Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info: Stock Std Code	Preparation: Stock Concentration	Preparation: Amount Taken from Stock
08/14-03	Dual-Detector Calib. Sol'n	MST030814H	MST030217G Ce	1000 ppm	0.1 ml
			I U		
			J Rh		
			MST030217K Hg		
08-14-03	200 ppb Mg	MST030814I	MST030710 C	10,000 ppm	0.02
09-22-03	ICPMS - STD,	MST030922A	MST030402A	10 ppm	5
	- 100	B	MST030922 A	1 ppm	5
	- 50	C	B	100 ppb	25
	- 10	D	C	50 ppb	10
	ICPMS - LCS;	E	MST0212160 ~~MST0304~~ NS 9/22/03	10 ppm	5
	- ICV/CCV @10	F	MST030922E	1 ppm	2.5
09-23-03	ICPMS - STD,	MST030923 A	MST030402A MST030402B	10 ppm 1000 ppm	5 0.05
	- 20	B	MST030923 A	1 ppm	5
	- 10	C	B	20 ppb	25
	- 5	D	C	10 ppb	25
	- 0.5	E	D	5 ppb	5
	ICPMS - LCS,	F	MST0212160 MST0212161B	10 ppm 1000 ppm	5 0.05
	- ICV/CCV @10	G	MST030923 F	1 ppm	0.5

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0070

Metals Working Standard Prep Log

	Preparation			Expiration Dates				
				Exp Date				
	Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H_2O)	Working STD *	Manufacturer	Comments	Initials
1	500 ml	200 ppb	DI H_2O + 1% HNO_3	02-14-04 ~~4-12-03~~ NS 8-14-03	High Purity		NS
	500 ml ~~1000 ml~~	200 ppb					
		200 ppb ~~1 ppm~~					
5	1000 ml	~~1 ppm~~					NS
	50	~~100 ppb~~	NS DI H_2O + 1% HNO_3 9-22-03	12-21-03	leeman	Zn	
		100 ppb ~~50 ppb~~					
		50 ppb ~~10 ppb~~					
		10 ppb ~~1 ppm~~					
		1 ppm ~~50 ppb~~			leeman		
10		50 ppb ~~1 ppm~~					
	50	~~1 ppm~~ ~~20 ppb~~	DI H_2O + 1% HNO_3	12-22-03	leeman		NS
		20 ppb ~~10 ppb~~					
		10 ppb ~~5 ppb~~					
		5 ppb ~~0.5 ppb~~					
15		0.5 ppb					
		1 ppm			leeman		
		10 ppb					
20							

* Check working std versus all manufacturer's

Advanced Technology Laboratories
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Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info: Stock Std Code	Preparation: Stock Concentration	Preparation: Amount Taken from Stock
7-11-03	ICPMS - 5	MST030711 D	MST030711	10 ppb	25
	⊥ -0.5	E NS 7-11-03	⊥	5 ~~ppb~~ ppb NS 7-11-03	5
	ICPMS - LCS,	F G	MST021216B MST021216B	1000 ppm 10 ppm	0.05 5
	⊥ - ICW/CCW @ 10	H	MST030711	1 ppm	0.5
7-15-03	ICPMS - Tuning Stock Sol'n.	MST030715 A	MST-010523E Mg	1000 ppm	0.5
			MST030414H Cu		
			MST030217J Rh		
			MST030414E Cd		
			MST030414C Ba		
			MST030217G Ce		
			MST030414P Pb		
			MST030414D Be		
			MST030414G Co		
			MST030217H Tl		
			MST030217I U		
			MST030217E In		
7-16-03	10 ppb Tuning Solution	MST030716 A	MST030715A	1 ppm	10
7-16-03	ICPMS - STD,	MST030716 B	MST030402A MST030402B	10 ppm 1000 ppm	5 0.05
	⊥ -20	C	MST030716 B	1 ppm	1
	⊥ -10	D	⊥ C	20 ppb	25

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Metals Working Standard Prep Log

	Preparation			Expiration Dates			
				Exp Date			
	Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H_2O)	Working STD *	Manufacturer	Comments	Initials
1	50	5 ppb	DI H_2O + 2% HNO_3	10-09-03	Leeman		NS
		0.5 ppb					
		1 ppm					
		10 ppb					
5	500	1 ppm	DI H_2O + 2% HNO_3	10-13-03	Ultra Scientific		NS
					High Purity		
10							
15							
	1000	10 ppb	DI H_2O + 2% HNO_3	10-14-03	Ultra Scientific High Purity		NS
	50	1 ppm			Leeman		NS
		20 ppb					
20		10 ppb					

Check working std versus all manufacturer's

Advanced Technology Laboratories
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Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Std Code	Stock Concentration	Amount Taken from Stock
			Stock Info	Preparation	
08-14-03	ICPMS - LCS,	MST030814 F	MST021216D MST021216B	10 ppm 1000 ppm	5 0.05
	- ICV/CCV @ 10	G	MST030814 F	1 ppm	0.5
08-15-03	ICPMS - STD,	MST030815 A	MST030402 A	10 ppm	5
	- 10	B	MST030815 A	1 ppm	0.5
	- 7.5	C	B	10 ppb	37.5
	- 5	D	C	7.5 ppb	20
	ICPMS - LCS,	E	MST021216D	10 ppm	5
	- ICV/CCV @ 5	F	MST030815E	1 ppm	0.25
08-15-03	ICPMS - Internal Standard	MST030815 G	MST030217 A Li	1000 ppm	1 ml
			B Ge		
			C Tb		
			D Sc		
			E In		
			F Tm		
08-19-03	ICPMS - STD,	MST030819A	MST030402 A	10 ppm	5
	- 20	B	MST030819 A	1 ppm	1
	- 10	C	B	20 ppb	12
	- 5	D	C	10 ppb	25
	- 0.5	E	D	5 ppb	5
	ICPMS - LCS,	F	MST021216D	10 ppm	5

Metals Working Standard Prep Log

Preparation			Expiration Dates			
			Exp Date			
Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H_2O)	Working STD *	Manufacturer	Comments	Initials
50	1 ppm	DI H_2O + 2% HNO_3	11-12-03	Leeman		WS
↓	10 ppb	↓	11-13-03	↓		↓
50	1 ppm	DI H_2O + 2% HNO_3	↓	Leeman	Zn	WS
↓	10 ppb	↓	↓	↓	↓	↓
↓	7.5 ppb	↓	↓	↓	↓	↓
30	5 ppb	↓	↓	↓	↓	↓
50	1 ppm	↓	↓	Leeman	↓	↓
↓	5 ppb	↓	↓	↓	↓	↓
100 ml	10 ppm	DI H_2O + 2% HNO_3	11-13-03	High Purity		WS
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
50	1 ppm	DI H_2O + 2% HNO_3	11-17-03	Leeman		WS
↓	20 ppb	↓	↓	↓	↓	↓
↓	10 ppb	↓	↓	↓	↓	↓
↓	5 ppb	↓	↓	↓	↓	↓
↓	0.5 ppb	↓	↓	↓	↓	↓
↓	1 ppm	↓	↓	Leeman	↓	↓

* Check working std versus all manufacturer's

ICP-MS : Turbidity Check and Sample Preparation Log

QC Number: _____ **Date Read / Digested:** 9/23/03

Method (Circle one):	Turb. Calibration	Matrix (Circle one):		Acid Lot #
1) 200.8	100 NTU: 10 NTU	1) Drinking Water	4) Soil	Hydrochloric N/A
2) 3010A	Std Code: SCR-0022	2) Ground Water	5) Solid	Nitric N/A
3) 3050B	Initials: NS	3) Liquid	(6) Other water	
4) 3051				

	Sample ID	Turbidity Result *	Sample Wt./Vol.	Spike / LCS Amt. Added	Spike / LCS Conc. (ppm)	Spike Code	Final Vol (ml)	Initials	Comments
	MS 064877-005A	-0.01	10	0.10ml	1 ppm	MST030923A	10	NS	
	MSD ↓	↓	↓	↓	↓	↓	↓	↓	
	Method Blank	—	↓	—	—	—	↓	↓	
	LCS	—	↓	0.10ml	1ppm	MST030923F	↓	↓	
	Blank MS								
	Blank MSD								
1	064876-001A	-0.06	10				10	NS	
2	-002A	-0.08	↓				↓	↓	
3	-003A	-0.13							
4	-004A	-0.08							
5	-005A	-0.06							
6	-006A	-0.10							
7	-007A	-0.08							
8	-008A	-0.08							
9	064877-001A	-0.11							
10	-002A	-0.09							
11	-003A	-0.09							
12	-004A	-0.09							
13	-005A	-0.01							
14	-006A	-0.03							
15	-007A	-0.11							
16	-008A	-0.01							
17	-009A	-0.04	↓				↓	↓	
18									
19									
20	064877-002A	-0.09	10				10	NS	
DUP	064877-005A	-0.03	↓				↓	↓	

* Turbidity <1 NTU **DOES NOT** need sample preparation.

Advanced Technology Laboratories, Logbook # 6

0076

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Brad Shojaee
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-034948
Collected by:
Collected on: 08/25-27/03

Received: 08/25/03
Extracted: N/A
Tested: N/A
Reported: 10/15/03

Sample Description: Water
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-6-3-Q03 03-04948-1	MW-5 03-04948-2	MW-6 03-04948-3
CHROMIUM [a]			0.0			

Component Analyzed	Method	Unit	PQL	Analysis Result MW-7 03-04948-4	MW-8 03-04948-5	MW-10 03-04948-6
CHROMIUM [a]						

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 03-04948-7	MW-15 03-04948-8	MW-16 03-04948-9
CHROMIUM [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 ATL Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

0055

GEOFON INCORPORATED

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

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

Shallow Wells

GEOFON's LAB COORDINATOR: 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): Geofon, Inc.
PROJECT NAME: JPL GW Mon. 3-Q03	PROJECT LOCATION: MW-10, MW-8, MW-5,	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: 909 598 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. Robinson	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Spr. Dr. #270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: US NAVY SWDIV ~~909 396 1455~~ 8.25.03	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Asrar Faheem	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T	Analyses: 524.2 (VOC)	314.0 (Perchlorate)	7196 (Hex Chrome)	200.8 (Total Chrome)					Comments
1	MW-10	H_2O	8/25/03	0746	None HCl HNO_3	5	III	Normal	X	X	X	X					
2	MW-8	↓	↓	0934	↓	↓	↓	↓	X	X	X	X					
3	~~Aux 5~~ 8.25.03 MW-5	↓	↓	1117	↓	↓	↓	↓	X	X	X	X					4948
4	TB-8-8-25-03	↓	↓	—	HCl	2	↓	↓	X								
5																	
6																	
7																	
8						8.25.03											
9																	
10																	

SAMPLES COLLECTED BY: J. Robinson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
[signature]	[signature]	8-25-03	12:17	
[signature]	[signature]	8-25-03	17:10	

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

0056

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

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

SHALLOW WELLS

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME: JPL GW MON. 3Q03	PROJECT LOCATION MW-13, MW-16, MW-7 ~~Pasadena, CA~~ 8.26.03	PROJECT NUMBER 04-4428.10	LABORATORY PHONE (909) 590-1828	LABORATORY FAX (909) 590-1498	RECIPIENT NAME Tony Ford
PROJECT CONTACT J. Robinson	PROJECT PHONE NUMBER 714 920 8729 ~~(949) 295-7886~~ 8.26.03	PROJECT FAX (909) 396-1455	LABORATORY ADDRESS 13760 Magnolia Ave 91710		ADDRESS 22632 Golden Springs Dr. #270
PROJECT ADDRESS 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE Pasadena, CA.	CLIENT US NAVY SWDIV	CITY, STATE AND ZIPCODE Chino, CA.		CITY, STATE AND ZIPCODE Diamond Bar, CA. 91765
PROJECT MANAGER Asrar Faheem	PROJECT MANAGER'S PHONE (909) 396-7662	PROJECT MANAGER'S FAX (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorate)	7196 (Hex Chrome)	200.8 (Total Chrome)					Comments
1	MW-13	H_2O	8/26/03	0740	None HCl HNO_3	5	III	NORMAL	X	X	X	X					
2	MW-16	↓	↓	0921	↓	↓	↓	↓	X	X	X	X					MS/MSD
3	MW-7	↓	↓	1147	↓	↓	↓	↓	X	X	X	X					
4	~~MW~~																VOID Entry
5	TB-9-8-26-03	H_2O		—	HCl	2			X								
6																	
7																	
8																	
9																	
10																	

1948

SAMPLES COLLECTED BY: ~~Leo W. Williamson~~ 8.12.03 | COURIER AND AIR BILL NUMBER: | COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	Richard Stenson	8/5/03	0942	
Richard Stenson	[illegible]	8/26/03	1247	
		8/26/03	1552	

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

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GEOFON INCORPORATED

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

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

SHALLOW WELLS

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME: JPL GW MONI-3Q03	PROJECT LOCATION ~~Pasadena, CA~~ MW-15 + MW-6 9-8-27-03	PROJECT NUMBER 04-4428.10	LABORATORY PHONE (909) 590-1828	LABORATORY FAX (909) 590-1455	RECIPIENT NAME Tony Ford
PROJECT CONTACT J. Robinson	PROJECT PHONE NUMBER ~~(949) 295-7886~~ 714 920 3729 8.12.03	PROJECT FAX (909) 396-1455	LABORATORY ADDRESS 13760 Magnolia Ave 91710		ADDRESS 22632 Golden Springs Dr. #270
PROJECT ADDRESS 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE Pasadena, CA.	CLIENT US NAVY EWDW	CITY, STATE AND ZIPCODE Chino, CA		CITY, STATE AND ZIPCODE Diamond Bar, CA. 91765
PROJECT MANAGER Asiar Faheem	PROJECT MANAGER'S PHONE (909) 396-7662	PROJECT MANAGER'S FAX (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorate)	7196 (Hex Chrome)	200.8 (Total Chromium)					Comments
1	MW-15	H_2O	8/27/03	0723	HNO_3 HCl None	~~3~~ 2	III	NORMAL			X	X					
2	Dupe-6-3-003	↓	↓	0729	↓	2	IV	↓			X	X					
3	MW-6	↓	↓	0906	↓	5	III	↓	X	X	X	X					
4	TB-10-8-27-03	↓	↓	—	HCl	2	↓	↓	X	X							
5																	
6																	
7																	
8																	
9																	
10																	

8.27.03

4048

SAMPLES COLLECTED BY: ~~Leo W. Williamson~~ 12.03

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	[illegible]	8/05/03	0942	
[illegible]	[illegible] Wood	8/27/03	11:22	

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

Applied P & Ch Laboratories
Project: JPL, #4948

ATL Work Order: 064877

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Table of Contents

ATL Work Order: 064877

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Cover Letter	0001 -0004
Sample Receiving Items	0005 -0006
Analytical Result Reports	0007 -0016
Quality Control Reports	0017 - 0018
Raw Data:	
Method 200.8	0019- 0077

Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT: Applied P & Ch Laboratories
Project: JPL, #4948
Lab Order: 064877

CASE NARRATIVE

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

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

Subcontract Lab: ATL
Contact: Rachelle Ayala
Tel #: (562) 989-4045
Fax #: (562) 989-4040
Address: 3275 Walnut Ave
City: Signal Hill
State: CA
Zip code: 90807
APCL Client: #4948
APCL Contact: Kenny Chan
Project Name/Code: JPL
Job #
BILL TO APCL
Sub Quotation #
Due Date: ☒ regular ☐ rush: ___ days ___ hours
Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	Cr hex 218.6	Remarks
MW-10		8/05/03	0746	W	HNO_3	1	X	
MW-8			0934					
MW-5			1117					
MW-13		8/06/03	0740					
MW-16			0921			2		
MW-7			1147					MS/MSD
MW-15		8/07/03	0723					
Dupe-6-3-2003			0729					
MW-6			0906					

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (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 (____ °C).

Relinquished by [signature] Date/Time 8-22-03 / 13:10 Received by [signature] Date/Time 8/22/03 / 13:12

Relinquished by Date/Time / Received by Date/Time /

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.

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT: Applied P & Ch Laboratories
Project: JPL, #4948
Lab Order: 064877
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
064877-001A	MW-10	Water	8/25/2003	9/22/2003	9/26/2003
064877-002A	MW-8	Water	8/25/2003	9/22/2003	9/26/2003
064877-003A	MW-5	Water	8/25/2003	9/22/2003	9/26/2003
064877-004A	MW-13	Water	8/26/2003	9/22/2003	9/26/2003
064877-005A	MW-16	Water	8/26/2003	9/22/2003	9/26/2003
064877-006A	MW-7	Water	8/26/2003	9/22/2003	9/26/2003
064877-007A	MW-15	Water	8/27/2003	9/22/2003	9/26/2003
064877-008A	Dupe-6-3-Q03	Water	8/27/2003	9/22/2003	9/26/2003
064877-009A	MW-6	Water	8/27/2003	9/22/2003	9/26/2003

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Method 200.8

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-10
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/25/2003 7:46:00 AM
Lab ID:	064877-001A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	11		0.11	1.0	µg/L	1	9/23/2003 1:14:18 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-8
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/25/2003 9:34:00 AM
Lab ID:	064877-002A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	3.6		0.11	1.0	µg/L	1	9/23/2003 1:16:50 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-5
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/25/2003 11:17:00 AM
Lab ID:	064877-003A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	3.1		0.11	1.0	µg/L	1	9/23/2003 1:21:58 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-13
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/26/2003 7:40:00 AM
Lab ID:	064877-004A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	8.5		0.11	1.0	µg/L	1	9/23/2003 1:24:32 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT: Applied P & Ch Laboratories
Lab Order: 064877
Project: JPL, #4948
Lab ID: 064877-005A

Client Sample ID: MW-16
Collection Date: 8/26/2003 9:21:00 AM
Matrix: WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	2.7		0.11	1.0	µg/L	1	9/23/2003 1:27:03 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-7
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/26/2003 11:47:00 AM
Lab ID:	064877-006A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	4.6		0.11	1.0	µg/L	1	9/23/2003 1:31:58 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-15
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/27/2003 7:23:00 AM
Lab ID:	064877-007A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	3.9		0.11	1.0	µg/L	1	9/23/2003 1:34:26 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Dupe-6-3-Q03
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/27/2003 7:29:00 AM
Lab ID:	064877-008A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	3.6		0.11	1.0	µg/L	1	9/23/2003 1:36:55 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-6
Lab Order:	064877		
Project:	JPL, #4948	**Collection Date:**	8/27/2003 9:06:00 AM
Lab ID:	064877-009A	**Matrix:**	WATER

Analyte	Result	Qual	MDL	PQL	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**				Analyst: **NS**
RunID: ICP4_030923B QC Bach: R31161			PrepDate:				
Chromium	6.6		0.11	1.0	µg/L	1	9/23/2003 1:44:33 PM

Qualifiers:

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

Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *26-Sep-03*

CLIENT: Applied P & Ch Laboratories
Work Order: 064877
Project: JPL, #4948

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W

Sample ID: **MB-R31161** SampType: **MBLK** TestCode: **200.8_W** Units: **µg/L** Prep Date: Run ID: **ICP4_030923B**
Client ID: **ZZZZZ** Batch ID: **R31161** TestNo: **EPA 200.8** Analysis Date: **9/23/2003** SeqNo: **465456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.50									

Sample ID: **LCS-R31161** SampType: **LCS** TestCode: **200.8_W** Units: **µg/L** Prep Date: Run ID: **ICP4_030923B**
Client ID: **ZZZZZ** Batch ID: **R31161** TestNo: **EPA 200.8** Analysis Date: **9/23/2003** SeqNo: **465455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.01	0.50	10	0	100	85	115	0	0		

Sample ID: **064877-005AMS** SampType: **MS** TestCode: **200.8_W** Units: **µg/L** Prep Date: Run ID: **ICP4_030923B**
Client ID: **MW-16** Batch ID: **R31161** TestNo: **EPA 200.8** Analysis Date: **9/23/2003** SeqNo: **465449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.73	0.50	10	2.674	80.6	80	120	0	0		

Sample ID: **064877-005AMSD** SampType: **MSD** TestCode: **200.8_W** Units: **µg/L** Prep Date: Run ID: **ICP4_030923B**
Client ID: **MW-16** Batch ID: **R31161** TestNo: **EPA 200.8** Analysis Date: **9/23/2003** SeqNo: **465450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.58	0.50	10	2.674	79.1	80	120	10.73	1.40	20	S

Sample ID: **064877-002ADUP** SampType: **DUP** TestCode: **200.8_W** Units: **µg/L** Prep Date: Run ID: **ICP4_030923B**
Client ID: **MW-8** Batch ID: **R31161** TestNo: **EPA 200.8** Analysis Date: **9/23/2003** SeqNo: **465457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3.143	1.0	0	0	0	0	0	3.571	12.7	30	

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
Calculations are based on raw values
DO- Surrogate dilute out
H - Sample exceeded holding time

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Applied P & Ch Laboratories
Work Order: 064877
Project: JPL, #4948

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W

Sample ID: **064877-005ADUP** SampType: **DUP** TestCode: **200.8_W** Units: **µg/L** Prep Date: Run ID: **ICP4_030923B**
Client ID: **MW-16** Batch ID: **R31161** TestNo: **EPA 200.8** Analysis Date: **9/23/2003** SeqNo: **465458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.635	1.0	0	0	0	0	0	2.674	1.47	30	

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
Calculations are based on raw values
DO- Surrogate dilute out
H - Sample exceeded holding time

Advanced Technology Laboratories

Date: 26-Sep-03

Test Code: 200.8_W
Test Number: EPA 200.8
Test Name: ICPMS METALS
Matrix: Aqueous **Units:** µg/L

METHOD DETECTION / REPORTING LIMITS

Updated: 13-Feb-03

Type	Analyte	MDL	PQL
A	Aluminum	1.66	10
A	Antimony	0.0309	0.5
A	Arsenic	0.0309	1
A	Barium	0.0638	1
A	Beryllium	0.0349	0.5
A	Cadmium	0.0319	0.5
A	Calcium	10.5	50
A	Chromium	0.111	0.5
A	Cobalt	0.0353	0.5
A	Copper	0.0785	1
A	Iron	4.73	10
A	Lead	0.134	1
A	Magnesium	7.09	50
A	Manganese	0.216	1
A	Mercury	0.467	1
A	Molybdenum	0.0409	0.5
A	Nickel	0.0711	1
A	Potassium	8.66	50
A	Selenium	0.188	0.5
A	Silver	0.0377	0.5
A	Sodium	9.70	50
A	Thallium	0.0304	0.5
A	Tin	5.00	10
A	Vanadium	0.0606	1
A	Zinc	3.34	10

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

(EPA 200.8) - INITIAL CALIBRATION

Instrument ID: ICP4

Date(s) Analyzed: 09/23/03

Initial Calibration:

		INTENSITY			
COMPOUND	STD1	STD2	STD3	STD4	r2
CHROMIUM	14298	59237	109122	206489	0.999987

Standard Concentratic	0.5 ppb	5 ppb	10 ppb	20 ppb
Standard ID:	MST030923E	MST030923D	MST030923C	MST030923B

Calibration Acceptance Criteria: > 0.995 Correlation

Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERFICATION

(EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 08/14/2003

	Source:	Standard Code:
Initial Calibration Verification:	LEEMAN LABS	MST030923G
Continuing Calibration Verification:	LEEMAN LABS	MST030923G

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found CCV1	Continuing Calibration %R(1)	Continuing Calibration Found CCV2	Continuing Calibration %R(1)	
Chromium	10.0	9.995	100	10.0	9.932	99	9.900	99	

ICV Limits: 90 -110%

CCV Limits: 85 -115%

Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERFICATION

(EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 09/23/2003

	Source:	Standard Code:
Initial Calibration Verification:	LEEMAN LABS	MST030923G
Continuing Calibration Verification:	LEEMAN LABS	MST030923G

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found CCV3	Continuing Calibration %R(1)	Continuing Calibration Found CCV4	Continuing Calibration %R(1)	
Chromium	10.0	9.995	100	10.0	9.794	98	9.917	99	

ICV Limits: 90 -110%

CCV Limits: 85 -115%

Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

(EPA 200.8) BLANK *

Instrument ID: ICP 4
Date Digested: N/A
Digestion Method: N/A

Dilution Factor: 1
Matrix: Water
Date Analyzed: 09/23/2003

QC Batch Number: R31161

Analyte	DLR	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank MB-R31161	C	M
Chromium	1	0.085		0.094		0.122		0.132		0.049		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

(EPA 200.8) BLANK *

Instrument ID: ICP 4
Date Digested: N/A
Digestion Method: N/A

Dilution Factor: 1
Matrix: Water
Date Analyzed: 09/23/2003

QC Batch Number: R31161

Analyte	DLR	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 4	C	5	C	6	C	Prepa-ration Blank MB-R31161	C	M
Chromium	1	0.085		0.092						0.049		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

Instrument ID: ICP4 Internal Standard ID: MST030815G

Date Analyzed: 09/23/2003 Standard Concentration: 50 ug/L

QC Batch: R31161

		Lithium		Sc		Ge		In		Terbium	
		Intensity	% Rec	Intensity	% Rec	Intensity	% Rec	Intensity	% Rec	Intensity	% Rec
Calibration Blank			---	698771	---		---		---		---
Lab ID	Sample Description										
MB-R31161				710116	102						
LCS-R31161				710058	102						
064876-001A				810683	116						
064876-002A				823788	118						
064876-003A				798816	114						
064876-004A				803457	115						
064876-005A				814129	117						
064876-006A				849817	122						
064876-007A				780987	112						
064876-008A				678523	97						
064877-001A				814895	117						
064877-002A				767143	110						
064877-003A				759470	109						
064877-004A				811005	116						
064877-005A				780936	112						
064877-006A				748101	107						
064877-007A				748466	107						
064877-008A				754225	108						
064877-009A				830176	119						

* Outside Acceptance Criteria

Acceptance Criteria: 60 - 125%

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

ATL Number: 064877

Instrument ID: ICP4 Internal Standard ID: MST030815G

Date Analyzed: 09/23/2003 Standard Concentration: 50 ug/L

QC Batch: R31161

		Lithium		Sc		Ge		In		Terbium	
		Intensity	% Rec	Intensity	% Rec	Intensity	% Rec	Intensity	% Rec	Intensity	% Rec
Calibration Blank			---	698771	---		---		---		---
Lab ID	Sample Description										
064877-002ADUP				757707	108						
064877-005ADUP				791055	113						
064877-005AMS				829696	119						
064877-005AMSD				809899	116						

* Outside Acceptance Criteria

Acceptance Criteria: 60 - 125%

ICP-MS : Turbidity Check and Sample Preparation Log

QC Number: _____ **Date Read / Digested:** 9/23/03

Method (Circle one):	Turb. Calibration	Matrix (Circle one):		Acid Lot #
1) 200.8	100 NTU: 10 NTU	1) Drinking Water	4) Soil	Hydrochloric N/A
2) 3010A	Std Code: SCR-0022	2) Ground Water	5) Solid	Nitric N/A
3) 3050B	Initials: NS	3) Liquid	(6) Other water	
4) 3051				

	Sample ID	Turbidity Result *	Sample Wt./Vol.	Spike / LCS Amt. Added	Spike / LCS Conc. (ppm)	Spike Code	Final Vol (ml)	Initials	Comments
	MS 064877-005A	-0.01	10	0.10ml	1 ppm	MST030923A	10	NS	
	MSD ↓	↓	↓	↓	↓	↓	↓	↓	
	Method Blank	—	↓	—	—	—	↓	↓	
	LCS	—	↓	0.10ml	1ppm	MST030923F	↓	↓	
	Blank MS								
	Blank MSD								
1	064876-001A	-0.06	10				10	NS	
2	-002A	-0.08	↓				↓	↓	
3	-003A	-0.13							
4	-004A	-0.08							
5	-005A	-0.06							
6	-006A	-0.10							
7	-007A	-0.08							
8	-008A	-0.08							
9	064877-001A	-0.11							
10	-002A	-0.09							
11	-003A	-0.09							
12	-004A	-0.09							
13	-005A	-0.01							
14	-006A	-0.03							
15	-007A	-0.11							
16	-008A	-0.01							
17	-009A	-0.04							
18									
19									
20	064877-002A	-0.09	10				10	NS	
DUP	064877-005A	-0.03	↓				↓	↓	

* Turbidity <1 NTU **DOES NOT** need sample preparation.

Advanced Technology Laboratories, Logbook # 6

0027

Sample/Batch Report

User Name: Nancy
Computer Name: ICPMS PE 6100
Sample File: D:\ELAN\Elandata03Sept\Sample\2003\September\092303-2.sam
Report Date/Time: Tuesday, September 23, 2003 14:36:11

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-							
11		064876-001A							
12		064876-002A							
13		064876-003A							
14		~~064867-004A~~ 064876-004A							
15		064876-005A							
16		064876-006A							
17		064876-007A							
18		064876-008A							
7		CCV							
8		CCB							
19		064877-001A							
20		064877-002A							
21		064877-002ADUP							
22		064877-003A							
23		064877-004A							
24		064877-005A							
25		064877-005ADUP							
26		064877-006A							
27		064877-007A							
28		064877-008A							
7		CCV							
8		CCB							
29		064877-009A							
30		064877-005AMS							
31		064877-005AMSD							
7		CCV							
8		CCB							
32		064877-005AMS							
7		CCV							
8		CCB							

R31161 NS 9/26/03

NS 9/25/03

CAL: MST030923 B/20
C/10
D/5
E/0.5

IW/CW: MST030923G
LCS: MT030923F
MS/MSD: MST030923A

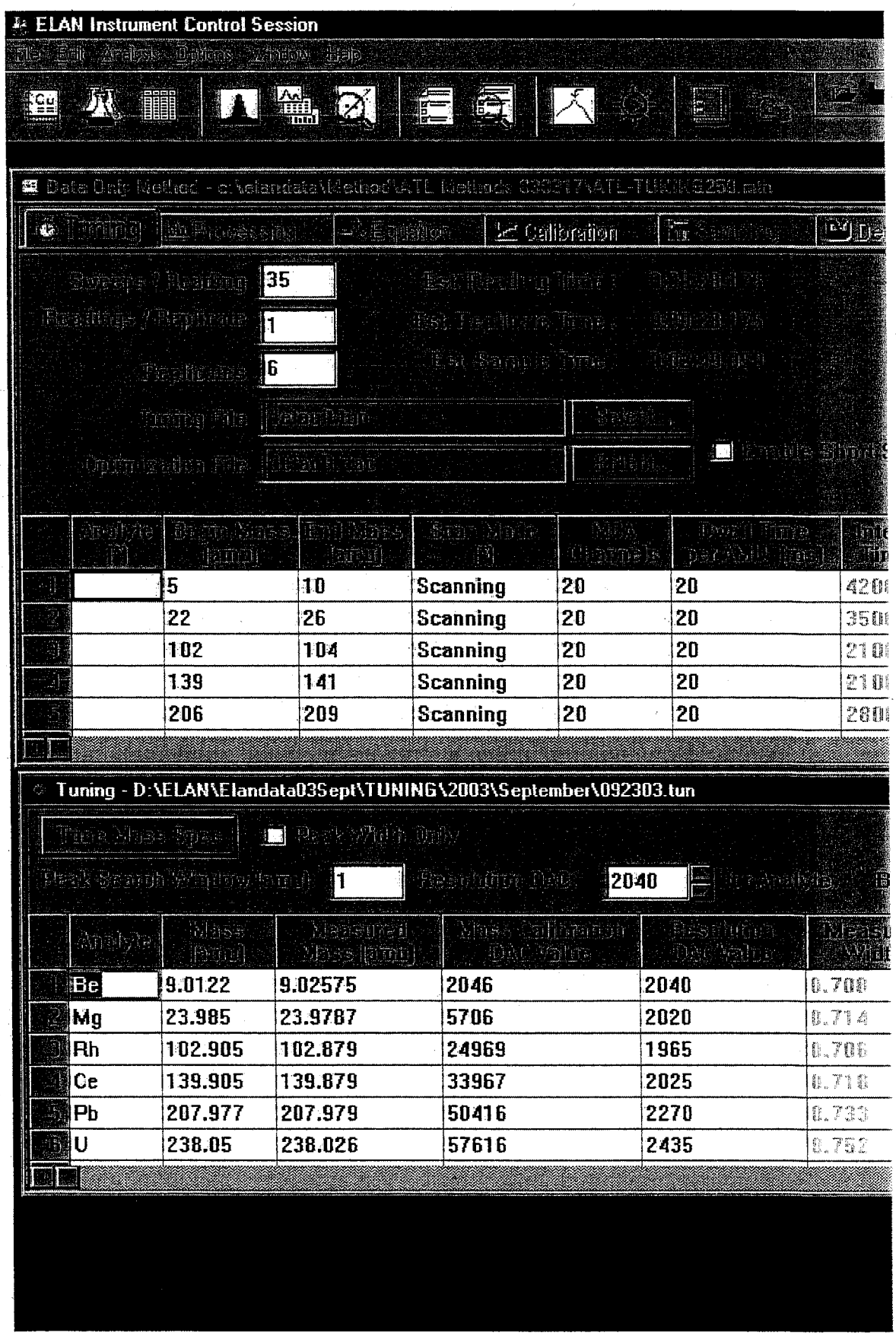
ICP4
NS, 9/23/03

0028

Instrument Tuning Report

File Name: 092303.tun
File Path: D:\ELAN\Elandata03Sept\TUNING\2003\September

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	9.026	2046	2040	0.708	
Mg	23.985	23.979	5706	2020	0.714	
Rh	102.905	102.879	24969	1965	0.706	
Ce	139.905	139.879	33967	2025	0.718	
Pb	207.977	207.979	50416	2270	0.733	
U	238.050	238.026	57616	2435	0.752	


ELAN Instrument Control Session
File Edit Analysis Options Window Help
Data Only Method - c:\elandata\Method\ATL Methods 033317\ATL-TUNING250.mth
Tuning
Processing
Equation
Calibration
Sampling
Sweeps / Reading 35
Readings / Replicate 1
Replicates 6
Tuning File
Select...
Optimization File
Enable Short S
Analyte [1]
Begin Mass [amu]
End Mass [amu]
Scan Mode [1]
MCA Channels
Dwell Time per AMU [ms]
1 5 10 Scanning 20 20 420
2 22 26 Scanning 20 20 350
3 102 104 Scanning 20 20 210
4 139 141 Scanning 20 20 210
5 206 209 Scanning 20 20 280
Tuning - D:\ELAN\Elandata03Sept\TUNING\2003\September\092303.tun
Time Mass Spec
Peak Width Only
Peak Search Window [amu] 1
Resolution DAC 2040
Analyte
Mass [amu]
Measured Mass [amu]
Mass Calibration DAC Value
Resolution DAC Value
1 Be 9.0122 9.02575 2046 2040 0.708
2 Mg 23.985 23.9787 5706 2020 0.714
3 Rh 102.905 102.879 24969 1965 0.706
4 Ce 139.905 139.879 33967 2025 0.718
5 Pb 207.977 207.979 50416 2270 0.733
6 U 238.05 238.026 57616 2435 0.752

Daily Performance Report

Sample ID: 092303-daily
Sample Date/Time: Tuesday, September 23, 2003 10:10:27
Sample Description:
Method File: c:\elandata\Method\Daily.mth
Dataset File: d:\elan\elandata03sept\daily performance\2003\september\092303-daily.048
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	51598.6	51598.553	1442.745	2.8
	Rh	102.9	239540.8	239540.845	3819.398	1.6
	In	114.9	309648.9	309648.912	630.035	0.2
	Pb	208.0	162856.5	162856.524	594.324	0.4
⌈>	Ba	137.9	240247.1	240247.074	7546.798	3.1
⌊	Ba++	69.0	7219.1	0.030	0.001	2.7
⌈>	Ce	139.9	279193.1	279193.075	8640.388	3.1
⌊	CeO	155.9	7942.8	0.028	0.001	3.7
	Bkgd	220.0	7.3	7.250	3.182	43.9

Current Optimization File Data

Current Value	Description
0.81	Nebulizer Gas Flow
8.50	Lens Voltage
1000.00	ICP RF Power
-2100.00	Analog Stage Voltage
2000.00	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	0		
Co	59	0		
In	115	0		

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:06:20
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\Blank.001
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7		115366	1.1			ug/L	%
	Ge	72		145362	0.6			ug/L	%
>	**Sc-1**	45		698771	1.0			ug/L	%
	Cr	52		8432	2.3			ug/L	%
	In	115		1346331	0.7			ug/L	%
	Tb	159		1589758	0.1			ug/L	%
	Sc	45		698771	1.0			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:08:49
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\Standard 1.002
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	115719	0.3			ug/L	%
	Ge	72	145362	145350	0.5			ug/L	%
>	**Sc-1**	45	698771	709446	0.7			ug/L	%
	Cr	52	8432	14298	1.5	**0.500**	0.017	ug/L	3.4 %
	In	115	1346331	1339708	0.5			ug/L	%
	Tb	159	1589758	1581740	0.6			ug/L	%
	Sc	45	698771	709446	0.7			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:11:34
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\Standard 2.003
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	113333	1.0			ug/L	%
	Ge	72	145362	145249	0.4			ug/L	%
>	**Sc-1**	45	698771	701327	0.2			ug/L	%
	Cr	52	8432	59237	0.6	**4.994**	0.044	ug/L	0.9 %
	In	115	1346331	1344233	0.5			ug/L	%
	Tb	159	1589758	1590466	1.0			ug/L	%
	Sc	45	698771	701327	0.2			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:14:19
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\Standard 3.004
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: Standard 3
Sample Type:

Summary

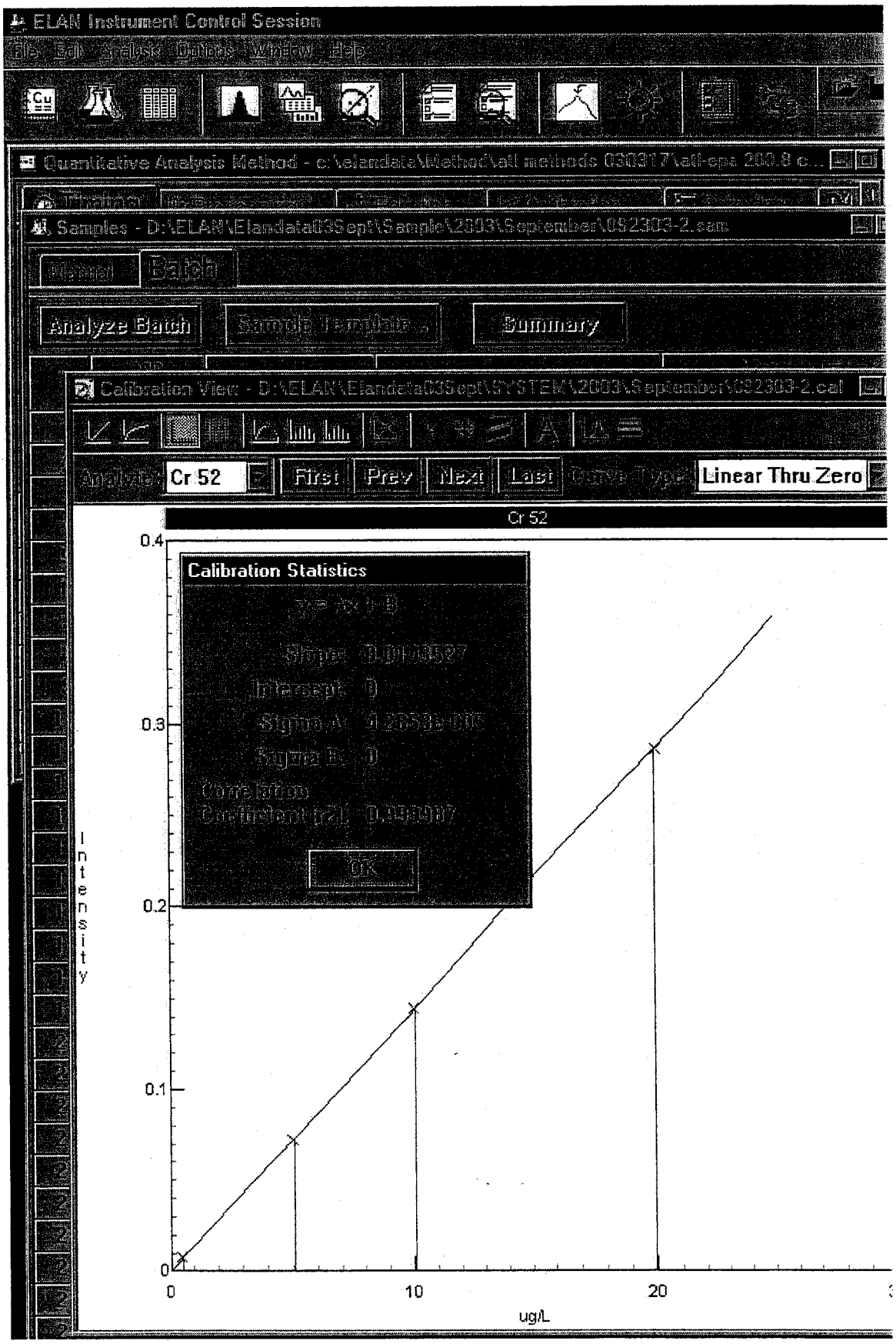
	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	114526	2.3			ug/L	%
	Ge	72	145362	146155	0.7			ug/L	%
>	**Sc-1**	45	698771	696562	1.0			ug/L	%
	Cr	52	8432	109122	0.3	**9.995**	0.076	ug/L	0.8 %
	In	115	1346331	1341320	1.1			ug/L	%
	Tb	159	1589758	1573802	0.2			ug/L	%
	Sc	45	698771	696562	1.0			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:17:06
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\Standard 4.005
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	111333	1.3			ug/L	%
	Ge	72	145362	145284	0.4			ug/L	%
>	**Sc-1**	45	698771	691988	0.7			ug/L	%
	Cr	52	8432	206489	0.9	**19.950**	0.161	ug/L	0.8 %
	In	115	1346331	1344910	0.7			ug/L	%
	Tb	159	1589758	1573440	0.7			ug/L	%
	Sc	45	698771	691988	0.7			ug/L	%


ELAN Instrument Control Session
Quantitative Analysis Method - c:\elandata\Method\all methods 030317\all-epa 200.8 c...
Samples - D:\ELAN\Elandata03Sept\Sample\2003\September\092303-2.sam
Batch
Analyze Batch
Sample Template...
Summary
Calibration View - D:\ELAN\Elandata03Sept\SYSTEM\2003\September\092303-2.cal
Cr 52
First
Prev
Next
Last
Linear Thru Zero
Cr 52
Calibration Statistics
OK
Intensity
0.4
0.3
0.2
0.1
0
0
10
20
ug/L

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:19:54
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\ICV.006
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	112992	1.0			ug/L	%
	Ge	72	145362	146151	1.3			ug/L	%
[>	**Sc-1**	45	698771	701178	0.3			ug/L	%
[	**Cr**	52	8432	109050	0.8	**9.995**	0.055	ug/L	0.5 %
	In	115	1346331	1349453	1.1			ug/L	%
	Tb	159	1589758	1589079	1.5			ug/L	%
	Sc	45	698771	701178	0.3			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:22:25
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\ICB.007
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	113127	0.6			ug/L	%
	Ge	72	145362	145729	0.7			ug/L	%
>	**Sc-1**	45	698771	699375	0.7			ug/L	%
	Cr	52	8432	9298	2.8	**0.085**	0.024	ug/L	28.2 %
	In	115	1346331	1334985	0.8			ug/L	%
	Tb	159	1589758	1590522	1.1			ug/L	%
	Sc	45	698771	699375	0.7			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:44:04
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\MB-.008
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: MB- R31161 NS 9/26/03
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	112326	0.6			ug/L	%
	Ge	72	145362	149245	0.5			ug/L	%
	Sc-1	45	698771	710116	0.9			ug/L	%
>	**Cr**	52	8432	9067	2.8	**0.049**	0.030	ug/L	62.1 %
	In	115	1346331	1364934	0.1			ug/L	%
	Tb	159	1589758	1600736	1.7			ug/L	%
	Sc	45	698771	710116	0.9			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:46:35
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\LCS-.009
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: LCS- R31161 NS 9/26/03
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	111953	1.0			ug/L	%
	Ge	72	145362	147296	1.1			ug/L	%
[>	**Sc-1**	45	698771	710058	0.3			ug/L	%
[	**Cr**	52	8432	110594	0.7	**10.011**	0.079	ug/L	0.8 %
	In	115	1346331	1356340	0.3			ug/L	%
	Tb	159	1589758	1590089	0.5			ug/L	%
	Sc	45	698771	710058	0.3			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:49:03
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-001A.010
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-001A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	106656	0.6			ug/L	%
	Ge	72	145362	156342	1.4			ug/L	%
>	**Sc-1**	45	698771	810683	0.9			ug/L	%
	Cr	52	8432	38184	1.8	**2.441**	0.033	ug/L	1.4 %
	In	115	1346331	1427131	0.8			ug/L	%
	Tb	159	1589758	1647052	0.8			ug/L	%
	Sc	45	698771	810683	0.9			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:51:32
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-002A.011
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-002A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	113213	1.9			ug/L	%
	Ge	72	145362	154276	0.5			ug/L	%
>	**Sc-1**	45	698771	823788	0.1			ug/L	%
	Cr	52	8432	54442	1.5	**3.764**	0.063	ug/L	1.7 %
	In	115	1346331	1397846	2.3			ug/L	%
	Tb	159	1589758	1626402	0.9			ug/L	%
	Sc	45	698771	823788	0.1			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:54:02
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-003A.012
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-003A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	119020	1.2			ug/L	%
	Ge	72	145362	153417	0.7			ug/L	%
>	**Sc-1**	45	698771	798816	2.0			ug/L	%
	Cr	52	8432	101283	0.5	**7.996**	0.213	ug/L	2.7 %
	In	115	1346331	1378352	1.6			ug/L	%
	Tb	159	1589758	1595905	1.3			ug/L	%
	Sc	45	698771	798816	2.0			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:56:32
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064867-004A.013
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: ~~064867-004A~~ 064876-004A NS 9/25/03
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	113336	0.4			ug/L	%
	Ge	72	145362	151972	0.4			ug/L	%
>	**Sc-1**	45	698771	803457	1.4			ug/L	%
	Cr	52	8432	43130	0.4	**2.900**	0.039	ug/L	1.3 %
	In	115	1346331	1356165	0.6			ug/L	%
	Tb	159	1589758	1585972	0.5			ug/L	%
	Sc	45	698771	803457	1.4			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 12:59:02
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-005A.014
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-005A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	109112	0.7			ug/L	%
	Ge	72	145362	151284	1.1			ug/L	%
>	**Sc-1**	45	698771	814129	0.9			ug/L	%
	Cr	52	8432	41190	0.4	**2.685**	0.043	ug/L	1.6 %
	In	115	1346331	1348220	0.9			ug/L	%
	Tb	159	1589758	1564036	0.2			ug/L	%
	Sc	45	698771	814129	0.9			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:01:33
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-006A.015
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-006A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	118513	0.9			ug/L	%
	Ge	72	145362	146389	0.4			ug/L	%
>	**Sc-1**	45	698771	849817	1.4			ug/L	%
	Cr	52	8432	61065	2.4	**4.165**	0.068	ug/L	1.6 %
	In	115	1346331	1313061	0.7			ug/L	%
	Tb	159	1589758	1524392	0.4			ug/L	%
	Sc	45	698771	849817	1.4			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:04:05
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-007A.016
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-007A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	113042	1.6			ug/L	%
	Ge	72	145362	145009	1.3			ug/L	%
>	**Sc-1**	45	698771	780987	0.7			ug/L	%
	Cr	52	8432	36923	0.9	**2.453**	0.048	ug/L	2.0 %
	In	115	1346331	1307705	0.8			ug/L	%
	Tb	159	1589758	1507556	1.2			ug/L	%
	Sc	45	698771	780987	0.7			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:06:36
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064876-008A.017
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064876-008A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	108430	2.1			ug/L	%
	Ge	72	145362	144480	0.4			ug/L	%
>	**Sc-1**	45	698771	678523	0.2			ug/L	%
	Cr	52	8432	8724	1.4	**0.055**	0.012	ug/L	21.1 %
	In	115	1346331	1338382	0.4			ug/L	%
	Tb	159	1589758	1555549	1.3			ug/L	%
	Sc	45	698771	678523	0.2			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:09:09
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCV.018
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	115096	0.4			ug/L	%
	Ge	72	145362	136487	0.4			ug/L	%
>	**Sc-1**	45	698771	654341	0.9			ug/L	%
	Cr	52	8432	101170	0.7	**9.932**	0.032	ug/L	0.3 %
	In	115	1346331	1259927	1.1			ug/L	%
	Tb	159	1589758	1486961	0.8			ug/L	%
	Sc	45	698771	654341	0.9			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:11:44
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCB.019
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	112845	1.4			ug/L	%
	Ge	72	145362	139415	0.7			ug/L	%
>	**Sc-1**	45	698771	669747	1.2			ug/L	%
	Cr	52	8432	8981	2.5	**0.094**	0.025	ug/L	26.2 %
	In	115	1346331	1282368	0.7			ug/L	%
	Tb	159	1589758	1534612	1.7			ug/L	%
	Sc	45	698771	669747	1.2			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:14:18
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-001A.020
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-001A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	116211	1.1			ug/L	%
	Ge	72	145362	146277	0.9			ug/L	%
>	**Sc-1**	45	698771	814895	0.5			ug/L	%
	Cr	52	8432	132671	1.4	**10.502**	0.099	ug/L	0.9 %
	In	115	1346331	1299543	0.7			ug/L	%
	Tb	159	1589758	1536225	0.3			ug/L	%
	Sc	45	698771	814895	0.5			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:16:50
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-002A.021
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-002A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	116711	1.3			ug/L	%
	Ge	72	145362	145596	0.4			ug/L	%
[>	**Sc-1**	45	698771	767143	0.6			ug/L	%
[	**Cr**	52	8432	48581	0.8	**3.571**	0.015	ug/L	0.4 %
	In	115	1346331	1308583	0.1			ug/L	%
	Tb	159	1589758	1536150	1.0			ug/L	%
	Sc	45	698771	767143	0.6			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:19:24
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-002ADUP.022
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-002ADUP
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	114108	1.0			ug/L	%
	Ge	72	145362	146810	0.2			ug/L	%
>	**Sc-1**	45	698771	757707	1.1			ug/L	%
	Cr	52	8432	43319	1.5	**3.143**	0.045	ug/L	1.4 %
	In	115	1346331	1307147	0.3			ug/L	%
	Tb	159	1589758	1517184	0.2			ug/L	%
	Sc	45	698771	757707	1.1			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:21:58
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-003A.023
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-003A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	114562	1.6			ug/L	%
	Ge	72	145362	149468	0.7			ug/L	%
>	**Sc-1**	45	698771	759470	0.5			ug/L	%
	Cr	52	8432	43038	0.7	**3.108**	0.045	ug/L	1.4 %
	In	115	1346331	1328070	1.6			ug/L	%
	Tb	159	1589758	1543173	0.6			ug/L	%
	Sc	45	698771	759470	0.5			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:24:32
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-004A.024
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-004A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	111218	0.9			ug/L	%
	Ge	72	145362	143462	0.9			ug/L	%
>	**Sc-1**	45	698771	811005	0.3			ug/L	%
	Cr	52	8432	108334	0.6	**8.466**	0.040	ug/L	0.5 %
	In	115	1346331	1270887	0.9			ug/L	%
	Tb	159	1589758	1476815	0.5			ug/L	%
	Sc	45	698771	811005	0.3			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:27:03
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-005A.025
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-005A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	112049	1.4			ug/L	%
	Ge	72	145362	142362	0.7			ug/L	%
>	**Sc-1**	45	698771	780936	0.9			ug/L	%
	Cr	52	8432	39400	1.9	**2.674**	0.042	ug/L	1.6 %
	In	115	1346331	1269954	1.3			ug/L	%
	Tb	159	1589758	1479664	1.0			ug/L	%
	Sc	45	698771	780936	0.9			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:29:30
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-005ADUP.026
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-005ADUP
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	110999	1.2			ug/L	%
	Ge	72	145362	141594	1.1			ug/L	%
>	**Sc-1**	45	698771	791055	1.5			ug/L	%
	Cr	52	8432	39458	1.3	**2.635**	0.040	ug/L	1.5 %
	In	115	1346331	1275457	1.0			ug/L	%
	Tb	159	1589758	1484176	0.4			ug/L	%
	Sc	45	698771	791055	1.5			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:31:58
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-006A.027
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-006A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	108126	1.3			ug/L	%
	Ge	72	145362	142299	0.3			ug/L	%
>	**Sc-1**	45	698771	748101	0.5			ug/L	%
	Cr	52	8432	58163	1.0	**4.576**	0.054	ug/L	1.2 %
	In	115	1346331	1279582	1.0			ug/L	%
	Tb	159	1589758	1482702	0.6			ug/L	%
	Sc	45	698771	748101	0.5			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:34:26
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-007A.028
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-007A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	113047	1.1			ug/L	%
	Ge	72	145362	144771	0.4			ug/L	%
>	**Sc-1**	45	698771	748466	1.0			ug/L	%
	Cr	52	8432	50812	0.9	**3.890**	0.059	ug/L	1.5 %
	In	115	1346331	1287267	0.3			ug/L	%
	Tb	159	1589758	1505825	0.7			ug/L	%
	Sc	45	698771	748466	1.0			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:36:55
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-008A.029
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-008A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	113648	1.3			ug/L	%
	Ge	72	145362	145801	0.9			ug/L	%
>	**Sc-1**	45	698771	754225	0.8			ug/L	%
	Cr	52	8432	48396	2.3	**3.630**	0.080	ug/L	2.2 %
	In	115	1346331	1300697	0.7			ug/L	%
	Tb	159	1589758	1515575	0.8			ug/L	%
	Sc	45	698771	754225	0.8			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:39:27
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCV.030
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	109323	0.7			ug/L	%
	Ge	72	145362	133083	0.2			ug/L	%
[>	**Sc-1**	45	698771	633437	0.1			ug/L	%
[	**Cr**	52	8432	97650	1.1	**9.900**	0.129	ug/L	1.3 %
	In	115	1346331	1215182	1.3			ug/L	%
	Tb	159	1589758	1461627	0.4			ug/L	%
	Sc	45	698771	633437	0.1			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:42:01
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCB.031
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	106244	0.8			ug/L	%
	Ge	72	145362	135794	0.9			ug/L	%
>	**Sc-1**	45	698771	644603	0.6			ug/L	%
	Cr	52	8432	8908	2.0	**0.122**	0.024	ug/L	19.6 %
	In	115	1346331	1237905	0.8			ug/L	%
	Tb	159	1589758	1473174	1.0			ug/L	%
	Sc	45	698771	644603	0.6			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:44:33
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-009A.032
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-009A
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	111164	1.7			ug/L	%
	Ge	72	145362	142593	1.0			ug/L	%
>	**Sc-1**	45	698771	830176	0.4			ug/L	%
	Cr	52	8432	88981	1.9	**6.627**	0.131	ug/L	2.0 %
	In	115	1346331	1260885	0.9			ug/L	%
	Tb	159	1589758	1489450	1.1			ug/L	%
	Sc	45	698771	830176	0.4			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:47:03
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-005AMS.033
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-005AMS
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	111588	1.2			ug/L	%
	Ge	72	145362	143697	0.7			ug/L	%
⌈>	**Sc-1**	45	698771	788238	0.4			ug/L	%
⌊	**Cr**	52	8432	88245	80.8	**6.959**	6.302	ug/L	90.6 %
	In	115	1346331	1288516	1.5			ug/L	%
	Tb	159	1589758	1494271	0.8			ug/L	%
	Sc	45	698771	788238	0.4			ug/L	%

not reported
NS 1/23/03

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:49:33
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-005AMSD.034
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-005AMSD
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	111786	0.5			ug/L	%
	Ge	72	145362	146792	0.7			ug/L	%
>	**Sc-1**	45	698771	809899	0.8			ug/L	%
	Cr	52	8432	132762	0.9	**10.581**	0.196	ug/L	1.9 %
	In	115	1346331	1313646	0.7			ug/L	%
	Tb	159	1589758	1523124	0.4			ug/L	%
	Sc	45	698771	809899	0.8			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:52:05
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCV.035
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	108060	0.9			ug/L	%
	Ge	72	145362	134360	1.1			ug/L	%
[>	**Sc-1**	45	698771	640874	2.1			ug/L	%
[	**Cr**	52	8432	97794	1.1	**9.794**	0.255	ug/L	2.6 %
	In	115	1346331	1238810	0.6			ug/L	%
	Tb	159	1589758	1476962	1.0			ug/L	%
	Sc	45	698771	640874	2.1			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 13:54:40
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCB.036
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	104889	0.6			ug/L	%
	Ge	72	145362	135122	0.2			ug/L	%
>	**Sc-1**	45	698771	640002	0.6			ug/L	%
	Cr	52	8432	8935	1.9	**0.132**	0.016	ug/L	11.8 %
	In	115	1346331	1245090	0.8			ug/L	%
	Tb	159	1589758	1482854	1.4			ug/L	%
	Sc	45	698771	640002	0.6			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 14:39:46
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\064877-005AMS.037
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.mth
Optimization File: c:\elandata\Optimize\default.dac
Number of Replicates: 3
Sample ID: 064877-005AMS
Sample Type:

Summary

	Analyte	Mass	Blank Intensity	Meas. Intensity	Int. RSD	Conc. Mean	Conc. SD		Conc. RSD
	Li	7	115366	104241	0.5			ug/L	%
	Ge	72	145362	149173	0.4			ug/L	%
>	**Sc-1**	45	698771	829696	0.9			ug/L	%
	Cr	52	8432	137781	0.7	**10.730**	0.048	ug/L	0.4 %
	In	115	1346331	1327321	0.7			ug/L	%
	Tb	159	1589758	1512788	0.4			ug/L	%
	Sc	45	698771	829696	0.9			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 14:42:19
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCV.038
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	104539	3.0			ug/L	%
	Ge	72	145362	139990	0.5			ug/L	%
>	**Sc-1**	45	698771	667896	1.1			ug/L	%
	Cr	52	8432	103122	0.1	**9.917**	0.103	ug/L	1.0 %
	In	115	1346331	1280532	0.5			ug/L	%
	Tb	159	1589758	1512214	0.3			ug/L	%
	Sc	45	698771	667896	1.1			ug/L	%

Quantitative Analysis Summary

Sample Date/Time: Tuesday, September 23, 2003 14:44:53
Dataset File: D:\ELAN\Elandata03Sept\Dataset\2003\September\092303-2\CCB.039
Method File: c:\elandata\Method\atl methods 030317\atl-epa 200.8 cr apcl.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
	Li	7	115366	101765	1.9			ug/L	%
	Ge	72	145362	139418	0.7			ug/L	%
>	**Sc-1**	45	698771	662166	0.3			ug/L	%
	Cr	52	8432	8861	1.9	**0.092**	0.020	ug/L	21.5 %
	In	115	1346331	1276133	0.6			ug/L	%
	Tb	159	1589758	1505379	0.6			ug/L	%
	Sc	45	698771	662166	0.3			ug/L	%

Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info: Stock Std Code	Preparation: Stock Concentration	Preparation: Amount Taken from Stock
08-14-03	ICPMS - LCS,	MST030814 F	MST021216D MST021216B	10 ppm 1000 ppm	5 0.05
↓	↓ - ICV/CCV @ 10	↓ G	MST030814 F	1 ppm	0.5
08-15-03	ICPMS - STD,	MST030815 A	MST030402 A	10 ppm	5
↓	↓ - 10	↓ B	MST030815 A	1 ppm	0.5
	↓ - 7.5	C	↓ B	10 ppb	37.5
	↓ - 5	D	↓ C	7.5 ppb	20
	ICPMS - LCS,	E	MST021216D	10 ppm	5
	↓ - ICV/CCV @ 5	↓ F	MST030815E	1 ppm	0.25
08-15-03	ICPMS - Internal Standard	MST030815 G	MST030217 A Li	1000 ppm	1 ml
↓	↓	↓	↓ B Ge	↓	↓
			C Tb		
			D Sc		
			E In		
			↓ F Tm		
08-19-03	ICPMS - STD,	MST030819A	MST030402 A	10 ppm	5
↓	↓ - 20	↓ B	MST030819 A	1 ppm	1
	↓ - 10	C	↓ B	20 ppb	10
	↓ - 5	D	↓ C	10 ppb	25
	↓ - 0.5	E	↓ D	5 ppb	5
↓	ICPMS - LCS,	↓ F	MST021216D	10 ppm	5

0072

Metals Working Standard Prep Log

Preparation			Expiration Dates			
			Exp Date			
Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H_2O)	Working STD *	Manufacturer	Comments	Initials
50	1 ppm	DI H_2O + 2% HNO_3	11-12-03	Leeman		WS
↓	10 ppb	↓	11-13-03	↓		↓
50	1 ppm	DI H_2O + 2% HNO_3	↓	Leeman	Zn	WS
↓	10 ppb	↓	↓	↓	↓	↓
↓	7.5 ppb	↓	↓	↓	↓	↓
30	5 ppb	↓	↓	↓	↓	↓
50	1 ppm	↓	↓	Leeman	↓	↓
↓	5 ppb	↓	↓	↓	↓	↓
100 ml	10 ppm	DI H_2O + 2% HNO_3	11-13-03	High Purity		WS
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
↓	↓	↓	↓	↓	↓	↓
50	1 ppm	DI H_2O + 2% HNO_3	11-17-03	Leeman		WS
↓	20 ppb	↓	↓	↓	↓	↓
↓	10 ppb	↓	↓	↓	↓	↓
↓	5 ppb	↓	↓	↓	↓	↓
↓	0.5 ppb	↓	↓	↓	↓	↓
↓	1 ppm	↓	↓	Leeman	↓	↓

* Check working std versus all manufacturer's

Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info: Stock Std Code	Preparation: Stock Concentration	Preparation: Amount Taken from Stock
08/14-03	Dual-Detector Calib. Sol'n	MST030814H	MST030217G Ce	1000 ppm	0.1 ml
			I U		
			J Rh		
			MST030217K Hg		
08-14-03	200 ppb Mg	MST030814I	MST030710 C	10,000 ppm	0.02
09-22-03	ICPMS - STD,	MST030922A	MST030402A	10 ppm	5
	- 100	B	MST030922A	1 ppm	5
	- 50	C	B	100 ppb	25
	- 10	D	C	50 ppb	10
	ICPMS - LCS,	E	~~MST0304~~ MST0212160 NS 9/22/03	10 ppm	5
	- ICV/CCV @50	F	MST030922E	1 ppm	2.5
09-23-03	ICPMS - STD,	MST030923A	MST030402A MST030402B	10 ppm 1000 ppm	5 0.05
	- 20	B	MST030923A	1 ppm	5
	- 10	C	B	20 ppb	25
	- 5	D	C	10 ppb	25
	- 0.5	E	D	5 ppb	5
	ICPMS - LCS,	F	MST0212160 MST0212161B	10 ppm 1000 ppm	5 0.05
	- ICV/CCV @10	G	MST030923F	1 ppm	0.5

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Metals Working Standard Prep Log

Preparation			Expiration Dates			
			Exp Date			
Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H_2O)	Working STD *	Manufacturer	Comments	Initials
500 ml	200 ppb	DI H_2O + 1% HNO_3	02-14-04 ~~11-12-03~~ NS 8-14-03	High Purity		NS
~~500 ml~~ ~~1000 ml~~	200 ppb					
1000 ml	200 ppb ~~1 ppm~~ ~~1 ppm~~ ~~100 ppb~~ 100 ppb ~~50 ppb~~ 50 ppb ~~10 ppb~~ 10 ppb ~~1 ppm~~ 1 ppm ~~50 ppb~~ 50 ppb ~~1 ppm~~ 1 ppm ~~20 ppb~~ 20 ppb ~~10 ppb~~ 10 ppb ~~5 ppb~~ 5 ppb ~~0.5 ppb~~ 0.5 ppb 1 ppm 10 ppb	NS 9-22-03 DI H_2O + 1% HNO_3	12-21-03	Leeman	Zn	NS
50				Leeman		
50		DI H_2O + 1% HNO_3	12-22-03	Leeman		NS
				Leeman		

* Check working std versus all manufacturer's

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Metals Working Standard Prep Log

Date	Standard Name	Working Std Code	Stock Info: Stock Std Code	Preparation: Stock Concentration	Preparation: Amount Taken from Stock
7-11-03	ICPMS - 5	MST030711 D	MST030711	10 ppb	25
	⊥ -0.5	E	⊥	5 ~~ppb~~ ppb NS 7-11-03	5
	ICPMS - LCS,	F G NS 7-11-03	MST021216B MST021216B	1000 ppm 10 ppm	0.05 5
	⊥ - ICV/CCV @ 10	H	MST030711	1 ppm	0.5
7-15-03	ICPMS - Tuning Stock Sol'n.	MST030715 A	MST-010523E Mg	1000 ppm	0.5
			MST030414H Cu		
			MST030217J Rh		
			MST030414E Cd		
			MST030414C Ba		
			MST030217G Ce		
			MST030414P Pb		
			MST030414D Be		
			MST030414G Co		
			MST030217H Tl		
			MST030217I U		
			MST030217E In		
7-16-03	10 ppb Tuning Solution	MST030716 A	MST030715A	1 ppm	10
7-16-03	ICPMS - STD,	MST030716 B	MST030402A MST030402B	10 ppm 1000 ppm	5 0.05
	⊥ -20	C	MST030716 B	1 ppm	1
	⊥ -10	D	⊥ C	20 ppb	25

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Metals Working Standard Prep Log

Preparation			Expiration Dates			
			Exp Date			
Final Vol. (ml)	Final Conc. (ug/ml)	Diluent Matrix (ie H_2O)	Working STD *	Manufacturer	Comments	Initials
50	5 ppb	DI H_2O + 2% HNO_3	10-09-03	Leeman		NS
	0.5 ppb					
	1 ppm					
	10 ppb					
500	1 ppm	DI H_2O + 2% HNO_3	10-13-03	Ultra Scientific High Purity		NS
1000	10 ppb	DI H_2O + 2% HNO_3	10-14-03	ultra Scientific High Purity		NS
50	1 ppm			Leeman		NS
	20 ppb					
	10 ppb					

* Check working std versus all manufacturer's

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