/2003	N/A	6 Months
2	062913-022A	MW-3-2		05/01/2003	N/A	6 Months
3	062913-023A	MW-3-1		05/01/2003	N/A	6 Months
4	062913-024A	EB-9-5/1/03		05/01/2003	N/A	6 Months
5	062913-025A	DUPE-52Q03		05/01/2003	N/A	6 Months
6	062913-026A	MW-11-5		05/06/2003	N/A	6 Months
7	062913-027A	MW-11-4		05/06/2003	N/A	6 Months
8	062913-028A	MW-11-3		05/06/2003	N/A	6 Months
9	062913-029A	MW-11-2		05/06/2003	N/A	6 Months
10	062913-030A	MW-11-1		05/06/2003	N/A	6 Months
11	062913-031A	EB-10-5/6/03		05/06/2003	N/A	6 Months
12	062913-032A	MW-12-5		05/07/2003	N/A	6 Months
13	062913-033A	MW-12-4		05/07/2003	N/A	6 Months
14	062913-034A	MW-12-3		05/07/2003	N/A	6 Months
15	062913-035A	MW-12-2		05/07/2003	N/A	6 Months
16	062913-036A	MW-12-1		05/07/2003	N/A	6 Months
17	062913-037A	EB-11-5/7/03		05/07/2003	N/A	6 Months
18	062913-038A	DUPE-6-2Q03		05/07/2003	N/A	6 Months
19	062913-039A	MW-24-4		04/29/2003	N/A	6 Months
20						
21						

___0___ of ___19___ sample(s) were outside of holding time.

042



QC Number: 227659

Date Read / Digested: 5/23/03

Method (Circle one): 1) 200B Matrix (Circle one): Acid Lot #
 100 NTU: 10 NTU 1) Drinking Water 4) Soil Hydrochloric N/A
 Std Code: SC1-0022 2) Ground Water 5) Solid Nitric N/A
 Initials: NS 3) Liquid (6) Other water

Sample ID	Turbidity Result *	Sample Wt./Vol.	Spike / LCS Amt. Added	Spike / LCS Conc. (ppm)	Spike Code	Final Vol (ml)	Initials	Comments
MS 62913-4A	0.36	10	0.1 mL	1 ppm	MS1030523A	10	NS	
MSD	+	+	+	+	+	+	+	
Method Blank	-	-	-	-	-	-	-	
LCS	-	-	0.1 mL	1 ppm	MS1030523F	+	+	
Blank MS 62913-13A	0.45							
Blank MSD 62913-13A	+							
1 62913-1A	0.18	10				10	NS	
2	0.33							
3	0.05							
4	0.36							
5	0.18							
6	0.12							
7	0.36							
8	0.29							
9	0.35							
10	0.24							
11	0.19							
12	0.20							
13	0.85							
14	0.31							
15	0.23							
16	0.03							
17	0.54							
18	0.13							
19	0.24							
20	0.16							
DUP 62913-4A	0.50							
62913-13A	0.93							

NS
5/23/03

Turbidity < 1 NTU DOES NOT need sample preparation.

Relinquished by / Date: _____
 Received by / Date: _____

QC Number: R27686 Date Read / Digested: 5/27/03

Method (Circle one): 200.8 Matrix (Circle one): Drinking Water Acid Lot #: N/A

100 NTU: 10.014 1) Drinking Water 4) Soil
 Std Code: SL0002 2) Ground Water 5) Solid
 Initials: NS 3) Liquid 6) Other water

Sample ID	Turbidity Result *	Sample Wt./Vol.	Spike / LCS Amt. Added	Spike / LCS Conc. (ppm)	Spike Code	Final Vol (ml)	Initials	Comments
MS 62913-28A	0.41	10	0.1 0.1	1 ppm	MSD36527A	10	NS	
MSD 1	0.41	1	1			1	NS	
Method Blank	-	1	-			1	NS	
LCS	-	1	0.1	1 ppm	MSD36527A	1	NS	
Blank MS	-	1	-			1	NS	
Blank MSD	-	1	-			1	NS	
1 62913-21A	0.11	10				10	NS	
2	0.17	10				10	NS	
3	0.10	10				10	NS	
4	0.10	10				10	NS	
5	0.39	10				10	NS	
6	0.59	10				10	NS	
7	0.44	10				10	NS	
8	0.41	10				10	NS	
9	6.07	10				10	NS	
10	0.04	10				10	NS	
11	0.05	10				10	NS	
12	0.09	10				10	NS	
13	0.06	10				10	NS	
14	0.48	10				10	NS	
15	0.09	10				10	NS	
16	0.44	10				10	NS	
17	0.02	10				10	NS	
18	0.17	10				10	NS	
19	0.81	10				10	NS	
20	0.38	10				10	NS	
DUP	0.82	10				10	NS	

Sample/Batch Report

User Name: Nancy

Computer Name: ICPMS PE 6100

Sample File: D:\ELAN\Sample\2003\May\030523.sam

Report Date/Time: Tuesday, May 27, 2003 19:02:46

(re-print)

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
7		ICV							
1		ICB							
9		MB	> R27659	NS	5/27/03				
10		LCS							
11		062913-001A							
12		062913-002A							
13		062913-003A							
14		062913-004A							
15		062913-004ADUP							
16		062913-004AMS							
17		062913-004AMSD							
18		062913-005A							
7		CCV							
8		CCB							
19		062913-006A							
20		062913-007A							
21		062913-008A							
22		062913-009A							
23		062913-010A							
24		062913-011A							
25		062913-012A							
26		062913-013A							
27		062913-013ADUP							
28		062913-014A							
7		CCV							
8		CCB							
29		062913-015A							
30		062913-016A							
31		062913-017A							
32		062913-018A							
33		062913-019A							
34		062913-020A							
7		CCV							
8		CCB							

CAL: MST030523 B/20
 C/10
 D/5
 E/0.5

ICV/CCV: MST030523G

LCS: MST030523F

NS/MSD: MST030523A

ICP4
 NS, 5/23/03

1145

Sample/Batch Report

User Name: Nancy
 Computer Name: ICPMS PE 6100
 Sample File: D:\ELAN\Sample\2003\May\030527-2.sam
 Report Date/Time: Tuesday, May 27, 2003 12:51:57

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
7		ICV							
1		ICB							
9		MB							
10		LCS	> R27686	NS 5/27/03					
11		062913-028A							
12		062913-028ADUP							
13		062913-028AMS							
14		062913-028AMSD							
15		062913-021A							
16		062913-022A							
17		062913-023A							
18		062913-024A							
7		CCV							
8		CCB							
19		062913-025A							
20		062913-026A							
21		062913-027A							
22		062913-029A							
23		062913-030A							
24		062913-031A							
25		062913-032A							
26		062913-033A							
27		062913-034A							
28		062913-035A							
7		CCV							
8		CCB							
29		062913-036A							
30		062913-037A							
31		062913-038A							
32		062913-039A							
33		062913-039ADUP							
7		CCV							
8		CCB							

CAL: NST030527 B/20
 C/10
 D/0.55 NS 5/27/03
 E/0.5

ICV/CCV: NST030527 G

LCS: NST030527 F

MS/MD: NST030527 A

ICP4
 NS, 5/27/03

Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info		Preparation	
			Stock Std Code	Stock Concentration	Stock Concentration	Amount Taken from Stock
4-16-03	ICPMS - STD ₁	NST030416A	NST030402A	10 ppm	10 ppm	5
			NST030407A	10 ppm	10 ppm	5
	-100		NST030416A	1 ppm	1 ppm	5
	-50		B	100 ppb	100 ppb	25
	-10		C	50 ppb	50 ppb	10
	-LCS ₁		D	10 ppm	10 ppm	5
	-Iw/cover		E	10 ppm	10 ppm	5
			F	1 ppm	1 ppm	2.5
			F	10 ppm	10 ppm	5
4-18-03	ICPMS - STD ₁		NST030418E	NST030402A	10 ppm	10 ppm	5
	-20	D	NST030418C	1 ppm	1 ppm	1
	-10	E	D	20 ppb	20 ppb	25
	-5	F	E	10 ppb	10 ppb	25
	-0.5	G	F	5 ppb	5 ppb	5
	-LCS ₁	H	NST021216D	10 ppm	10 ppm	5
	-Iw/cover @ 10	I	NST030418H	1 ppm	1 ppm	0.5
	-100	J	E	1 ppm	1 ppm	5
	-50	K	J	100 ppb	100 ppb	25
	-10	L	K	20 ppb	20 ppb	10
	-Iw/cover	M	H	1 ppm	1 ppm	2.5
4-18-03	ICPMS - Internal Std.	NST030418A	NST030217A	1000 ppm	1000 ppm	1 ml
			B			
			C			
			Tb			

1

5

10

15

20

047

Metals Working Standard Prep Log

Preparation		Expiration Dates		Comments	Initials
Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H ₂ O)	Working STD *			Exp Date	Manufacturer
50	1 ppm	DH ₂ O + 2% HNO ₃	7-15-03		105
	100 ppb				
	20 ppb				
	10 ppb				
50	1 ppm	DH ₂ O + 2% HNO ₃	7-15-03		105
	10 ppb				
	1 ppm		7-17-03		
	20 ppb				
	10 ppb				
	5 ppb				
	0.5 ppb				
	1 ppm				
	10 ppb				
	100 ppb				
	10 ppb				
	10 ppb				
	100 ppb				
100 ml	10 ppm	DH ₂ O + 2% HNO ₃	7-17-03		105

* Check working std versus all manufacturer's

Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info		Preparation	
			Stock Std Code	Stock Concentration	Stock Concentration	Amount Taken from Stock
4-18-03	ICPMS - Internal Std	MST030418 A	MST030217 D	Sc	1000 ppm	1 ml
				E In		
				F Tm		
4-18-03	ICPMS - Tuning Stock Soln.	MST030418 B	MST-010523 E	Mg	1000 ppm	0.5 ml
			MST030414 H	Cu		
			MST030217 J	Rh		
			MST030414 E	Cd		
			MST030414 C	Ba		
			MST030217 G	Ce		
			MST030414 F	Pb		
			MST030414 D	Be		
			MST030414 G	Co		
			MST030217 H	Tl		
			MST030217 I	U		
			MST030217 E	Zn		
4-21-03	ICPMS - 10 ppb Tuning Soln.	MST030421 A	MST030418 B		1 ppm	10 ml
4-22-03	ICPMS - STD	MST030422 A	MST030402 A		10 ppm	5 ml
			MST030401 B		1000 ppm	0.05
			MST030422 B		1 ppm	1 ml
					20 ppb	25
					10 ppb	75

Metals Working Standard Prep Log

Preparation			Expiration Dates			Comments	Initials
Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H ₂ O)	Working STD *	Exp Date	Manufacturer		
100 ml	10 ppm	DI H ₂ O + HNO ₃ 2%	7-17-03		High Purity	NS	I
							I
500 ml	1 ppm	DI H ₂ O + HNO ₃ 2%	7-17-03		Ultra Scientific High Purity	NS	I
1000 ml	10 ppb	DI H ₂ O + HNO ₃ 2%	7-20-03		Ultra Scientific High Purity	NS	I
500	1 ppm	DI H ₂ O + HNO ₃ 2%	7-21-03		German	NS	I
	20 ppb						
	10 ppb						
	5 ppb						

50 20

Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info		Preparation	
			Stock Std Code	Stock Concentration	Stock Concentration	Amount Taken from Stock
05-12-03	ICPMS - 20	MST030512B	MST030512A	1 ppm	1 ppm	1
	| -10	| C	| B	20 ppb	20 ppb	25
	| -5	| D	| C	10 ppb	25	25
	| -0.5	| E	| D	5 ppb	5	5
	ICPMS - LCS ₁	| F	MST021210	10 ppm	10 ppm	5
	| -IW/cw@10	| G	MST030512F	1 ppm	0.5	0.5
	ICPMS - STD ₁	MST030514A	MST030402A	10 ppm	5	5
			MST030402B	1000 ppm	0.05	0.05
	-20	B	MST030514A	1 ppm	1	1
	-10	C	| B	20 ppb	25	25
	-5	D	| C	10 ppb	25	25
	-0.5	E	| D	5 ppb	5	5
	ICPMS - LCS ₁	| F	MST021210	10 ppm	5	5
	| -IW/cw@10	| G	MST021210B	1000 ppm	0.05	0.05
05-14-03	ICPMS - STD ₁	MST030515A	MST030514F	1 ppm	0.5	0.5
	-10	B	MST030402A	10 ppm	5	5
	-7.5	C	MST030515A	1 ppm	0.5	0.5
	-5	D	| B	10 ppb	37.5	37.5
	ICPMS - LCS ₁	| E	| C	7.5 ppb	20	20
	| -IW/cw@10	| F	MST021210	10 ppm	5	5
05-23-03	ICPMS - STD ₁	MST030523A	MST030515E	1 ppm	0.25	0.25
			MST030402A	10 ppm	5	5

Metals Working Standard Prep Log

	Preparation		Expiration Dates		Comments	Initials
	Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H ₂ O)	Working STD *			Exp Date	Manufacturer
1	50	20 ppb	DI H ₂ O + HNO ₃ 27	8-10-03	Leeman	WS
		10 ppb				
		5 ppb				
		0.5 ppb				
		1 ppm			Leeman	
5		10 ppb				
	50	1 ppm	DI H ₂ O + HNO ₃ 27	8-12-03	Leeman	WS
		20 ppb				
		10 ppb				
		5 ppb				
		0.5 ppb				
		1 ppm			Leeman	
		10 ppb				
10		1 ppm	DI H ₂ O + HNO ₃ 27	8-13-03	Leeman	WS
	50	10 ppb				
		7.5 ppb				
		5 ppb				
		1 ppm			Leeman	
		5 ppb				
15		1 ppm	DI H ₂ O + HNO ₃ 27	8-13-03	Leeman	WS
	50	10 ppb				
		7.5 ppb				
		5 ppb				
		1 ppm			Leeman	
		5 ppb				
052		1 ppm	DI H ₂ O + HNO ₃ 27	8-22-03	Leeman	WS
	50	10 ppb				
		7.5 ppb				
		5 ppb				
		1 ppm			Leeman	
		5 ppb				
20		1 ppm	DI H ₂ O + HNO ₃ 27	8-22-03	Leeman	WS
	50	10 ppb				
		7.5 ppb				
		5 ppb				
		1 ppm			Leeman	
		5 ppb				

* Check working std versus all manufacturer's

Method Detection Limits

Method: 6020 / 200.8
Date of Analysis: 01/13/2003
Instrument ID: ICP4
Matrix: Water

<u>Compound</u>	<u>MDL (ug/L)</u>	<u>DLR (ug/L)</u>
Chromium	0.111	1
Copper	0.078	1
Lead	0.134	1
Nickel	0.071	1
Zinc	3.341	5

055



ELAN Instrument Control Session

File Edit Analyse Settings View Help



Data Only Method - c:\elandata\Method\ATL-TUNING253.mth

Tuning | Processing | Results | Calibration | Settings

Storage Allocation: Run Reading Time: 2:00:00.000
 Prestage Allocation: Run Prestage Time: 0:00:00.000
 Samples: Run Sample Time: 0:00:00.000
 Tuning File: Double Check
 Acquisition File:

Analyte #	Sample Mass (pmol)	Reference Mass (pmol)	Scan Mode	Integr. Delay (s)	Integration Time (seconds)
1	5	10	Scanning	20	20
2	22	26	Scanning	20	20
3	102	104	Scanning	20	20
4	139	141	Scanning	20	20
5	206	209	Scanning	20	20

Tuning - D:\ELAN\TUNING\2003\May\030523.tun

Data Mass Spec Data with Data
 Peak Mass Window (pmol): Resolution (amu):

Analyte	Mass (amu)	Measured Mass (pmol)	Mass Reference (amu)	Reference (amu)	Weight
Be	9.0122	9.027	2040	2040	0.727
Mg	23.985	23.9785	5696	2020	0.721
Rh	102.905	102.879	24969	1955	0.758
Ce	139.905	139.879	33968	2010	0.786
Pb	207.977	207.978	50417	2270	0.769
U	238.05	238.074	57650	2435	0.776

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:42:26

Dataset File: D:\ELAN\Dataset\2003\May\030523\Blank.001

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Blank

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45		555845	1.6		ug/L	%
|	Cr	52		6617	5.2		ug/L	%
[	Cr	53		38275	8.9		ug/L	%
[>	Tb	159		1061673	0.8		ug/L	%
|	Pb	207		366	2.7		ug/L	%
[	Pb	208		1607	6.7		ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:44:44

Dataset File: D:\ELAN\Dataset\2003\May\030523\Standard 1.002

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 1

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	554605	0.5		ug/L	%
|	Cr	52	6617	12536	1.0	0.500	0.014 ug/L	2.7 %
|	Cr	53	38275	51576	4.4	0.500	0.087 ug/L	17.5 %
[>	Tb	159	1061673	1064115	0.9		ug/L	%
|	Pb	207	366	1844	3.4	0.500	0.018 ug/L	3.7 %
|	Pb	208	1607	8488	0.9	0.500	0.003 ug/L	0.6 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:47:17

Dataset File: D:\ELAN\Dataset\2003\May\030523\Standard 2.003

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 2

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	558973	1.2		ug/L		%
|	Cr	52	6617	47329	2.3	4.977	0.063	ug/L	1.3 %
|	Cr	53	38275	58528	4.4	4.731	0.495	ug/L	10.5 %
[>	Tb	159	1061673	1078150	1.5		ug/L		%
|	Pb	207	366	15013	1.7	4.999	0.055	ug/L	1.1 %
|	Pb	208	1607	69759	1.6	4.999	0.062	ug/L	1.2 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:49:52

Dataset File: D:\ELAN\Dataset\2003\May\030523\Standard 3.004

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 3

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	563693	1.5		ug/L	%
|	Cr	52	6617	86492	2.3	9.934	0.088 ug/L	0.9 %
{	Cr	53	38275	65573	4.1	8.929	0.920 ug/L	10.3 %
[>	Tb	159	1061673	1080333	1.6		ug/L	%
|	Pb	207	366	29646	2.5	9.995	0.106 ug/L	1.1 %
[	Pb	208	1607	137706	1.6	9.993	0.027 ug/L	0.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:52:27

Dataset File: D:\ELAN\Dataset\2003\May\030523\Standard 4.005

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 4

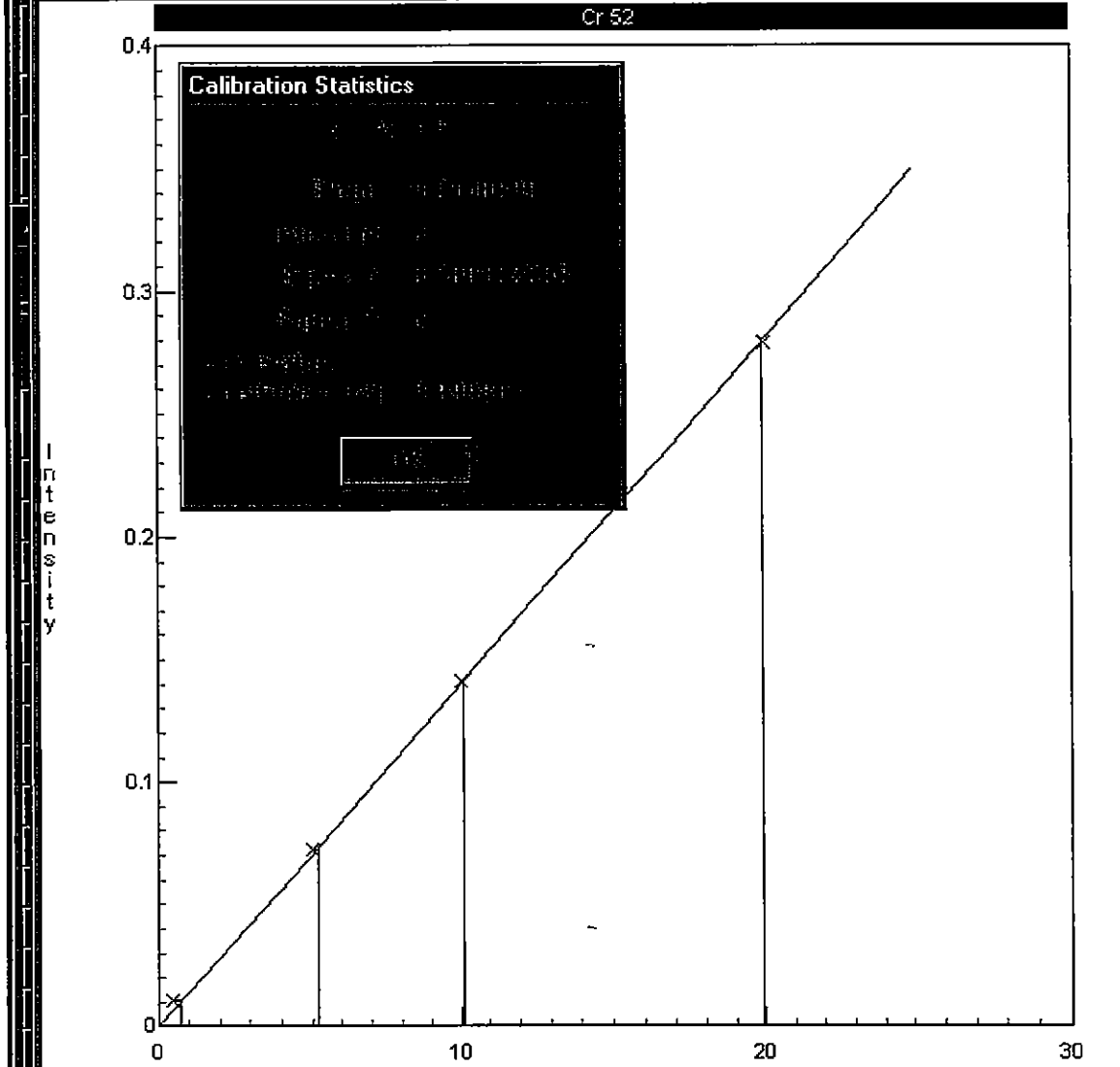
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	564512	1.8		ug/L	%
|	Cr	52	6617	164420	2.9	19.905	0.393 ug/L	2.0 %
[	Cr	53	38275	76975	4.4	17.585	1.283 ug/L	7.3 %
[>	Tb	159	1061673	1080747	1.2		ug/L	%
|	Pb	207	366	57965	2.4	19.917	0.239 ug/L	1.2 %
[	Pb	208	1607	270867	2.5	19.943	0.268 ug/L	1.3 %



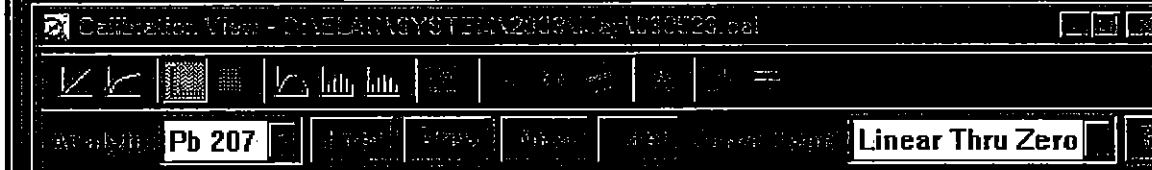
Method: | Last Report Date: 01/01/2001
Findings: | Last Report Date: 01/01/2001
Accuracy: | Last Sample Date: 01/01/2001





Sampling: 25 1st Sampling Time: 0:00:00.000
Pulse Width: 1 2nd Sampling Time: 0:00:00.000
Acquisition: 3 3rd Sampling Time: 0:00:00.000

Analysis: **Pb 207** Method: **Linear Thru Zero**



Calibration Statistics

Method: Linear Thru Zero
Slope: 0.002700000
Intercept: 0.000000000
R Squared: 1.000000000
Standard Error: 0.000000000
Correlation Coefficient: 1.000000000

OK

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:55:04

Dataset File: D:\ELAN\Dataset\2003\May\030523\ICV.006

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: ICV

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	562156	1.2		ug/L		%
|	Cr	52	6617	89896	0.9	10.547	0.044	ug/L	0.4 %
|	Cr	53	38275	69628	3.0	14.341	1.282	ug/L	8.9 %
[>	Tb	159	1061673	1071252	2.0		ug/L		%
|	Pb	207	366	29687	1.2	10.231	0.169	ug/L	1.7 %
|	Pb	208	1607	138068	1.4	10.198	0.072	ug/L	0.7 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 10:57:24

Dataset File: D:\ELAN\Dataset\2003\May\030523\ICB.007

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: ICB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	564278	0.2		ug/L		%
|	Cr	52	6617	8523	3.2	0.228	0.036 ug/L		15.8 %
L	Cr	53	38275	62344	2.8	10.848	0.830 ug/L		7.7 %
[>	Tb	159	1061673	1092586	0.6		ug/L		%
|	Pb	207	366	300	0.7	-0.026	0.000 ug/L		0.7 %
L	Pb	208	1607	1217	0.8	-0.032	0.000 ug/L		0.9 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:04:14

Dataset File: D:\ELAN\Dataset\2003\May\030523\MB.008

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: MB - 127659 NS 5/27/03

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	559600	0.8		ug/L	%
|	Cr	52	6617	7669	2.5	0.128	0.018 ug/L	13.7 %
[	Cr	53	38275	49832	6.1	5.255	1.228 ug/L	23.4 %
[>	Tb	159	1061673	1054406	2.6		ug/L	%
|	Pb	207	366	385	2.8	0.008	0.004 ug/L	46.6 %
[	Pb	208	1607	1683	1.1	0.007	0.004 ug/L	64.7 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:06:30

Dataset File: D:\ELAN\Dataset\2003\May\030523\LCS.009

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: LCS - 1227659 NS 5/27/03

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	555907	1.3			ug/L	%
|	Cr	52	6617	87711	1.5	10.395	0.070	ug/L	0.7 %
|	Cr	53	38275	67794	3.1	13.830	0.605	ug/L	4.4 %
[>	Tb	159	1061673	1046074	1.3			ug/L	%
|	Pb	207	366	28901	0.8	10.198	0.053	ug/L	0.5 %
|	Pb	208	1607	135903	1.3	10.280	0.008	ug/L	0.1 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:09:46

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-001A.010

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-001A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	669726	0.6			ug/L	%
|	Cr	52	6617	23130	1.2	1.613	0.043	ug/L	2.7 %
L	Cr	53	38275	18678	3.7	-10.675	0.309	ug/L	2.9 %
[>	Tb	159	1061673	1035298	1.5			ug/L	%
|	Pb	207	366	2004	3.9	0.595	0.039	ug/L	6.5 %
L	Pb	208	1607	9197	1.1	0.590	0.018	ug/L	3.0 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:12:21

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-002A.011

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-002A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	666235	0.6		ug/L		%
|	Cr	52	6617	28592	2.7	2.210	0.067	ug/L	3.0 %
|	Cr	53	38275	12657	2.5	-12.993	0.107	ug/L	0.8 %
[>	Tb	159	1061673	1065550	1.5		ug/L		%
|	Pb	207	366	1037	3.6	0.235	0.015	ug/L	6.5 %
|	Pb	208	1607	4631	3.3	0.227	0.015	ug/L	6.6 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:14:40

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-003A.012

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-003A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	673828	0.2		ug/L	%
|	Cr	52	6617	36215	2.2	2.981	0.078 ug/L	2.6 %
[	Cr	53	38275	10158	1.3	-14.016	0.053 ug/L	0.4 %
[>	Tb	159	1061673	1069395	1.4		ug/L	%
|	Pb	207	366	830	3.5	0.161	0.010 ug/L	6.1 %
[	Pb	208	1607	3743	1.5	0.159	0.008 ug/L	5.0 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:16:59

Dataset File: D:\ELAN\DataSet\2003\May\030523\062913-004A.013

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-004A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	636266	0.8		ug/L		%
|	Cr	52	6617	25696	0.8	2.030	0.025	ug/L	1.2 %
[	Cr	53	38275	7398	0.7	-14.914	0.038	ug/L	0.3 %
[>	Tb	159	1061673	1072463	1.4		ug/L		%
|	Pb	207	366	776	3.7	0.141	0.010	ug/L	6.9 %
[	Pb	208	1607	3581	1.9	0.146	0.009	ug/L	5.9 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:19:18

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-004ADUP.014

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-004ADUP

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	627234	1.0			ug/L	%
|	Cr	52	6617	24735	1.3	1.962	0.060	ug/L	3.1 %
L	Cr	53	38275	6626	1.8	-15.191	0.059	ug/L	0.4 %
[>	Tb	159	1061673	1074138	1.1			ug/L	%
|	Pb	207	366	720	4.7	0.122	0.013	ug/L	10.9 %
L	Pb	208	1607	3255	5.1	0.122	0.014	ug/L	11.8 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:22:50

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-004AMS.015

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-004AMS

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	625674	0.9			ug/L	%
|	Cr	52	6617	100428	1.2	10.590	0.115	ug/L	1.1 %
|	Cr	53	38275	15395	1.0	-11.532	0.014	ug/L	0.1 %
[>	Tb	159	1061673	1076437	1.6			ug/L	%
|	Pb	207	366	28964	0.9	9.930	0.168	ug/L	1.7 %
|	Pb	208	1607	135500	1.4	9.958	0.199	ug/L	2.0 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:25:10

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-004AMSD.016

Method File: c:\elandata\Method\atl methods 030317\ati-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-004AMSD

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	612570	1.1		ug/L		%
|	Cr	52	6617	98614	1.3	10.623	0.076	ug/L	0.7 %
|	Cr	53	38275	15075	0.9	-11.530	0.108	ug/L	0.9 %
[>	Tb	159	1061673	1077049	1.6		ug/L		%
|	Pb	207	366	28818	3.3	9.871	0.219	ug/L	2.2 %
|	Pb	208	1607	133705	2.6	9.817	0.133	ug/L	1.4 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:27:31

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-005A.017

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-005A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	594546	1.8		ug/L		%
|	Cr	52	6617	31036	0.8	2.873	0.094	ug/L	3.3 %
[	Cr	53	38275	5096	1.5	-15.710	0.069	ug/L	0.4 %
[>	Tb	159	1061673	1065512	1.4		ug/L		%
|	Pb	207	366	633	3.5	0.093	0.009	ug/L	9.4 %
[	Pb	208	1607	2841	1.3	0.092	0.004	ug/L	4.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:29:53

Dataset File: D:\ELAN\Dataset\2003\May\030523\CCV.018

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: **CCV**

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	457450	0.9		ug/L		%
|	Cr	52	6617	71169	1.4	10.238	0.054	ug/L	0.5 %
|	Cr	53	38275	46631	5.6	8.622	1.542	ug/L	17.9 %
[>	Tb	159	1061673	978161	0.5		ug/L		%
|	Pb	207	366	28757	1.6	10.860	0.126	ug/L	1.2 %
|	Pb	208	1607	133305	1.2	10.790	0.092	ug/L	0.8 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:32:16

Dataset File: D:\ELAN\Dataset\2003\May\030523\CCB.019

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	461404	0.8		ug/L	%
|	Cr	52	6617	7287	3.5	0.277	0.033 ug/L	11.9 %
|	Cr	53	38275	50684	4.0	10.681	1.124 ug/L	10.5 %
[>	Tb	159	1061673	988283	1.5		ug/L	%
|	Pb	207	366	338	2.5	-0.001	0.002 ug/L	161.8 %
|	Pb	208	1607	1453	3.3	-0.003	0.006 ug/L	161.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:34:39

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-006A.020

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-006A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	519745	0.8		ug/L		%
|	Cr	52	6617	7634	0.6	0.198	0.015	ug/L	7.7 %
[	Cr	53	38275	15590	4.5	-10.127	0.363	ug/L	3.6 %
[>	Tb	159	1061673	1043185	1.3		ug/L		%
|	Pb	207	366	605	4.5	0.088	0.007	ug/L	8.3 %
[	Pb	208	1607	2774	3.5	0.092	0.005	ug/L	5.0 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:37:00

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-007A.021

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapci.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-007A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	600348	0.7		ug/L	%
|	Cr	52	6617	41799	1.1	4.113	0.064 ug/L	1.6 %
[	Cr	53	38275	11997	0.8	-12.736	0.041 ug/L	0.3 %
[>	Tb	159	1061673	1060443	1.7		ug/L	%
|	Pb	207	366	622	4.0	0.090	0.010 ug/L	11.0 %
[	Pb	208	1607	2878	1.9	0.096	0.003 ug/L	3.4 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:39:23

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-008A.022

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-008A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	620056	1.2			ug/L	%
|	Cr	52	6617	26689	1.1	2.219	0.040	ug/L	1.8 %
|	Cr	53	38275	8249	0.5	-14.477	0.039	ug/L	0.3 %
[>	Tb	159	1061673	1068899	0.1			ug/L	%
|	Pb	207	366	641	3.2	0.095	0.007	ug/L	7.3 %
|	Pb	208	1607	2994	2.7	0.103	0.006	ug/L	5.5 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:41:45

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-009A.023

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-009A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	620292	2.0		ug/L		%
|	Cr	52	6617	26998	0.9	2.254	0.076	ug/L	3.4 %
{	Cr	53	38275	7378	2.1	-14.843	0.122	ug/L	0.8 %
[>	Tb	159	1061673	1061299	1.0		ug/L		%
|	Pb	207	366	677	4.5	0.109	0.008	ug/L	7.7 %
{	Pb	208	1607	3144	1.3	0.116	0.001	ug/L	0.9 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:44:08

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-010A.024

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-010A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	598055	0.5		ug/L		%
|	Cr	52	6617	55253	0.3	5.735	0.047	ug/L	0.8 %
|	Cr	53	38275	9523	0.5	-13.795	0.037	ug/L	0.3 %
[>	Tb	159	1061673	1062361	2.4		ug/L		%
|	Pb	207	366	542	6.1	0.062	0.013	ug/L	20.5 %
|	Pb	208	1607	2475	3.8	0.065	0.005	ug/L	8.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:46:28

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-011A.025

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-011A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	527119	1.5		ug/L		%
|	Cr	52	6617	7209	1.4	0.126	0.019	ug/L	15.4 %
[	Cr	53	38275	4716	1.7	-15.612	0.071	ug/L	0.5 %
[>	Tb	159	1061673	1045939	1.4		ug/L		%
|	Pb	207	366	516	6.8	0.055	0.011	ug/L	20.4 %
[	Pb	208	1607	2376	2.1	0.061	0.005	ug/L	8.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:48:44

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-012A.026

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-012A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	602113	2.0		ug/L		%
|	Cr	52	6617	24129	0.1	2.008	0.058	ug/L	2.9 %
[	Cr	53	38275	5399	1.1	-15.606	0.069	ug/L	0.4 %
[>	Tb	159	1061673	1043597	1.2		ug/L		%
|	Pb	207	366	443	4.3	0.030	0.008	ug/L	26.3 %
[	Pb	208	1607	2005	1.0	0.033	0.000	ug/L	1.5 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:51:01

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-013A.027

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-013A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	584440	0.8		ug/L		%
|	Cr	52	6617	20550	1.1	1.657	0.018	ug/L	1.1 %
|	Cr	53	38275	4583	1.1	-15.901	0.017	ug/L	0.1 %
[>	Tb	159	1061673	1068278	1.2		ug/L		%
|	Pb	207	366	2006	1.7	0.573	0.005	ug/L	0.8 %
|	Pb	208	1607	9340	0.7	0.579	0.007	ug/L	1.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:53:18

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-013ADUP.028

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-013ADUP

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	591831	0.9		ug/L		%
|	Cr	52	6617	21247	0.4	1.710	0.023	ug/L	1.3 %
|	Cr	53	38275	4437	0.8	-15.990	0.008	ug/L	0.0 %
[>	Tb	159	1061673	1080425	1.3		ug/L		%
|	Pb	207	366	1950	2.8	0.546	0.015	ug/L	2.8 %
|	Pb	208	1607	9228	1.3	0.563	0.004	ug/L	0.7 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:55:36

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-014A.029

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-014A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	621071	1.2			ug/L	%
|	Cr	52	6617	26483	2.1	2.190	0.070	ug/L	3.2 %
|	Cr	53	38275	4871	1.1	-15.900	0.019	ug/L	0.1 %
[>	Tb	159	1061673	1086738	2.2			ug/L	%
|	Pb	207	366	383	2.8	0.003	0.003	ug/L	121.2 %
|	Pb	208	1607	1805	3.3	0.012	0.002	ug/L	14.2 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 11:57:56

Dataset File: D:\ELAN\Dataset\2003\May\030523\CCV.030

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCV

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	451244	1.3		ug/L	%
|	Cr	52	6617	69554	1.0	10.136	0.058 ug/L	0.6 %
[	Cr	53	.38275	40705	4.5	5.556	0.758 ug/L	13.6 %
[>	Tb	159	1061673	991318	1.6		ug/L	%
|	Pb	207	366	28807	2.3	10.733	0.161 ug/L	1.5 %
[	Pb	208	1607	135370	2.1	10.811	0.090 ug/L	0.8 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:00:20

Dataset File: D:\ELAN\Dataset\2003\May\030523\CCB.031

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	456480	0.6			ug/L	%
|	Cr	52	6617	6771	1.4	0.209	0.012	ug/L	5.8 %
|	Cr	53	38275	45243	4.1	7.882	0.977	ug/L	12.4 %
[>	Tb	159	1061673	990623	2.0			ug/L	%
|	Pb	207	366	299	5.7	-0.016	0.005	ug/L	27.8 %
|	Pb	208	1607	1381	3.7	-0.010	0.002	ug/L	24.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:02:41

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-015A.032

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-015A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	591604	1.0		ug/L		%
|	Cr	52	6617	37430	0.7	3.660	0.021	ug/L	0.6 %
[	Cr	53	38275	18617	2.8	-9.742	0.294	ug/L	3.0 %
[>	Tb	159	1061673	1037137	0.7		ug/L		%
|	Pb	207	366	510	3.8	0.055	0.006	ug/L	10.7 %
[	Pb	208	1607	2319	1.1	0.058	0.001	ug/L	1.5 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:04:59

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-016A.033

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-016A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	609289	0.9		ug/L	%
|	Cr	52	6617	32356	0.3	2.936	0.023 ug/L	0.8 %
L	Cr	53	38275	12396	0.5	-12.642	0.044 ug/L	0.3 %
[>	Tb	159	1061673	1029438	0.5		ug/L	%
|	Pb	207	366	535	7.8	0.065	0.015 ug/L	23.0 %
L	Pb	208	1607	2455	3.7	0.070	0.006 ug/L	9.3 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:07:18

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-017A.034

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-017A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	607769	2.0		ug/L	%
|	Cr	52	6617	44553	0.9	4.376	0.077 ug/L	1.8 %
|	Cr	53	38275	10278	1.8	-13.535	0.167 ug/L	1.2 %
[>	Tb	159	1061673	1021466	2.5		ug/L	%
|	Pb	207	366	603	1.7	0.092	0.006 ug/L	6.8 %
|	Pb	208	1607	2787	4.0	0.097	0.003 ug/L	3.5 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:09:38

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-018A.035

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-018A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	485659	1.3		ug/L	%
|	Cr	52	6617	7011	1.6	0.180	0.004 ug/L	2.4 %
[	Cr	53	38275	6263	2.2	-14.583	0.074 ug/L	0.5 %
[>	Tb	159	1061673	1016228	1.8		ug/L	%
|	Pb	207	366	1066	4.6	0.263	0.021 ug/L	8.1 %
[	Pb	208	1607	4798	1.2	0.257	0.007 ug/L	2.7 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:11:58

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-019A.036

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-019A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	531471	0.5		ug/L		%
|	Cr	52	6617	10341	0.4	0.538	0.002	ug/L	0.3 %
[	Cr	53	38275	5530	2.1	-15.232	0.066	ug/L	0.4 %
[>	Tb	159	1061673	1036716	1.2		ug/L		%
|	Pb	207	366	423	4.5	0.024	0.009	ug/L	36.6 %
[	Pb	208	1607	1932	3.9	0.028	0.008	ug/L	27.6 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:14:19

Dataset File: D:\ELAN\Dataset\2003\May\030523\062913-020A.037

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-020A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	543538	1.7		ug/L		%
|	Cr	52	6617	19344	1.2	1.688	0.037	ug/L	2.2 %
L	Cr	53	38275	5450	0.6	-15.330	0.058	ug/L	0.4 %
[>	Tb	159	1061673	1035529	3.3		ug/L		%
|	Pb	207	366	447	2.5	0.033	0.009	ug/L	28.8 %
L	Pb	208	1607	2013	0.6	0.035	0.005	ug/L	13.8 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:16:40

Dataset File: D:\ELAN\Dataset\2003\May\030523\CCV.038

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: **CCV**

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	555845	441241	2.0		ug/L	%
|	Cr	52	6617	68008	1.6	10.136	0.154 ug/L	1.5 %
[	Cr	53	38275	43098	6.5	7.497	1.265 ug/L	16.9 %
[>	Tb	159	1061673	972021	0.8		ug/L	%
|	Pb	207	366	29009	2.5	11.026	0.202 ug/L	1.8 %
[	Pb	208	1607	135524	2.8	11.041	0.246 ug/L	2.2 %

Quantitative Analysis Summary

Sample Date/Time: Friday, May 23, 2003 12:19:04

Dataset File: D:\ELAN\Dataset\2003\May\030523\CCB.039

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCB

Sample Type:

Summary

	Analyte	Mass	Blank intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	555845	437194	0.9			ug/L	%
|	Cr	52	6617	6920	3.5	0.279	0.030	ug/L	10.7 %
L	Cr	53	38275	47631	5.2	10.440	1.279	ug/L	12.2 %
[>	Tb	159	1061673	963874	0.7			ug/L	%
|	Pb	207	366	337	1.5	0.002	0.001	ug/L	67.8 %
L	Pb	208	1607	1540	2.1	0.007	0.002	ug/L	27.9 %

ELAN Instrument Control Session

File Edit Access Options Window Help



Data Only Method - c:\elan\data\Method\ATL-TUNING250.mtd

Tuning
 Data Processing
 Acquisition
 Calibration
 Reporting
 Help

Sweeps / File name:
 Run Reading Time: 0:00:00.175
 Readings / Reading:
 Run Reporting Time: 0:00:00.175
 Path name:
 Run Sample Time: 0:00:00.000
 Reading file:
 Optimization file: Enable Error

	Analyte	Target Mass (amu)	Prod Mass (amu)	Scan Mode (S)	Acq Channels	Default Group name (V) (ms)
1		5	10	Scanning	20	20
2		22	26	Scanning	20	20
3		102	104	Scanning	20	20
4		139	141	Scanning	20	20
5		206	209	Scanning	20	20

Tuning - D:\ELAN\TUNING\2003\May\030527.tun

Tune Mass Spec
 Peak Width Only
 Peak Search Width (amu):
 Resolution DAC:
 Ion Source:

	Analyte	Mass (amu)	Measured Mass (amu)	Mass Calibration DAC Value	Resolution DAC Value	Level (V)
1	Be	9.0122	8.97775	2058	2040	0.726
2	Mg	23.985	23.9785	5692	2020	0.727
3	Rh	102.905	102.879	24967	1955	0.763
4	Ce	139.905	139.879	33966	2010	0.766
5	Pb	207.977	207.979	50417	2270	0.772
6	U	238.05	238.075	57625	2435	0.786

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:35:41

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\Blank.001

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Blank

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45		374615	1.1		ug/L	%
|	Cr	52		5187	3.4		ug/L	%
L	Cr	53		43475	4.9		ug/L	%
[>	Tb	159		783172	3.6		ug/L	%
|	Pb	207		233	4.8		ug/L	%
L	Pb	208		1018	5.7		ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:37:59

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\Standard 1.002

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 1

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	384109	0.7		ug/L	%
|	Cr	52	5187	8543	2.4	0.500	0.022 ug/L	4.3 %
[	Cr	53	43475	51045	3.1	0.500	0.097 ug/L	19.3 %
[>	Tb	159	783172	808992	2.8		ug/L	%
|	Pb	207	233	1425	4.0	0.500	0.009 ug/L	1.8 %
[	Pb	208	1018	6486	2.9	0.500	0.007 ug/L	1.4 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:40:32

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\Standard 2.003

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 2

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	385181	1.6		ug/L		%
|	Cr	52	5187	31253	2.8	4.988	0.090	ug/L	1.8 %
[	Cr	53	43475	54968	3.9	4.750	0.688	ug/L	14.5 %
[>	Tb	159	783172	809936	3.4		ug/L		%
|	Pb	207	233	11576	3.3	4.998	0.076	ug/L	1.5 %
[	Pb	208	1018	53642	3.0	4.998	0.063	ug/L	1.3 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:43:07

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\Standard 3.004

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 3

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	384978	1.2		ug/L		%
|	Cr	52	5187	55947	1.7	9.948	0.138	ug/L	1.4 %
[	Cr	53	43475	58443	4.1	8.971	1.159	ug/L	12.9 %
[>	Tb	159	783172	813925	2.2		ug/L		%
|	Pb	207	233	22850	2.5	9.983	0.095	ug/L	0.9 %
[	Pb	208	1018	106833	2.3	10.001	0.055	ug/L	0.6 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:45:42

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\Standard 4.005

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: Standard 4

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	387095	2.8		ug/L	%
|	Cr	52	5187	107295	2.1	19.983	0.280 ug/L	1.4 %
[	Cr	53	43475	65278	3.7	17.811	0.531 ug/L	3.0 %
[>	Tb	159	783172	822903	3.6		ug/L	%
|	Pb	207	233	45937	3.1	19.990	0.215 ug/L	1.1 %
[	Pb	208	1018	215487	4.1	20.012	0.112 ug/L	0.6 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:48:19

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\ICV.006

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: ICV

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	385363	1.3		ug/L	%
|	Cr	52	5187	57175	1.2	10.206	0.084 ug/L	0.8 %
[	Cr	53	43475	60120	3.6	13.531	1.244 ug/L	9.2 %
[>	Tb	159	783172	827929	4.4		ug/L	%
|	Pb	207	233	23438	4.3	10.084	0.128 ug/L	1.3 %
[	Pb	208	1018	109210	4.1	10.033	0.080 ug/L	0.8 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:50:39

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\ICB.007

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapl.mth

Optimization File: c:\elandata\Optimize\default.dac

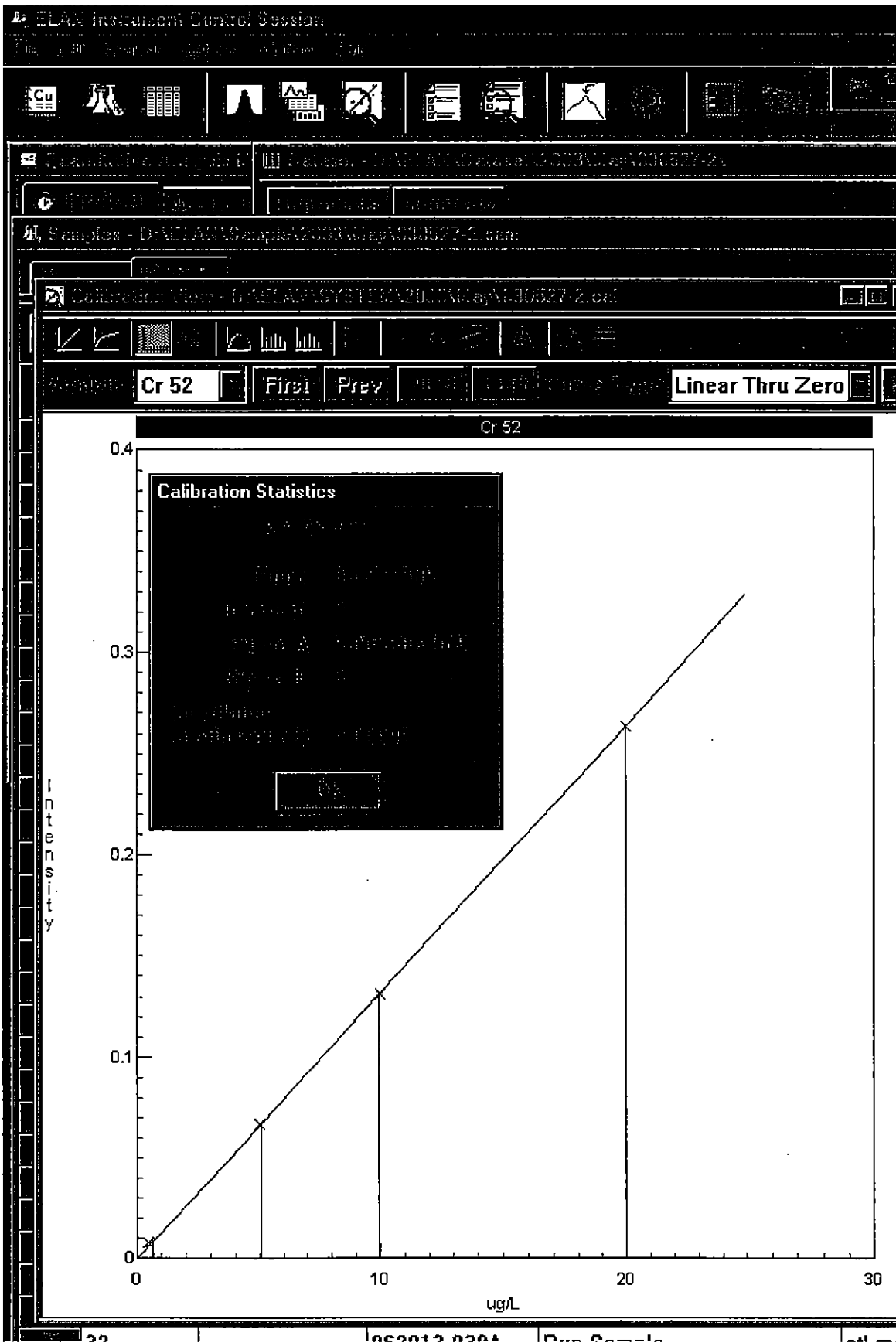
Number of Replicates: 3

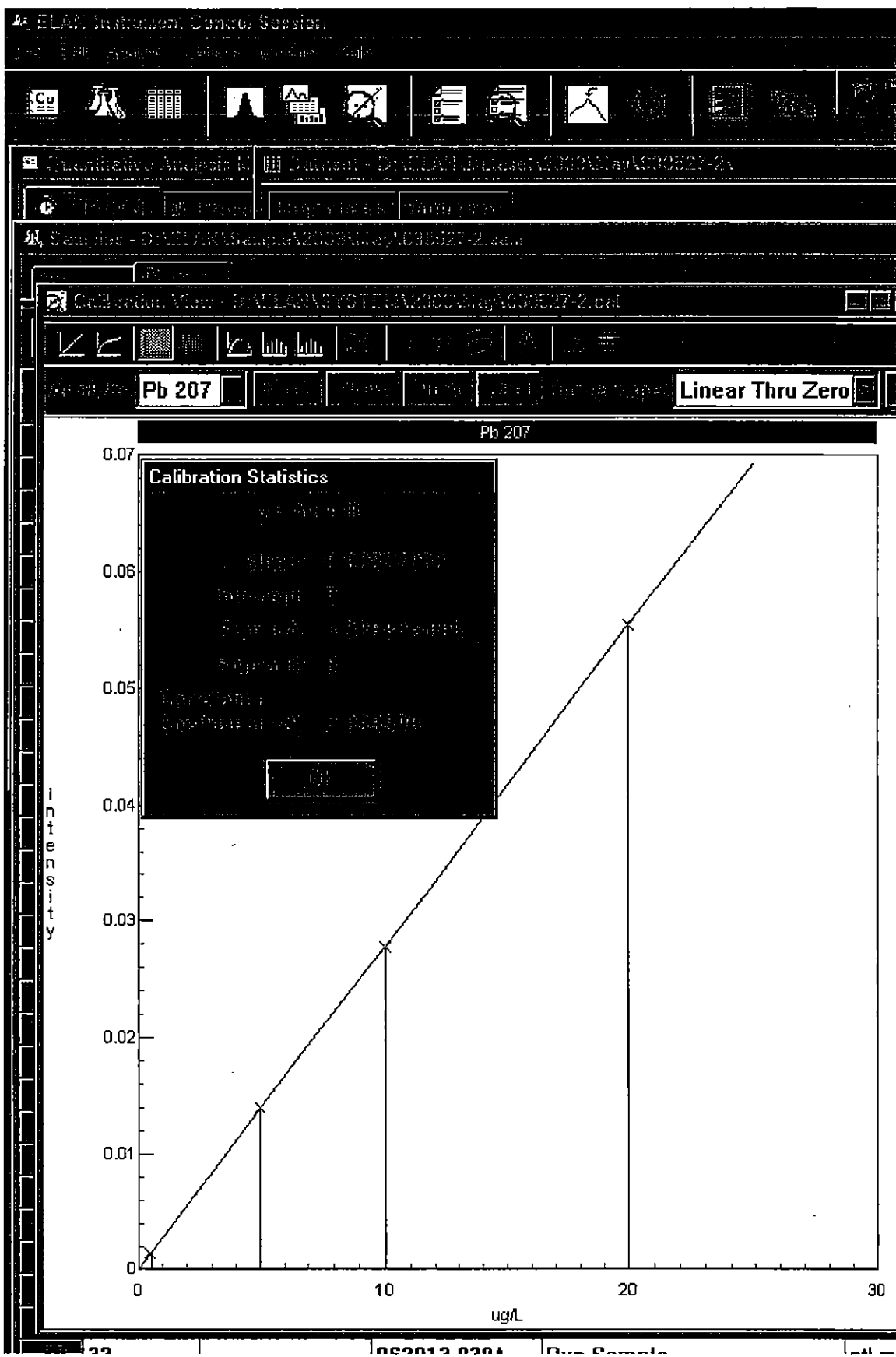
Sample ID: ICB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	387751	2.1		ug/L	%
|	Cr	52	5187	6016	3.1	0.127	0.014 ug/L	11.2 %
[	Cr	53	43475	55639	2.6	9.296	0.250 ug/L	2.7 %
[>	Tb	159	783172	832256	1.9		ug/L	%
|	Pb	207	233	249	3.3	0.001	0.002 ug/L	270.4 %
[	Pb	208	1018	1135	2.9	0.005	0.003 ug/L	59.9 %





Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:54:14

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\MB.008

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: MB - R27686 NS 5/27/03

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	391343	1.1		ug/L		%
|	Cr	52	5187	6132	1.4	0.138	0.004	ug/L	3.2 %
|	Cr	53	43475	56068	3.9	9.215	1.358	ug/L	14.7 %
[>	Tb	159	783172	827276	1.9		ug/L		%
|	Pb	207	233	241	5.6	-0.002	0.006	ug/L	241.8 %
|	Pb	208	1018	1082	3.7	0.001	0.003	ug/L	416.8 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:56:30

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\LCS.009

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: LCS - R27686 NS 5/27/03

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	395299	1.0		ug/L		%
|	Cr	52	5187	57870	0.8	10.057	0.112	ug/L	1.1 %
|	Cr	53	43475	63060	3.1	14.726	1.229	ug/L	8.3 %
[>	Tb	159	783172	851619	2.0		ug/L		%
|	Pb	207	233	23720	1.1	9.920	0.100	ug/L	1.0 %
|	Pb	208	1018	111325	2.2	9.941	0.054	ug/L	0.5 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 12:58:48

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-028A.010

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-028A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
{>	Sc-1	45	374615	443185	2.7		ug/L		%
|	Cr	52	5187	14991	1.5	1.518	0.107	ug/L	7.1 %
[	Cr	53	43475	23596	2.6	-21.269	0.966	ug/L	4.5 %
{>	Tb	159	783172	845945	2.9		ug/L		%
|	Pb	207	233	497	5.2	0.105	0.017	ug/L	15.9 %
[	Pb	208	1018	2333	3.4	0.112	0.013	ug/L	11.9 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:01:06

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-028ADUP.011

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-028ADUP

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	444243	2.2		ug/L	%
|	Cr	52	5187	14551	0.3	1.435	0.048 ug/L	3.3 %
|	Cr	53	43475	16878	2.6	-26.446	0.618 ug/L	2.3 %
[>	Tb	159	783172	853410	1.8		ug/L	%
|	Pb	207	233	401	2.9	0.062	0.006 ug/L	10.4 %
|	Pb	208	1018	1854	2.0	0.067	0.003 ug/L	5.0 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:03:24

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-028AMS.012

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-028AMS

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	441463	1.3		ug/L		%
|	Cr	52	5187	65535	0.4	10.213	0.106 ug/L		1.0 %
|	Cr	53	43475	20453	0.4	-23.627	0.270 ug/L		1.1 %
[>	Tb	159	783172	854930	1.7		ug/L		%
|	Pb	207	233	23290	0.8	9.700	0.097 ug/L		1.0 %
|	Pb	208	1018	108976	1.5	9.691	0.069 ug/L		0.7 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:05:43

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-028AMSD.013

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-028AMSD

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	438644	1.0		ug/L		%
|	Cr	52	5187	65830	1.7	10.335	0.082	ug/L	0.8 %
[	Cr	53	43475	18674	0.6	-24.901	0.224	ug/L	0.9 %
[>	Tb	159	783172	864193	2.8		ug/L		%
|	Pb	207	233	23545	3.0	9.700	0.077	ug/L	0.8 %
[	Pb	208	1018	109521	2.6	9.635	0.040	ug/L	0.4 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:08:02

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-021A.014

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-021A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	428223	0.8			ug/L	%
|	Cr	52	5187	10590	1.5	0.826	0.016	ug/L	2.0 %
L	Cr	53	43475	11226	1.9	-30.445	0.230	ug/L	0.8 %
[>	Tb	159	783172	851043	2.4			ug/L	%
|	Pb	207	233	431	5.2	0.075	0.012	ug/L	16.2 %
L	Pb	208	1018	1937	1.3	0.075	0.006	ug/L	8.4 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:10:22

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-022A.015

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-022A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	438610	1.0		ug/L	%
|	Cr	52	5187	15376	1.7	1.610	0.069 ug/L	4.3 %
[	Cr	53	43475	9963	0.3	-31.632	0.053 ug/L	0.2 %
[>	Tb	159	783172	851695	1.2		ug/L	%
{	Pb	207	233	394	4.1	0.060	0.007 ug/L	11.2 %
[	Pb	208	1018	1805	2.6	0.063	0.003 ug/L	5.0 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:12:42

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-023A.016

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-023A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	431063	0.1		ug/L		%
|	Cr	52	5187	17625	0.9	2.052	0.024	ug/L	1.2 %
[	Cr	53	43475	9193	1.3	-32.103	0.101	ug/L	0.3 %
[>	Tb	159	783172	856400	0.1		ug/L		%
|	Pb	207	233	432	2.8	0.074	0.005	ug/L	6.5 %
[	Pb	208	1018	2004	2.3	0.080	0.004	ug/L	4.8 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:15:03

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-024A.017

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-024A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	388988	0.8		ug/L		%
|	Cr	52	5187	5022	1.4	-0.071	0.011	ug/L	15.4 %
|	Cr	53	43475	8337	1.2	-32.066	0.129	ug/L	0.4 %
[>	Tb	159	783172	853041	2.2		ug/L		%
|	Pb	207	233	819	4.1	0.239	0.020	ug/L	8.6 %
|	Pb	208	1018	3731	2.0	0.236	0.013	ug/L	5.6 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:17:25

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\CCV.018

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapci.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCV

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	384406	1.8		ug/L	%
|	Cr	52	5187	56346	1.6	10.071	0.085 ug/L	0.8 %
[	Cr	53	43475	39504	5.8	-4.519	1.377 ug/L	30.5 %
[>	Tb	159	783172	855468	2.2		ug/L	%
	Pb	207	233	25207	2.4	10.499	0.104 ug/L	1.0 %
[Pb	208	1018	116909	2.7	10.397	0.140 ug/L	1.3 %

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Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:19:48

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\CCB.019

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	391669	1.8		ug/L		%
|	Cr	52	5187	5312	1.8	-0.022	0.010	ug/L	48.2 %
[	Cr	53	43475	43249	3.6	-1.914	0.847	ug/L	44.2 %
[>	Tb	159	783172	867868	0.6		ug/L		%
|	Pb	207	233	275	6.3	0.007	0.007	ug/L	93.1 %
[	Pb	208	1018	1295	6.0	0.015	0.007	ug/L	44.9 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:22:11

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-025A.020

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-025A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	444952	1.0		ug/L		%
|	Cr	52	5187	17268	1.0	1.894	0.029	ug/L	1.5 %
|	Cr	53	43475	17623	2.3	-25.905	0.434	ug/L	1.7 %
[>	Tb	159	783172	870423	1.0		ug/L		%
|	Pb	207	233	398	4.9	0.058	0.008	ug/L	14.3 %
|	Pb	208	1018	1864	3.5	0.065	0.004	ug/L	6.5 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:24:33

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-026A.021

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-026A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	430372	0.8		ug/L		%
|	Cr	52	5187	11987	0.5	1.063	0.007	ug/L	0.6 %
|	Cr	53	43475	12830	3.7	-29.226	0.421	ug/L	1.4 %
[>	Tb	159	783172	882385	2.2		ug/L		%
|	Pb	207	233	521	4.5	0.106	0.009	ug/L	8.6 %
|	Pb	208	1018	2362	3.1	0.106	0.005	ug/L	4.9 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:26:55

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-027A.022

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-027A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	438684	1.1		ug/L	%
|	Cr	52	5187	7542	1.6	0.254	0.018 ug/L	7.0 %
|	Cr	53	43475	10310	1.0	-31.364	0.166 ug/L	0.5 %
[>	Tb	159	783172	880224	1.6		ug/L	%
|	Pb	207	233	388	1.2	0.052	0.003 ug/L	5.5 %
|	Pb	208	1018	1778	1.7	0.055	0.000 ug/L	0.5 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:29:18

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-029A.023

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-029A

Sample Type:

Summary

Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
> Sc-1	45	374615	436334	2.5			ug/L	%
| Cr	52	5187	10590	2.3	0.791	0.028	ug/L	3.6 %
| Cr	53	43475	8978	2.7	-32.352	0.353	ug/L	1.1 %
> Tb	159	783172	883302	2.8			ug/L	%
| Pb	207	233	313	5.6	0.020	0.008	ug/L	41.7 %
| Pb	208	1018	1437	0.6	0.025	0.004	ug/L	16.6 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:31:41

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-030A.024

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-030A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	443580	1.6		ug/L		%
|	Cr	52	5187	13909	0.7	1.329	0.034	ug/L	2.6 %
[	Cr	53	43475	8067	1.6	-33.165	0.192	ug/L	0.6 %
[>	Tb	159	783172	880117	0.4		ug/L		%
|	Pb	207	233	511	5.7	0.102	0.012	ug/L	11.8 %
[	Pb	208	1018	2286	0.9	0.100	0.002	ug/L	1.6 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:34:00

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-031A.025

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-031A

Sample Type:

Summary

Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[> Sc-1	45	374615	386917	1.5		ug/L	%
| Cr	52	5187	16238	2.0	2.134	0.044 ug/L	2.0 %
| Cr	53	43475	8498	0.9	-31.885	0.176 ug/L	0.6 %
[> Tb	159	783172	876649	3.0		ug/L	%
| Pb	207	233	406	3.0	0.060	0.008 ug/L	14.1 %
| Pb	208	1018	1856	2.4	0.063	0.001 ug/L	2.0 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:36:17

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-032A.026

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-032A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	450481	1.9		ug/L		%
|	Cr	52	5187	13272	1.9	1.185	0.021	ug/L	1.7 %
[	Cr	53	43475	7361	1.6	-33.791	0.127	ug/L	0.4 %
[>	Tb	159	783172	879219	2.7		ug/L		%
|	Pb	207	233	455	6.6	0.079	0.008	ug/L	10.4 %
[	Pb	208	1018	2090	3.3	0.083	0.001	ug/L	1.2 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:38:33

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-033A.027

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-033A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	450812	1.0		ug/L		%
|	Cr	52	5187	13921	0.6	1.293	0.037	ug/L	2.9 %
|	Cr	53	43475	6856	1.7	-34.175	0.136	ug/L	0.4 %
[>	Tb	159	783172	884500	1.3		ug/L		%
|	Pb	207	233	306	0.6	0.017	0.002	ug/L	9.2 %
|	Pb	208	1018	1434	2.5	0.025	0.003	ug/L	11.4 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:40:50

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-034A.028

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-034A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	440579	1.4		ug/L		%
|	Cr	52	5187	13476	0.6	1.270	0.025	ug/L	2.0 %
[	Cr	53	43475	6509	3.0	-34.323	0.167	ug/L	0.5 %
[>	Tb	159	783172	898494	1.8		ug/L		%
|	Pb	207	233	274	2.5	0.003	0.001	ug/L	33.7 %
{	Pb	208	1018	1187	1.1	0.002	0.001	ug/L	54.9 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:43:08

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-035A.029

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-035A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	468041	1.0		ug/L		%
|	Cr	52	5187	24394	0.3	2.904	0.029	ug/L	1.0 %
|	Cr	53	43475	7171	1.1	-34.138	0.015	ug/L	0.0 %
[>	Tb	159	783172	910947	1.1		ug/L		%
|	Pb	207	233	407	4.7	0.054	0.008	ug/L	14.2 %
|	Pb	208	1018	1855	1.0	0.057	0.000	ug/L	0.5 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:45:28

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\CCV.030

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCV

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	388694	2.0		ug/L		%
|	Cr	52	5187	56602	2.6	9.997	0.158	ug/L	1.6 %
[	Cr	53	43475	38523	4.9	-5.752	1.121	ug/L	19.5 %
[>	Tb	159	783172	887267	1.7		ug/L		%
|	Pb	207	233	26197	2.5	10.521	0.158	ug/L	1.5 %
[	Pb	208	1018	121879	3.1	10.450	0.190	ug/L	1.8 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:47:52

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\CCB.031

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	387874	1.1		ug/L		%
|	Cr	52	5187	5474	3.8	0.020	0.030	ug/L	150.8 %
[	Cr	53	43475	42112	3.1	-2.540	0.836	ug/L	32.9 %
[>	Tb	159	783172	892936	2.6		ug/L		%
|	Pb	207	233	287	8.1	0.009	0.009	ug/L	106.6 %
[	Pb	208	1018	1310	1.7	0.013	0.001	ug/L	7.4 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:50:13

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-036A.032

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-036A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	452927	0.5		ug/L		%
|	Cr	52	5187	64153	1.7	9.695	0.139	ug/L	1.4 %
[	Cr	53	43475	21497	2.2	-23.244	0.415	ug/L	1.8 %
[>	Tb	159	783172	912075	1.8		ug/L		%
|	Pb	207	233	533	6.0	0.103	0.014	ug/L	13.3 %
[	Pb	208	1018	2528	3.0	0.113	0.004	ug/L	3.6 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:52:32

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-037A.033

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-037A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	402988	2.1		ug/L		%
|	Cr	52	5187	8872	1.0	0.620	0.019	ug/L	3.0 %
[	Cr	53	43475	11233	1.5	-29.880	0.318	ug/L	1.1 %
[>	Tb	159	783172	897516	1.9		ug/L		%
|	Pb	207	233	460	0.4	0.077	0.003	ug/L	4.0 %
[	Pb	208	1018	2157	4.3	0.085	0.005	ug/L	5.3 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:54:51

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-038A.034

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-038A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	452699	2.3		ug/L	%
|	Cr	52	5187	13952	0.7	1.289	0.058 ug/L	4.5 %
[	Cr	53	43475	9270	1.9	-32.386	0.293 ug/L	0.9 %
[>	Tb	159	783172	917793	2.4		ug/L	%
|	Pb	207	233	317	11.8	0.017	0.012 ug/L	68.7 %
[	Pb	208	1018	1438	6.7	0.020	0.005 ug/L	25.5 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:57:10

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-039A.035

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-039A

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	440549	2.1		ug/L		%
|	Cr	52	5187	8069	1.0	0.339	0.017	ug/L	4.9 %
[	Cr	53	43475	8105	2.0	-33.093	0.216	ug/L	0.7 %
[>	Tb	159	783172	900719	2.0		ug/L		%
|	Pb	207	233	328	4.5	0.024	0.003	ug/L	13.8 %
[	Pb	208	1018	1458	0.9	0.025	0.003	ug/L	12.5 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 13:59:30

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\062913-039ADUP.036

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: 062913-039ADUP

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	443175	2.3		ug/L	%
|	Cr	52	5187	8456	1.8	0.398	0.031 ug/L	7.8 %
[	Cr	53	43475	7196	1.7	-33.824	0.220 ug/L	0.6 %
[>	Tb	159	783172	902989	2.0		ug/L	%
|	Pb	207	233	295	7.1	0.011	0.007 ug/L	68.9 %
[	Pb	208	1018	1370	2.5	0.017	0.003 ug/L	16.1 %

Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 14:01:52

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\CCV.037

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: **CCV**

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD	Conc. RSD
[>	Sc-1	45	374615	398806	0.5		ug/L	%
|	Cr	52	5187	59270	2.0	10.225	0.173 ug/L	1.7 %
[	Cr	53	43475	40653	5.1	-4.785	1.705 ug/L	35.6 %
[>	Tb	159	783172	913914	1.6		ug/L	%
	Pb	207	233	26872	2.5	10.476	0.089 ug/L	0.9 %
[Pb	208	1018	125158	3.0	10.418	0.156 ug/L	1.5 %

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Quantitative Analysis Summary

Sample Date/Time: Tuesday, May 27, 2003 14:04:15

Dataset File: D:\ELAN\Dataset\2003\May\030527-2\CCB.038

Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 crpbapcl.mth

Optimization File: c:\elandata\Optimize\default.dac

Number of Replicates: 3

Sample ID: CCB

Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
[>	Sc-1	45	374615	401878	1.8		ug/L		%
|	Cr	52	5187	5676	1.7	0.021	0.012	ug/L	56.3 %
|	Cr	53	43475	43925	4.3	-2.298	1.035	ug/L	45.0 %
[>	Tb	159	783172	912228	2.6		ug/L		%
	Pb	207	233	317	3.5	0.018	0.003	ug/L	14.8 %
	Pb	208	1018	1353	3.2	0.014	0.002	ug/L	14.6 %

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Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Submitted to:

GEOFON, Inc.

Attention: Leo Williamsons

22632 Golden Spring Dr Ste 270

Diamond Bar CA 91765

Tel: (909)396-7662 Fax: (909)396-1455

APCL Analytical Report

Service ID #: 801-032931

Received: 04/17/03

Collected by:

Extracted: N/A

Collected on: 04/17-24/03

Tested: N/A

Reported: 05/19/03

Sample Description: Water

Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result			
				DUPE-1-2Q03	DUPE-2-2Q03	DUPE-3-2Q03	EB-1-4/17/03
				03-02931-1	03-02931-2	03-02931-3	03-02931-4

CHROMIUM ^(a)

LEAD ^(a)

Component Analyzed	Method	Unit	PQL	Analysis Result			
				EB-2-4/21/03	EB-3-4/22/03	EB-4-4/23/03	EB-5-4/24/03
				03-02931-5	03-02931-6	03-02931-7	03-02931-8

CHROMIUM ^(a)

LEAD ^(a)

Component Analyzed	Method	Unit	PQL	Analysis Result			
				MW-4-1	MW-4-2	MW-4-3	MW-4-4
				03-02931-9	03-02931-10	03-02931-11	03-02931-12

CHROMIUM ^(a)

LEAD ^(a)

Component Analyzed	Method	Unit	PQL	Analysis Result			
				MW-4-5	MW-14-1	MW-14-2	MW-14-3
				03-02931-13	03-02931-14	03-02931-15	03-02931-16

CHROMIUM ^(a)

LEAD ^(a)

Component Analyzed	Method	Unit	PQL	Analysis Result			
				MW-14-4	MW-14-5	MW-19-1	MW-19-2
				03-02931-17	03-02931-18	03-02931-19	03-02931-20

CHROMIUM ^(a)

LEAD ^(a)

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				MW-19-3	MW-19-4	MW-19-5	MW-20-1
				03-02931-21	03-02931-22	03-02931-23	03-02931-24

CHROMIUM ^(a)
LEAD ^(a)

Component Analyzed	Method	Unit	PQL	Analysis Result			
				MW-20-2	MW-20-3	MW-20-4	MW-20-5
				03-02931-25	03-02931-26	03-02931-27	03-02931-28

CHROMIUM ^(a)
LEAD ^(a)

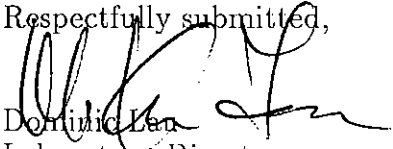
Component Analyzed	Method	Unit	PQL	Analysis Result		
				MW-21-1	MW-21-2	MW-21-3
				03-02931-29	03-02931-30	03-02931-31

CHROMIUM ^(a)
LEAD ^(a)

Component Analyzed	Method	Unit	PQL	Analysis Result		
				MW-21-4	MW-21-5	SOURCE-2Q03
				03-02931-32	03-02931-33	03-02931-34

CHROMIUM ^(a)
LEAD ^(a)

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
^(a) Subcontracted to Advanced Technology Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory



GEOFON
INCORPORATED

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

MW-20 0022

PROJECT NAME

Brad Shojaee

LAB COORDINATOR'S PHONE

(909) 396-7662

LAB COORDINATOR'S FAX

(909) 396-1455

LABORATORY SERVICE ID

—

LABORATORY CONTACT

Kenny Chan

MAIL REPORT (COMPANY NAME)

LEDFIN, INC.

PROJECT ADDRESS

1760 Oak Lane Dr.

PROJECT LOCATION

MW-20 (Linda & Mt View)

PROJECT PHONE NUMBER

(714) 920-8729

PROJECT NUMBER

04-442810

LABORATORY PHONE

(909) 392-1828

LABORATORY FAX

(909) 390-1498

RESIDENT NAME

Leo W. Williamson

PROJECT CONTACT

Leo W. Williamson

PROJECT PHONE NUMBER

(714) 920-8729

PROJECT FAX

(909) 396-1455

LABORATORY ADDRESS

13760 Magallan Ave

LABORATORY CITY, STATE AND ZIP CODE

Chino, CA 91710

ADDRESS

22632 Golden Springs Dr #270

CITY, STATE AND ZIP CODE

Diamond Bar, CA, 91765

PROJECT ADDRESS

1760 Oak Lane Dr.

CITY, STATE AND ZIP CODE

Pasadena, CA

CLIENT

US NAVY SWDIR

PROJECT MANAGER'S PHONE

(909) 396-7662

PROJECT MANAGER'S FAX

(909) 396-1455

PROJECT MANAGER

Astar Fakhern

PROJECT MANAGER'S PHONE

(909) 396-7662

PROJECT MANAGER'S FAX

(909) 396-1455

Item

Sample Identifier

Matrix

Date

Time Preserved

of Cont.

OC Level

T.A.T

Analyses

1

MW-20-5

H₂O

4/24/03

805

HCl
NONE
HNO₃

3+1
+1+1

III

normal

X

X

X

X

X

X

X

2

MW-20-4

850

X

X

X

X

X

X

X

3

MW-20-3

1000

X

X

X

X

X

X

X

4

MW-20-2

1040

X

X

X

X

X

X

X

5

MW-20-1

1145

X

X

X

X

X

X

X

6

7

TB-5-2/24/03

H₂O

X

8

EB-5-4/24/03

905

HCl
NONE
HNO₃

3+1+
1+1

IV

X

X

X

X

X

X

X

9

DUPE-3-2903

X

X

X

X

X

X

X

10

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

RECEIVED BY: [Signature]

DATE: 4/29/03

TIME: 19:00

SAMPLES CONDITION UPON RECEIPT:

COOLER TEMPERATURE UPON RECEIPT:

RECEIVED BY: [Signature]

DATE: 4/24/03

TIME: 13:45

RECEIVED BY: [Signature]

RECEIVED BY: [Signature]

DATE: 4/24/03

TIME: 13:45

SAMPLES CONDITION UPON RECEIPT:

COOLER TEMPERATURE UPON RECEIPT:

RECEIVED BY: [Signature]

DATE: 4/24/03

TIME: 13:45

SAMPLES CONDITION UPON RECEIPT:

RECEIVED BY: [Signature]

RECEIVED BY: [Signature]

DATE: 4/24/03

TIME: 13:45

SAMPLES CONDITION UPON RECEIPT:

COOLER TEMPERATURE UPON RECEIPT:

RECEIVED BY: [Signature]

DATE: 4/24/03

TIME: 13:45

SAMPLES CONDITION UPON RECEIPT:

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

2931

2931

Sample Receiving Checklist

APCL ServiceID: _____ Client Name/Project: Geofun

1. Sample Arrival

Date/Time Received 4/17/03 1435 Date/Time Opened 4/17/03 1435 By (name): Paul Kon

Custody Transfer: Client Golden State UPS US Mail FedEx APCL Empl: R-Steinbock

2. Chain-of-Custody (CoC)

With Samples? Faxed? Client has Copy? Signed, dated? By: _____
 Project ID? Analyses Clear? Hold Samples? #on Hold _____ # Received _____
 CoC/Docs Zip-Locked under lid? Compos.#: _____ #Samples OK? _____
 Discrepancies? Client notified? Response (attach docs): _____

3. Shipping Container/Cooler

Cooler Used? # of 1 Cooled by: Ice Blue Ice Dry Ice None
Temp °C 3.2°C

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? Absent Intact Tampered?

4. Sample Preservation

pH <2 pH >12
If Not, pH = _____ Preserved by: Client APCL Third Party _____

5. Holding-time Requirements

pH 24hr BACT 6/24hr Cr^{VI} 24hr NO₃⁻ 48hr BOD 48hr
 Cl₂ ASAP Turbidity 48hr DO ASAP Fe(II) ASAP
 HT Expired? Client notified?

6. Sample Container Condition

Intact? Broken? Documented? Number: _____
Type: plastic glass Tube: brass/SS Tedlar Bag
 Quantity OK? Leaking? Anomaly?
 Caps tight? Air Bubbles? Anomaly?
Labels: Unique ID? Date/Time Preserved?

7. Turn Around Time

RUSH TAT: 5 days Std (7-10 days) Not Marked

8. Sample Matrix

Drinking H₂O Other Liq Soil Wipe Polymer Air Other: _____
 Ground H₂O Sludge Filter Oil/Petro Paint W. Water Extract Unknown

9. Pre-Login Check List Completed & OK?

ALL OK? (if not, attach docs) Client Contact? (Name: _____) Date/Time: _____

Received/Checked by: Paul Kon Date: 17 Apr 2003 Time: 7:44 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

Applied P & Ch Laboratory

13760 Magnolia Ave., Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2931 Client Name/Project: Geofan

1. Sample Arrival

Date/Time Received 4/21/03 1700 Date/Time Opened 4/21/03 1700 By (name): Paul Kern

Custody Transfer: [] Client [] Golden State [] UPS [] US Mail [] FedEx [x] APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

[x] With Samples? [] Faxed? [x] Client has Copy? [] Signed, dated? By:
[x] Project ID? [x] Analyses Clear? [] Hold Samples? # on Hold # Received
[x] CoC/Docs Zip-Locked under lid? [] Compos.#: [x] #Samples OK?
[] Discrepancies? [] Client notified? [] Response (attach docs):

3. Shipping Container/Cooler

[x] Cooler Used? # of 2 Cooled by: [x] Ice [] Blue Ice [] Dry Ice [] None
Temp °C 2.4°C 3.8°C

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? [] Absent [] Intact [] Tampered?

4. Sample Preservation

[] pH <2 [] pH >12
If Not, pH = Preserved by: [] Client [] APCL [] Third Party

5. Holding-time Requirements

[x] pH 24hr [] BACT 6/24hr [x] CrVI 24hr [x] NO3- 48hr [] BOD 48hr
[] Cl2 ASAP [] Turbidity 48hr [] DO ASAP [] Fe(II) ASAP
[] HT Expired? [] Client notified?

6. Sample Container Condition

[x] Intact? [] Broken? [] Documented? Number:
Type: [x] plastic [x] glass [] Tube: brass/SS [] Tedlar Bag
[x] Quantity OK? [] Leaking? [] Anomaly?
[] Caps tight? [] Air Bubbles? [] Anomaly?
Labels: [x] Unique ID? [] Date/Time [] Preserved?

7. Turn Around Time

[x] RUSH TAT: 5 days [] Std (7-10 days) [] Not Marked

8. Sample Matrix

[] Drinking H2O [x] Other Liq [] Soil [] Wipe [] Polymer [] Air [] Other:
[] Ground H2O [] Sludge [] Filter [] Oil/Petro [] Paint [] W. Water [] Extract [] Unknown

9. Pre-Login Check List Completed & OK?

[x] ALL OK? (if not, attach docs) [] Client Contact? (Name:) Date/Time:
Received/Checked by: Paul K Date: 21 Apr 2003 Time: 7:38 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

Applied P & Ch Laboratory

13760 Magnolia Ave., Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL Service ID **2931** Client Name/Project: Geofan Inc

1. Sample Arrival

Date/Time Received 4/22/03 1555 Date/Time Opened 4/22/03 1555 By (name): Paul Kay
Custody Transfer: Client Golden State UPS US Mail FedEx APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

With Samples? Faxed? Client has Copy? Signed, dated? By: L.W.
 Project ID? Analyses Clear? Hold Samples? #on Hold _____ # Received 7
 CoC/Docs Zip-Locked under lid? Compos.#: _____ #Samples OK?
 Discrepancies? Client notified? Response (attach docs): _____

3. Shipping Container/Cooler

Cooler Used? # of 1 Cooled by: Ice Blue Ice Dry Ice None
Temp °C 2.9°C
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? Absent Intact Tampered?

4. Sample Preservation

pH <2 pH >12
If Not, pH = _____ Preserved by: Client APCL Third Party

5. Holding-time Requirements

pH 24hr BACT 6/24hr Cr^{VI} 24hr NO₃⁻ 48hr BOD 48hr
 Cl₂ ASAP Turbidity 48hr DO ASAP Fe(II) ASAP
 HT Expired? Client notified?

6. Sample Container Condition

Intact? Broken? Documented? Number: _____
Type: plastic glass Tube: brass/SS Tedlar Bag
 Quantity OK? Leaking? Anomaly?
 Caps tight? Air Bubbles? Anomaly?
Labels: Unique ID? Date/Time Preserved?

7. Turn Around Time

RUSH TAT: 5 days Std (7-10 days) Not Marked

8. Sample Matrix

Drinking H₂O Other Liq Soil Wipe Polymer Air Other: _____
 Ground H₂O Sludge Filter Oil/Petro Paint W. Water Extract Unknown

9. Pre-Login Check List Completed & OK?

ALL OK? (if not, attach docs) Client Contact? (Name: _____) Date/Time: _____
Received/Checked by: Paul Kay Date: 22 Apr 2003 Time: 7:41 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

Applied P & Ch Laboratory

19760 Magnolia Ave., Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2931 Client Name/Project: Geoson JPL

1. Sample Arrival

Date/Time Received 4/23/03 15:55 Date/Time Opened 4/23/03 15:55 By (name): Kenneth Chan
Custody Transfer: Client Golden State UPS US Mail FedEx APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

With Samples? Faxed? Client has Copy? Signed, dated? By:
Project ID? Analyses Clear? Hold Samples? # on Hold # Received 8
CoC/Docs Zip-Locked under lid? Compos.#: #Samples OK?
Discrepancies? Client notified? Response (attach docs):

3. Shipping Container/Cooler

Cooler Used? # of 1 Cooled by: Ice Blue Ice Dry Ice None
Temp °C 4.0
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler.)
Cooler Custody Seal? Absent Intact Tampered?

4. Sample Preservation

pH <2 pH >12
If Not, pH = Preserved by: Client APCL Third Party

5. Holding-time Requirements

pH 24hr BACT 6/24hr CrVI 24hr NO3 48hr BOD 48hr
Cl2 ASAP Turbidity 48hr DO ASAP Fe(II) ASAP
HT Expired? Client notified?

6. Sample Container Condition

Intact? Broken? Documented? Number:
Type: plastic glass Tube: brass/SS Tedlar Bag
Quantity OK? Leaking? Anomaly?
Caps tight? Air Bubbles? Anomaly?
Labels: Unique ID? Date/Time Preserved?

7. Turn Around Time

RUSH TAT: Std (7-10 days) Not Marked

8. Sample Matrix

Drinking H2O Other Liq Soil Wipe Polymer Air Other:
Ground H2O Sludge Filter Oil/Petro Paint W. Water Extract Unknown

9. Pre-Login Check List Completed & OK?

ALL OK? (if not, attach docs) Client Contact? (Name:) Date/Time:
Received/Checked by: Date: 23 Apr 2003 Time: 7:42 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

Sample Receiving Checklist

APCL ServiceID: **2931** Client Name/Project: Geon

1. Sample Arrival

Date/Time Received 4/24/03 5:45 Date/Time Opened 4/24/03 5:45 By (name): Kenny Chan
Custody Transfer: Client Golden State UPS US Mail FedEx APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

With Samples? Faxed? Client has Copy? Signed, dated? By: _____
 Project ID? Analyses Clear? Hold Samples? # on Hold _____ # Received 8
 CoC/Docs Zip-Locked under lid? Compos. #: _____ #Samples OK?
 Discrepancies? Client notified? Response (attach docs): _____

3. Shipping Container/Cooler

Cooler Used? # of 3 Cooled by: Ice Blue Ice Dry Ice None
Temp °C 3.6
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? Absent Intact Tampered?

4. Sample Preservation

pH <2 pH >12
If Not, pH = _____ Preserved by: Client APCL Third Party _____

5. Holding-time Requirements

pH 24hr BACT 6/24hr Cr^{VI} 24hr NO₃⁻ 48hr BOD 48hr
 Cl₂ ASAP Turbidity 48hr DO ASAP Fe(II) ASAP
 HT Expired? Client notified?

6. Sample Container Condition

Intact? Broken? Documented? Number: _____
Type: plastic glass Tube: brass/SS Tedlar Bag
 Quantity OK? Leaking? Anomaly?
 Caps tight? Air Bubbles? Anomaly?
Labels: Unique ID? Date/Time Preserved?

7. Turn Around Time

RUSH TAT: _____ Std (7-10 days) Not Marked

8. Sample Matrix

Drinking H₂O Other Liq Soil Wipe Polymer Air Other: _____
 Ground H₂O Sludge Filter Oil/Petro Paint W. Water Extract Unknown

9. Pre-Login Check List Completed & OK?

ALL OK? (if not, attach docs) Client Contact? (Name: _____) Date/Time: _____

Received/Checked by: Kenny Chan Date: 24 Apr 2003 Time: 7:43 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-02931 (0470_ 133) (2202777_ 133)

04/28/03

Part 1: General Information

-
- | | | | |
|--------------------------|--------------------------|----------------------|--|
| <input type="checkbox"/> | Company Information | Name: | <i>GEOFON, Inc.</i> |
| | | Address: | <i>22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765</i> |
| <input type="checkbox"/> | Project Information | Project Description: | <i>JPL</i> |
| | | Project #: | <i>04-4428.10</i> |
| <input type="checkbox"/> | Billing Information | P.O. #: | |
| | | Bill Address: | <i>22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765</i> |
| | | Lab Project ID: | |
| | | Client Database #: | <i>3</i> |
| <input type="checkbox"/> | Receiving Information | Who Received Sample? | <i>Paul Kou</i> |
| | | Receiving Date/Time: | <i>04/17/03 1435</i> |
| | | COC No. | |
| <input type="checkbox"/> | Shipping Information | Shipping Company | <i>APCL pick up</i> |
| | | Packing Information: | <i>Cooler/Ice Chester</i> |
| | | Cooler Temperature: | <i>3.2 °C</i> |
| <input type="checkbox"/> | Container Information | Container Provider: | <i>Client</i> |
| <input type="checkbox"/> | Sampling Information | Sampling Person: | |
| | | Sampling Company: | <i>Client</i> |
| <input type="checkbox"/> | Turn-Around-Time Option: | | <i>Rush 5 working day(s)</i> |
| <input type="checkbox"/> | QC Option: | | <i>NEESA C</i> |
| <input type="checkbox"/> | Disposal Option: | | <i>Not specify</i> |
-

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample APCL Sub-ID	Sample ID	Matrix	Cont- tainer	Preser- vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite	TAT	
												Group	Days	
1	MW-21-5 ✓	Metal	03-02931-33	W	P	N	500	1	G	041703	N	0	7	<input type="checkbox"/>
2	MW-21-4 ✓	Metal	03-02931-32	W	P	N	500	1	G	041703	N	0	7	<input type="checkbox"/>
3	MW-21-3 ✓	Metal	03-02931-31	W	P	N	500	1	G	041703	N	0	7	<input type="checkbox"/>
4	MW-21-2 ✓	Metal	03-02931-30	W	P	N	500	1	G	041703	N	0	7	<input type="checkbox"/>
5	MW-21-1 ✓	Metal	03-02931-29	W	P	N	500	1	G	041703	N	0	7	<input type="checkbox"/>
6	EB-1-4/17/03 ✓	Metal	03-02931-4	W	P	N	500	1	G	041703	N	0	7	<input type="checkbox"/>
7	MW-4-5 ✓	Metal	03-02931-13	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
8	MW-4-4 ✓	Metal	03-02931-12	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
9	MW-4-3 ✓	Metal	03-02931-11	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
10	MW-4-2 ✓	Metal	03-02931-10	W	P	N	500	2	G	042103	N	0	7	<input type="checkbox"/>
11	MW-4-1 ✓	Metal	03-02931-9	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
12	EB-2-4/21/03 ✓	Metal	03-02931-5	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
13	DUPE-1-2Q03 ✓	Metal	03-02931-1	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
14	SOURCE-2Q03 ✓	Metal	03-02931-34	W	P	N	500	1	G	042103	N	0	7	<input type="checkbox"/>
15	MW-19-5 ✓	Metal	03-02931-23	W	P	N	500	1	G	042203	N	0	7	<input type="checkbox"/>
16	MW-19-4 ✓	Metal	03-02931-22	W	P	N	500	1	G	042203	N	0	7	<input type="checkbox"/>
17	MW-19-3 ✓	Metal	03-02931-21	W	P	N	500	1	G	042203	N	0	7	<input type="checkbox"/>
18	MW-19-2 ✓	Metal	03-02931-20	W	P	N	500	2	G	042203	N	0	7	<input type="checkbox"/>
19	MW-19-1 ✓	Metal	03-02931-19	W	P	N	500	1	G	042203	N	0	7	<input type="checkbox"/>
20	EB-3-4/22/03 ✓	Metal	03-02931-6	W	P	N	500	1	G	042203	N	0	7	<input type="checkbox"/>
21	MW-14-5 ✓	Metal	03-02931-18	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
22	MW-14-4 ✓	Metal	03-02931-17	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
23	MW-14-3 ✓	Metal	03-02931-16	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
24	MW-14-2 ✓	Metal	03-02931-15	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
25	MW-14-1 ✓	Metal	03-02931-14	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
26	EB-4-4/23/03 ✓	Metal	03-02931-7	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
27	DUPE-2-2Q03 ✓	Metal	03-02931-2	W	P	N	500	1	G	042303	N	0	7	<input type="checkbox"/>
28	MW-20-5 ✓	Metal	03-02931-28	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>
29	MW-20-4 ✓	Metal	03-02931-27	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>
30	MW-20-3 ✓	Metal	03-02931-26	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>
31	MW-20-2 ✓	Metal	03-02931-25	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>
32	MW-20-1 ✓	Metal	03-02931-24	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>
33	EB-5-4/24/03 ✓	Metal	03-02931-8	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>
34	DUPE-3-2Q03 ✓	Metal	03-02931-3	W	P	N	500	1	G	042403	N	0	7	<input type="checkbox"/>

Part 3: Analysis Information

Test Items: 200.7/6010B Chromium, Cr, by ICP
 200.7/6010B Lead, Pb, by ICP

Seq. #	Client's Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	CR	PB
--------	--------------------------------------	---------------	----------------	--------	----	----

1	MW-21-5	Metal	03-02931-33	W	X	X	<input type="checkbox"/>
2	MW-21-4	Metal	03-02931-32	W	X	X	<input type="checkbox"/>
3	MW-21-3	Metal	03-02931-31	W	X	X	<input type="checkbox"/>
4	MW-21-2	Metal	03-02931-30	W	X	X	<input type="checkbox"/>
5	MW-21-1	Metal	03-02931-29	W	X	X	<input type="checkbox"/>
6	EB-1-4/17/03	Metal	03-02931-4	W	X	X	<input type="checkbox"/>
7	MW-4-5	Metal	03-02931-13	W	X	X	<input type="checkbox"/>
8	MW-4-4	Metal	03-02931-12	W	X	X	<input type="checkbox"/>
9	MW-4-3	Metal	03-02931-11	W	X	X	<input type="checkbox"/>
10	MW-4-2	Metal	03-02931-10	W	X	X	<input type="checkbox"/>
11	MW-4-1	Metal	03-02931-9	W	X	X	<input type="checkbox"/>
12	EB-2-4/21/03	Metal	03-02931-5	W	X	X	<input type="checkbox"/>
13	DUPE-1-2Q03	Metal	03-02931-1	W	X	X	<input type="checkbox"/>
14	SOURCE-2Q03	Metal	03-02931-34	W	X	X	<input type="checkbox"/>
15	MW-19-5	Metal	03-02931-23	W	X	X	<input type="checkbox"/>
16	MW-19-4	Metal	03-02931-22	W	X	X	<input type="checkbox"/>
17	MW-19-3	Metal	03-02931-21	W	X	X	<input type="checkbox"/>
18	MW-19-2	Metal	03-02931-20	W	X	X	<input type="checkbox"/>
19	MW-19-1	Metal	03-02931-19	W	X	X	<input type="checkbox"/>
20	EB-3-4/22/03	Metal	03-02931-6	W	X	X	<input type="checkbox"/>
21	MW-14-5	Metal	03-02931-18	W	X	X	<input type="checkbox"/>
22	MW-14-4	Metal	03-02931-17	W	X	X	<input type="checkbox"/>
23	MW-14-3	Metal	03-02931-16	W	X	X	<input type="checkbox"/>
24	MW-14-2	Metal	03-02931-15	W	X	X	<input type="checkbox"/>
25	MW-14-1	Metal	03-02931-14	W	X	X	<input type="checkbox"/>
26	EB-4-4/23/03	Metal	03-02931-7	W	X	X	<input type="checkbox"/>
27	DUPE-2-2Q03	Metal	03-02931-2	W	X	X	<input type="checkbox"/>
28	MW-20-5	Metal	03-02931-28	W	X	X	<input type="checkbox"/>
29	MW-20-4	Metal	03-02931-27	W	X	X	<input type="checkbox"/>
30	MW-20-3	Metal	03-02931-26	W	X	X	<input type="checkbox"/>
31	MW-20-2	Metal	03-02931-25	W	X	X	<input type="checkbox"/>
32	MW-20-1	Metal	03-02931-24	W	X	X	<input type="checkbox"/>
33	EB-5-4/24/03	Metal	03-02931-8	W	X	X	<input type="checkbox"/>
34	DUPE-3-2Q03	Metal	03-02931-3	W	X	X	<input type="checkbox"/>

Client's Requirement: **RUN MS/MSD ON SAMPLE # 10,20** ✓

Login By En-Yu Paul Kou

Check By *dy*